ONTARIO
COLLEGE OF PHARMACY
GERRARD
TORONTO

Donated by Mr. A.B. Petrie
Cobourg Ont.
Sept. 22, 1939

A. B. PETRIE
CHEMIST
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COLLEGE OF PHARMACY
GERRARD ST. E.
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NEW EDITION OF THE ERA DRUGGISTS' DIRECTORY.

In answer to many inquiries, we beg to advise the trade that we are now at work upon the revision of the names for a new edition of the Era Druggists-Directory, which will be issued in a few months, the exact date to be announced later.

Since the last edition of this Directory was issued (January, 1894) there have been an unusually large number of changes in proprietors of drug stores, many stores discontinued and many new ones opened. The names for this new edition will be compiled by a direct canvass of the entire trade, and no efforts or expense will be spared to make it the most reliable Directory of this trade as yet issued. The present classification of material will be continued, viz.:

Part 1. Wholesale Druggists only.
Part 2. Retail Druggists in United States and Canada.
Part 3. Manufacturers.

Part 2 of this Directory is used very largely by Manufacturers and Jobbers for sending out their announcements to the trade. We are particularly anxious to have the list complete and accurate in every particular, and especially desire to prevent any names of persons or firms from getting into the list who are not entitled to buy goods at retail druggists' prices. This refers particularly to physicians and dealers in other lines. We hope for the hearty co-operation of the drug trade, to enable us to make this part a reliable list of these retail drug dealers.

Manufacturers, Jobbers and others, who will require copies of this new edition, are requested to send in their orders promptly. The price will be as usual, $5.00 per copy, postage paid.

D. O. HAYNES & CO., Publishers.

Index for Volume XIII.

A glance at the index handed with this number to our readers tells better than could words of ours what has been given of pharmaceutical interest and value in this journal during the six months ending with the last issue in June. Some 2,500 titles, an average of nearly 100 per issue, is surely an abundant measure, and it will be seen that little of importance in pharmacy and drug trade affairs has escaped notice. Subscribers are urged to preserve all copies of the journal and the half yearly indexes, as thus is afforded them a concise, epitomized chronicle of the progress of their art, a record of service through every day reference, and an educator of unquestioned value.

Our 119th Birthday.

To-day the 119th annual stock-taking of our nation's greatness, achievements and possessions is an occurrence which is actively engaging the attention of the people of the United States. We believe the showing is better than ever before, and the orator longs for a corresponding increase of words to appropriately do justice to the memory of the comparative handful of men and States who declared so decidedly for independence over a century ago, and to describe in adequate language the story of our progress and hopes for the future. The small boy, however, is free from embarrassment; we understand that firecrackers are in liberal supply and have been specially constructed to make a little louder noise than on previous occasions. But in spite of our abhorrence of noise, the small boy with his peculiar methods of celebrating is of value in reminding us that the days of 1776 were gunpowdery ones, and our orators, while they endeavor to simulate the spirit and utterance of a Patrick Henry, a Jefferson, a Franklin or a Washington, are really dealing with live issues and living principles. There are several governmental yokes yet to be thrown off. There are several cargoes of tea or other things blocking the channels of trade which we will have to throw overboard. There are questions of taxation and representation to be decided, and there is a growing suspicion that we have too much of both of these. There is a growing desire for independence manifesting itself among different branches of the drug trade, and there is just a little danger that the example of the founders of this country, who wanted union with independence, will be lost sight of. There is some of the spirit of resentment which fashioned our first flag with its rattlesnake and "Don't tread on me," still rife among us, which needs to be softened to correspond with the idea expressed in stripes of red and white which ripple in unison, or of stars which yearly seem to cluster more closely together. There is still enough sentiment, enough wisdom in the old ideas and emblems to make our Fourth of July more than a mere social occasion, or at least enough to give its festive character a truer and deeper meaning.

To be Discussed by the A. Ph. A.

Those who keep thoroughly posted on American Pharmaceutical Association affairs, assert that among the subjects to be discussed at the Denver meeting will be free alcohol and store experience as a qualification necessary to graduation.

There is a sentiment fast gaining strength in favor of abolishing the "experience" requirement, and the holders of this opinion fortify their position by the statement of their belief that this experience is really no test of the candidate's ability and attainments, but is rather often much abused and inadequately applied. This journal has repeatedly argued that, while store experience is an essential to the pharmacist's equipment, this requirement is entirely beyond the province of the college for measurement, and should be left entirely to the boards of pharmacy for valuation. The duty of the college is to teach and examine its students, to ascertain whether they profit from this teaching. It has no warrant, and is unable, to judge of the value of the training received beyond and outside its doors. What difference does it make *how long* it has taken a man to get his training, if only he has *enough?* Yet, as now conducted, the college says on its diploma "*because* this man has been four years in a store (not asking what he has done and learned in these four years, mind you), he is a competent pharmacist." Competency cannot be judged in this way. The A. Ph. A. can do no better work than to discuss this matter from a common sense standpoint, and recommend the abolition by colleges of pharmacy of the "practical experience" requirement, which is at present the greatest bar to progress in educational matters in pharmacy. The board and the law are the proper agencies to determine whether the applicant has had enough and of the right kind of experience, including "college larnin'," too.

Free alcohol is the other subject upon which may be expected a proclamation, but for goodness' sake let it be a more sensible and better considered resolution

than last year's one was. Only opinion can be expressed on the question whether free alcohol would be good or bad for the drug trade, for none of us knows, but the Era is unqualifiedly and out-and-out in favor of it, and we think we have the best end of the argument.

Great things are expected of the A. Ph. A. this year. What will we get?

New Business Methods.

In olden times, when the days of apprenticeship were over, the prospective merchant or shopkeeper could lay definite plans for a business career. Competition was not wanting, of course, but the ways of trade were pretty clearly defined within the operations of buying, selling and saving, and the matter of success was such a simple one that Ben Franklin found that a few maxims covered the ground quite thoroughly. Industry and frugality were then reputed to be the keystones of the business arch. With the modern business man the situation, while it retains these old-time characteristics, is so enlarged that he feels that there is a necessity for some new maxims in which finesse or strategy shall figure prominently.

The druggist as a business man claims, with an assurance born of experience, that he has for years practiced industry and frugality with indifferent results, and is beginning to think that his future efforts must be supplemented with something more modern. With invention, combination and co-operation in the air, it is not hard to define the present business situation, but it is a matter of some difficulty to foretell what it is going to be to-morrow or next year. In the drug trade "plans" have been tried, and the failure of one has simply been the announcement of another. Failure in the initial stages of the battle may be redeemed through subsequent efforts, but when the fate of a Crockett or a Custer seems impending, the matter takes a serious turn. The retail druggist when in convention assembled has frequently been reminded, even by kindly critics, that his most strenuous efforts in his own behalf have consisted principally of resolutions. But circumstances make a difference even with resolutions. They become more significant as the conditions against which they are directed become more unbearable. That this peculiar condition is in sight seems quite evident.

A casual reading of the proceedings of 1894 of the various State associations, shows that there are several matters which are engaging the attention of the trade. These matters are not new, the discussion of them has a familiar sound, but the tone is different. Last year the Ohio, South Dakota, Illinois, Georgia and Minnesota associations gave attention to the project of manufacturing a line of domestic preparations by a co-operative society composed of retail druggists, and nearly every State association had something to say regarding the introduction of National Formulary preparations to physicians; in fact, Kentucky drove an entering wedge by making an exhibit of such preparations before the State Medical Association. This year we find the same subjects at the front. While it is yet too early to exclaim in the language of the race track, "They're off," we can call attention to some significant demonstrations near the starter's quarters. The New York Branch of the Interstate League has expressed a determination to form a co-operative buying association, and it is reported that the Minnesota druggists have taken the preliminary steps toward the organization of a stock company for the manufacture of domestic preparations. The druggists of Chicago have been quite earnest in their advocacy of such a move, and a committee is expected to give a strong report at the meeting of the State Association on July 24 at Peoria. The ideas underlying these movements are not new, except in their practical application by the men who are now actively engaged in retailing drugs. The smallness of the toll taken by the last toll-takers in the passage of drugs from their natural state or primary market to the consumer has aroused a desire for a new method of doing business. As this is a period in which many such changes are being made, the outcome is looked forward to with more than ordinary interest.

The Co-Operative Drug Journal.

A correspondent who says many pleasant things of the Era, among them that as a recent graduate he finds it of greatest assistance to him, suggests that particular attention be paid to the druggists in the smaller towns, that they be worked for ideas, that here is a fruitful field, etc.

Why, bless your heart, this is just what we are doing, always have done, and shall continue to do. But, let us whisper it, the field is not quite so fruitful as inexperience would believe. There are some druggists in small towns, and in big cities and everywhere, who are willing to take everything given them, but give little in return. This element is not large, but its inertia is difficult to overcome. As a rule, though, the druggists of this country are a very wide-awake class, and when called upon are very ready to give of their store of practical knowledge for the benefit of others. The drug journal is in large measure the medium of communication between them, and as such is an agent of incalculable value. The ambitious journal ever bears this fact in mind, and its continuance and progress are directly proportional to the degree in which it acts in accordance therewith.

Still, while the Era has nothing to complain of in the matter of the co-operation of its readers, it does realize that its field of usefulness can be indefinitely extended in this direction, for it is limitless. Our correspondent's suggestion, therefore, affords opportunity for these few words of reminder and repetition of the request often made, that druggists send in practical hints of all kinds, and thus provide the material for a more truly co-operative publication, in which each subscriber is a shareholder to an amount far exceeding the yearly assessment. Right here may we ask why our correspondent does not supplement his preaching with a little practice? Send along your own hints.

Antidote for Snake Poison.

The Tribune, of this city, recently presented an exhaustive report on the results of the work of Professor Frazer, of Edinburgh, who for nearly twenty-five years has made a study of such poisons with the object of discovering an antidote. It seems that a report recently handed in to the Royal Society indicates that success has rewarded his long search. The greater portion of the following statements are from the account in the paper quoted. Professor Frazer believes that he has possitively discovered a genuine antidote to all snake poisons, even to that of the cobra di capello. Like the antitoxin for the cure of diphtheria, its base is the serum of blood. In fact, the manner of its preparation closely resembles that of antitoxin, and adds new confirmation to the opinion of Professor Lankester that therapy will in future find in serum one of its most valuable agents.

Professor Frazer began by collecting snake poisons from all parts of the world and accumulating them in little bottles, carefully sealed. They are in a dried and powdered form, looking something like brown sugar. His first experiments were to ascertain the degree of toleration animals had for the poison, which he found to be very great. Beginning with half the minimum fatal dose, he administered dose after dose at intervals of ten days or more, each time increasing the amount. In time he was able to give an animal in one dose enough poison to kill fifty such animals which had not become accustomed to it. Such a dose produced no bad effects, but appeared to act as a tonic, actually improving the subject's health. In one case he administered no less than 370 times the minimum lethal dose, without bad effect.

The next step was to extract some of the blood serum of animals thus treated, and administer it to fresh animals. He mixed the serum and pure poison together, in equal quantities, and injected it freely into the veins of an animal not hitherto treated. No effect whatever was produced. Then he injected them separately, the serum first, the poison second. Again there was no perceptible result; the serum having evidently fortified the animal against the action of the poison. Then, for a final test, he took a fresh animal and injected into its veins a deadly dose of snake poison. It soon began to have effect. Thereupon he injected some of the serum as an antidote. The symptoms of poisoning ceased entirely, and did not reappear. This, he declares, was proof positive that the serum of an immunized animal is an antidote to snake poison.

The experiments described were performed upon small animals, for, despite his years of collecting, he had not enough poison to operate upon large ones. The British Government is now assisting him, however, by getting him supplies of poison from India, and he has begun dosing a horse. As soon as the horse is able to endure in one dose a hundred times the ordinary death-producing dose, he will consider it immune. He will then extract as much of its serum as he can without en-

ONTARIO COLLEGE OF PHARMACY TORONTO

dangering its life, put it in vials, and send it to India for administration to human beings who have been bitten by deadly serpents. How much need there is of such an antidote may be reckoned from the fact that more than 20,000 persons are killed there every year by snake bites. Thousands more, doubtless, are killed elsewhere in the world in the same way; so that the serum promises to have wide application. Taken in conjunction with antitoxin, moreover, it certainly indicates a field of therapeutic research containing almost immeasurable possibilities of good.

PRACTICAL HINTS.

For the Prescription Counter.

——Mortars in which ointments are prepared should not be devoted to any other purpose.

——It may be advisable in solutions of organic principles to add a small quantity of alcohol to prevent their decomposition.

——Too many dispensers should not work at the same counter. Each one should have plenty of room, and, if possible, an individual balance.

——Petroleum benzin should be kept at a distance from combustible substances and should not be handled or stored in the near vicinity to flame.

——In dispensing mixed powders, first rub together the smaller amounts and heavier kinds before gradually adding the more bulky and lighter kinds.

——The disagreeable odor of drugs like asafoetida, etc., may be removed from the hand and utensils by rubbing thoroughly with fresh linseed meal.

——Bottles containing calcined magnesia should be kept well corked when not in use, in order to prevent the access of moisture and carbonic acid gas from the air.

——When solid extracts have been weighed on paper they may be readily removed with little loss by moistening the underside of the paper before removing the extract.

——Powdered soap tree bark, white hellebore, cantharides and powdered verdigris, when dispensed, should be handled carefully. The dust from any one of them, if inhaled, occasions violent sneezing.

——It is a good plan when putting away your oiled silk or rubber articles to sprinkle them with lycopodium. It prevents them from sticking together. It can also be used on postage stamps for the same purpose.

——One of the chief drawbacks about beef, wine and iron compounds is that the iron combines with the tannic acid contained in the wine and leaves a dark sediment. To overcome this the wine should be detannated.

——For dispensing liquids, solutions of many substances may be advantageously kept, the more active of the strength of 1 or 2 per cent., or 1 gr. to the fl. dr. In the case of the less active, as potassium chlorate, bromide, etc., nearly saturated solutions will be found most convenient.

——In all occupations attended with great and unusual danger there must be used all appliances readily attainable and known to science for the prevention of accident. Especially is this true in pharmacy, and the neglect to provide them is proof of culpable negligence on the part of the employer.

——As morphine is frequently prescribed for hypodermic use, it is best to keep in stock accurately divided powders properly labeled, of eighth, sixth, fourth, third, and half grain. When a prescription calls for a fraction of a grain of morphine, these may be used in place of triturates.

——Dry substances that are very active, prescribed in small doses, or any substance that is prescribed by physicians in small quantities as calomel, corrosive sublimate, strychnine, etc., may be kept in the form of a triturate, one part of the drug to eleven parts of sugar of milk. When one-fourth grain is prescribed, three grains of the triturate may be weighed with greater accuracy than the smaller quantity. In preparing the triturates special pains should be taken to see that they are uniformly mixed.

Advertising Disinfectants.

People should use more disinfectants. The business should be increased several thousand per cent., and there is no danger of overdoing it for a good many years to come. As the druggist is directly interested, he should bend his efforts toward stimulating the demand. As with everything else, people look at the cost first. They only disregard cost when some epidemic rouses them to the necessity of action, and in such instances the matter often takes on a wholesale aspect, and the druggist finds the local Board of Health rushing off to the dealer or manufacturer, who can furnish crude material by the barrel or ton at reduced prices.

This is rather a mercenary view of the matter, but it is relieved by the thought that the principles of prevention are worth more than the barrels or tons of cure furnished by the Board of Health, and that his interest in the matter is consonant with the growing practice of preventive medicine. His interest lies in furnishing the public small quantities from time to time, so that there will be no necessity for wholesale operations. To do this he must say some things to the public, especially enlarging upon the necessity of using disinfectants, and quoting prices which will allow people to use them liberally and without stint. The direct returns may not pay for advertising disinfectants this year and may not pay next year. The advertising will only pay after the druggist has got people educated up to the idea of using several hundred times as much of such material as they do now. It's a good idea to be in on the ground floor in these movements for educating people to buy things. It gets them into the habit of going to the educator's establishment to make their purchases.

There are dozens of ways of advertising this business; by circular, sign-board and newspaper. A sample advertisement is given for the latter, and some formulas for disinfectants are presented on another page. All these methods should be reinforced by personal effort on the part of the druggist. If people see him displaying that earnestness in the matter which his position in the community demands, they will not be slow in the use of disinfectants, especially a greater use of them.

NOT FEELING WELL?

Perhaps it is a warning that a serious illness is beginning, caused by foul drains, closets, stables or decaying garbage. Don't wait for an epidemic to tell you to use

DISINFECTANTS

WE CAN SUPPLY THESE AT PRICES WHICH WILL ALLOW YOU TO USE THEM FREELY, AND USE SEVERAL HUNDRED PER CENT MORE THAN YOU DID LAST SEASON.

STAR DISINFECTANT — *Powder and Liquid*—For Vaults, Cellars, Cesspools, Drains, etc. Price, for powder,—— lb., for liquid —— per pint; —— per gallon.

STAR CHLORIDE SOLUTION—*Non-poisonous*—For general household use. Price —— pint.

STAR ATOMIZING LIQUID—Finely perfumed for the sick room. Price —— pint.

Chloride of Lime —— lb.
Sulphate of Iron —— lb.
Carbolic Acid, Crude —— pint.

Full Directions and Advice Given for Using.

BROWN & GREEN,
DRUGGISTS AND SANITARY EXPERTS.
MORTARVILLE.

NOSOPHENE.—Under this name MM. Classen and Lob designate an iodine compound, obtained by the action of iodine on phenolphtalein, to wit: tetraiodophenol-phthalein. It appears as a yellow, insipid, inodorous powder, soluble in ether and chloroform, and insoluble in water. It contains 60 per cent. of iodine, and behaves as an acid, forming soluble salts with the alkaline bases. It is recommended in coryza, rhinitis, etc.

Creosote was discovered in 1830 by Reichenbach, who extracted it from the tar of wood.

LEADS THEM ALL.

Patton & Brennan, Mount Carmel, Ills.—The Era leads them all.

Chas. J. Mount, Monett, Mo.—Cannot get along without the Era.

John A. Dudd & Son, Milwaukee, Wis.—We wish to congratulate you on your ability as "hustlers."

Wm. L. Moore, Forest, Miss.—I think the Pharmaceutical Era better than all other journals combined.

Edwin Garner, Lafayette, Ky.—I cannot afford to lose a single number of your valuable journal on pharmacy.

Nelson & Johnson, Granite Falls, Minn.—Enclosed find money order for two dollars for which send us Era. "A good thing, push it along."

T. G. Watson, Pilot Mound, Man.—I consider your journal the best of its kind I have ever subscribed for and would not wish for three times its cost to have a break in the year's volumes.

S. W. Frey, Coopertown, Tenn.—I don't want to miss a single copy of the Era. It is the best medical and pharmaceutical publication I have yet seen or run upon during the past eighteen years of my professional life.

Geo. N. Beard, San Francisco, Cal.—I enjoy reading the Era very much, for several reasons. I never pick it up but what I learn something new. The Era is by far the best journal for druggists, and I wish you great success.

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[Continued from page 808, June 27.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XVIII. PHARMACY.

GENERAL PHARMACEUTICAL OPERATIONS.

Inorganic and Organic Pharmaceutical Chemistry, (Pharmaceutical Assaying).

(Continued.)

By Virgil Coblentz, Ph. G., A. M., Phil. D.

Clarification.

Many liquids contain finely divided suspended matter, which interferes with their transparency, and which cannot be removed by filtration. In such cases we must resort to treatment with some insoluble substance which will attract or envelop these particles. This operation is called clarification.

There is a kind of clarification which may be called "spontaneous clarification," or "clarification by subsidence," which may be employed in many cases. It consists in allowing the liquid to stand in a quiet place for a sufficiently long time, until the suspended matter has settled to the bottom.

When time is a consideration we resort to artificial clarification. This may be accomplished in several ways:

1st. By the application of heat, which coagulates albuminous substances which may be present. If liquids, containing albumen or albuminous matter, are boiled, the albumen coagulates, enclosing thereby the particles of suspended matter, mechanically causing them to rise to the surface as a scum. This is then removed by skimming or straining. In this manner we clarify fruit juices, also honey.

2d. By mechanical appliances. (a) Use of Albumen. When albumen is not already present in the liquid, it may be added. The white of an egg (one for each gallon) is first well diluted with a portion of the liquid, the mixture strained, and then added to the balance, which, after being well shaken or mixed, is heated gradually to the boiling point, when the coagulated matter is skimmed off. Albumen should not be used for alcoholic liquids, or for solutions which contain substances that unite with albumen forming insoluble compounds, such as salts of mercury, lead, copper or tannic acid, etc.

(b) Use of Gelatin.—This is employed in removing suspended matter, due to the presence of tannin-like substances. It readily unites with these, forming an insoluble leather-like compound. To the cold liquid is added a solution of isinglass; the whole is well mixed, heated to boiling, and on cooling it is strained or filtered. Gelatin is not adapted to alcoholic liquids or solutions whose activity depends on tannic acid.

(c) Use of Insoluble Bodies as Calcium Phosphate or Magnesium Carbonate, or Talcum.—These answer admirably for clarifying neutral liquids; in this case a small quantity is triturated to a paste with the fluid, the balance being added gradually, and the whole is then filtered through a plain or plaited filter.

Paper pulp.—This acts mechanically like the preceding, but is not so satisfactory. The pulp is added to the liquid, the mixture well shaken and poured on the filter, the first portions of the filtrate being returned to the filter, until the liquid runs through clear.

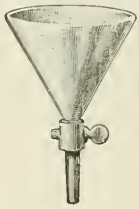
(d) Use of Alcohol.—This coagulates slimy and mucilaginous substances. Hence, when added to liquids containing these matters, it causes a coagulum to separate which carries the suspended matter along with it. After filtration, the alcohol is driven off by heat.

Decoloration.

The process of depriving liquids of color by filtration through some substance capable of absorbing organic coloring matter, usually animal charcoal. The object of decoloration is to remove the coloring matter and impurities accompanying vegetable principles such as alkaloids, glucosides, or bitter principles. It is resorted to particularly for decolorizing syrups in sugar refining, and cotton-seed oil; for the removal of color from petroleum residues, in the manufacture of petrolatum, and petroleum jellies. The most effective decolorizing agent is animal charcoal, which is made by heating bones, in closed retorts, out of contact with air; the product is then reduced to a granular condition by grinding. The best qualities are made from dried blood. Powdered animal charcoal is often called bone-black. Solutions of plant principles, which are to be decolorized, are either digested with, or percolated through it. Since it has a tendency to retain such principles, the charcoal should afterward be boiled with some of the solvent, for instance, alcohol, which extracts the principle retained.

Separation of Immiscible Liquids.

The pharmacist occasionally has to separate immiscible liquids; for instance, in the washing or purification of oils (volatile and fixed), which have become resinified or partially rancid. He has also occasion to separate immiscible volatile solvents (ether, chloroform, benzin, etc.), from aqueous solutions. In the first instance, after the oil has been thoroughly washed, by agitation in a closed flask with water (slightly alkaline), the mixture is poured into an open separating funnel (Fig. 60), allowed to stand until it has separated into two clear layers, then the underlying water or oil may be slowly and carefully drawn off.



Separating Funnel (stoppered).

Fig. 60.

Fig. 61.

For all kinds of operations, the so-called Separators, or separating flask, provided with a glass stopper, is to be preferred (Fig. 61). This consists of a pear-shaped or cylindrical bulb provided with a well-ground, perforated stop-cock and a short exit-tube. This form is usually employed in the various operations of shaking aqueous liquids with volatile solvents, which is necessary in the preparation of various pharmaceutical products and in the assay of alkaloidal drugs.

Extraction.

This term is applied to any process whereby the soluble matter of complex drugs, usually vegetable, are separated from the insoluble portion of a solvent: when practically accomplished, the drug is said to be exhausted. This is carried out in the operations of maceration or digestion, percolation, or a combination of both.

Maceration.

Maceration consists in subjecting a drug, reduced to a coarse powder, to the solvent action of a selected liquid, called the menstruum, the length of time and temperature being an important con-

sideration. The temperature employed in different pharmacopœias varies from 10° to 100° C., being accordingly designated as maceration, digestion, infusion, or decoction.

When a moderate heat (30° to 40° C.) accompanies maceration, it is called Digestion.

Maceration for a short time, either in cold, lukewarm, hot, or boiling water, and subsequent straining, is called Infusion.

When the mixture of drug and water is boiled together, it is called Decoction.

The temperature of maceration, in the preparation of tinctures, wines, vinegar, etc., as directed by most pharmacopœias is from 15° to 20° C. The length of time is from 1 to 36 hours, according to the nature of the drug and menstruum; where the process of percolation is not employed, the time of maceration is usually extended to the period of a week or more.

In the manufacture of pharmaceutical preparations, when the drug is to be exhausted by a fluid menstruum, as in the preparation of tinctures, extracts, wines, vinegars, etc., two methods of extraction are employed, either Maceration, or Percolation. The process of maceration is employed almost exclusively by the European apothecaries, who claim that it possesses the following advantages over the method of percolation:

By maceration, the drug is more evenly exhausted, and the products obtained are of like and uniform composition and are more stable.

It affords excellent results every time a substance is to be exhausted, and with the smallest possible quantity of menstruum.

It is far less expensive, since the loss in alcohol is very slight, the chief opportunity for any loss being during the operation of expressing the residue.

Preparations made by percolation are less stable, being more liable to precipitate, and especially so if water is used for forcing out the last portions of alcoholic menstruum, for then a diffusion of the two cannot always be avoided.

Maceration answers best for inexperienced hands, since the operation of percolation requires skill, with careful and constant supervision, in consequence of the wide variance in the nature and structure of different drugs.

It does not necessitate the pulverization of the drug, thereby dispensing with previous desiccation and possible loss, by alteration or destruction, of volatile principles, as, for instance, in conium, lobelia, physostigma, etc.

On the other hand, it is claimed that the process of maceration involves considerable loss. Yet, when the operation is carefully managed, the loss is not any greater than by the process of percolation.

Percolation is not adapted to certain kinds of drugs, particularly those of a spongy nature, which tend to swell with aqueous or hydro-alcoholic menstrua, and render the passage of the fluid slow and difficult; as examples, arnica flowers and orange peel may be cited.

Percolation is well adapted to such drugs as aconite root, cinchona bark, ergot, etc., but, wherever applied, the process demands care and skill.

Percolation.

Percolation, or displacement, is the process of extraction of a drug by the gradual descent of a solvent. It is called displacement because the solvent, after becoming charged with the soluble constituents of the drug, is displaced by fresh portions of the solvent liquid, and from its own gravity, and by the presence of the liquid above, minus capillary force, continues downward and is discharged below.

Percolation, when properly carried out, is an effective and expeditious process of drug extraction. It yields at once, without further manipulation, a finished product. The product is called the Percolate, and the vessel in which the operation is carried on, the Percolator, and the liquid solvent employed is called the Menstruum.

The U. S. Pharmacopœia gives the following definition and description of the process:

"The process of percolation, or displacement, directed in this Pharmacopœia, consists in subjecting a substance or a mixture of substances, in powder, contained in a vessel called a percolator, to the solvent action of successive portions of a certain menstruum in such a manner that the liquid, as it traverses the powder in its decent to the receiver, shall be charged with the soluble portion of it, and pass from the percolator free from insoluble matter.

When the process is successfully conducted, the first portion of the liquid, or percolate, passing through the percolator, will be nearly saturated with the soluble constituents of the substance treated; and if the quantity of menstruum be sufficient for its exhaustion, the last portion of the percolate will be nearly free from color, odor and taste, other than those of the menstruum itself."

In order to be able to apply the process of percolation intelligently, so as to secure the object aimed at, viz., the extraction of the useful soluble constituents of a drug, the operator must have some knowledge of the structure and composition of the drug. In its natural, unpowdered condition, the drug (assuming it to be of organic origin) is usually made up of cells and vessels of various shapes and of interstitial spaces. When the drug is powdered many of these cells and vessels, which usually contain the matters to be extracted, are broken up, and the interstitial spaces are thus largely increased in number. If the powdered mass is now to be extracted by a menstruum, not in repose, but slowly passing through the mass, it is necessary to adjust the current so that the menstruum has time to penetrate the solid particles, to become charged with the soluble matters contained therein, and to be slowly displaced by fresh portions of the menstruum. If the current of the menstruum is so rapid that it has not sufficient time to penetrate and pass through the solid particles, there will be a deficiency in the product. The best plan of avoiding this is to give ample time to the menstruum, particularly in the beginning, to penetrate the solid substance and to render the cell walls ready for the process of osmosis. Hence the first step, in percolation, is to moisten the powder and to wait until the liquid has thoroughly penetrated the solid particles themselves. In some drugs this is accompanied by a considerable swelling, or increase of volume, due to their spongy or mucilaginous nature. In these cases it is particularly necessary to wait for complete expansion, since, otherwise, the drug would so clog the percolator that no liquid would be able to pass.

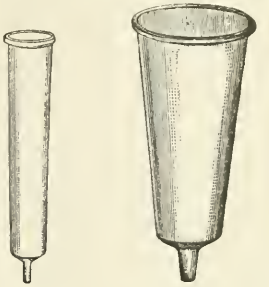


Fig. 62. Fig. 63.

"The percolator most suitable for the quantities contemplated by the Pharmacopœia should be nearly cylindrical, or slightly conical, with a tunnel-shaped termination at the smaller end. (Figs. 62, 63.) The neck of this tunnel-end should be rather short, and should gradually and regularly become narrower toward the orifice, so that a perforated cork, bearing a short glass tube, may be tightly wedged into it from within until the end of the cork is flush with the outer edge of the orifice. The glass tube, which must not project above the inner surface of the cork, should extent from 3 to 4 cm. beyond the outer surface of the cork, and should be provided with a closely fitting rubber tube, at least one-fourth longer than the percolator itself, and ending in another short glass tube, whereby the rubber tube may be so suspended that its orifice shall be above the surface of the menstruum in the percolator, a rubber band holding it in position.

"The shape of a percolator should be adapted to the nature of the drug to be operated upon. For drugs which are apt to swell, particularly when a feebly alcoholic or an aqueous menstruum is employed, a *conical* percolator is preferable. A *cylindrical* or only slightly tapering percolator may be used for drugs which are not liable to swell, and when the menstruum is strongly alcoholic, or when ether or some other volatile liquid is used for extraction. The size of the percolator selected should be in proportion to the quantity of drug extracted. When properly packed in the percolator, the drug should not occupy more than two-thirds of its height. The percolator is best constructed of glass or stone-ware, but, unless otherwise directed, may be made of any suitable material not affected by the drug or menstruum."

While not specifying dimensions, the Pharmacopœia directs the employment of either one of two forms, the conical or cylindrical. In percolating such drugs as are liable to swell considerably, for instance, gentian, calumba, rhubarb, etc., or where the menstruum is more aqueous than alcoholic, the conical form is preferred; since, owing to the slanting of the sides, the drug has an opportunity to expand upward. Also, since these drugs yield to aqueous menstruum a large amount of soluble and mucilaginous matter, it cannot as readily collect as a viscid liquid, and retard percolation, as is often the case in the cylindrical form. In all other cases the tall and narrow cylindrical percolator is preferred, which increases the height of the column of the drug and menstruum in proportion to their mass, thus insuring the thorough exhaustion of the drug with a moderate quantity of menstruum.

"The percolator is prepared for percolation by gently pressing a small tuft of cotton into the neck above the cork, a thin layer of clean and dry sand being then poured upon the surface of the cotton to hold it in place."

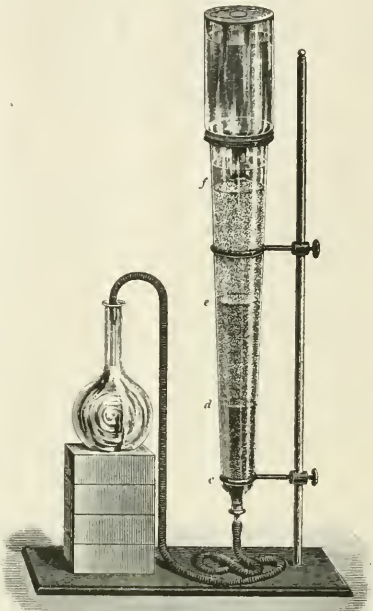
In preparing the percolator, care should be taken not to press the wad of cotton too tightly. It should fit loosely

into the upper portion of the neck, partly covering the bottom of the percolator; it is preferable to cover this with a disc of filter paper cut to fit the bottom of the percolator. This may be covered with a layer of clean sand, or pebbles. Some operators prefer to insert a cork, grooved all around, into the upper part of the neck, and to cover this directly with a disc of filter paper. Where obtainable, glass-wool will be found far better than cotton for this purpose, since it retains its spongy condition and does not fall together on becoming wet. In selecting the proper-sized percolator, we must be guided by the amount of drug; thus, if the percolator be large enough for 16 troy ounces, we should not use it for 8 or 10 ounces of drug, and, upon the other hand, the percolator must be amply large enough to accommodate a good supply of menstruum above the surface of the powder.

"The powdered substance to be percolated (which must be uniformly of the fineness directed in the formula, and should be perfectly air-dry before it is weighed) is put into a basin, the specified quantity of menstruum is poured on, and it is thoroughly stirred with a spatula, or other suitable instrument, until it appears uniformly moistened. The moist powder is then passed through a coarse sieve—No. 40 powders, and those which are finer, requiring a No. 20 sieve, whilst No. 30 powders require a No. 15 sieve for this purpose. Powders of a less degree of fineness usually do not require this additional treatment after the moistening. The moist powder is now transferred to a sheet of thick paper and the whole quantity poured from this into the percolator. It is then shaken down lightly and allowed to remain in that condition for a period varying from fifteen minutes to several hours, unless otherwise directed; after which the powder is pressed, by the aid of a plunger of suitable dimensions, more or less firmly in proportion to the character of the powdered substance and the alcoholic strength of the menstruum; strongly alcoholic menstrua, as a rule, permitting firmer packing of the powder than the weaker. The percolator is now placed in position for percolation, and, the rubber tube having been fastened at a suitable height, the surface of the powder is covered by an accurately fitting disc of filtering paper, or other suitable material, and a sufficient quantity of the menstruum poured on through a funnel reaching nearly to the surface of the paper. If these conditions be accurately observed, the menstruum will penetrate the powder equally until it has passed into the rubber tube and has reached, in this, a height corresponding to its level in the percolator, which is now closely covered to prevent evaporation. The apparatus is then allowed to stand at rest for the time specified in the formula.

"To begin percolation, the rubber tube is lowered and its glass end introduced into the neck of a bottle (Fig. 65), previously marked for the quantity of liquid to be percolated, if the percolate is to be measured, or of a tared bottle, if the percolate is to be weighed; and by raising or lowering this receiver the rapidity of percolation may be increased or decreased as may be desirable, care being taken, however, that the rate of percolation, unless the quantity of material be largely in excess of the pharmacopœial quantity, shall not exceed the limit of ten to thirty drops in a minute.* A layer of menstruum must constantly be maintained above the powder, so as to prevent the access of air to its interstices, until all has been added, or the requisite quantity of percolate has been obtained. This is conveniently accomplished, if the space above the powder will admit of it, by inverting a bottle containing the entire quantity of menstruum over the percolator in such a manner that its mouth may dip beneath the surface of the liquid, the bottle being of such shape that its shoulder will serve as a cover for the percolator."

Degree of Fineness of the Powdered Drug.—It is essential that the drug be of a proper and uniform degree of fineness; when it is too coarse, complete exhaustion does not take place; when it is too fine, percolation ceases from agglutination, and when it is not of uniform fineness, percolation is hindered. The fineness of the powder must be in accordance with the nature of the drug and solvent. Drugs like rhubarb and gentian, which have an open, loose cellular structure, and whose constituents are readily soluble, are easily exhausted when in coarse powder. Such drugs as nux vomica and ignatia have a hard, horny structure, which is not easily penetrated by a solvent, hence they must be reduced to a fine powder. The finer the powder, the more intimate will be the contact with the solvent.



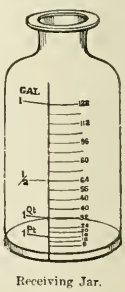
† Fig. 64.

Moistening and Packing.

A drug should be thoroughly moistened and permitted to expand before being packed, so that the dry cellular tissue may, from the absorption of liquid, swell to its ultimate condition, and that, after the drug is packed, the liquid may pass in an even current. If a drug is packed without having been moistened, or before it has ceased to swell, and menstruum then poured upon it, the passage of the latter would soon be obstructed by the swelling of the particles. After being moistened, the powder should be rubbed through a coarse sieve so as to secure uniformity of texture and to prevent any balling. After this, it may be either poured into the percolator, which is to be carefully covered so as to prevent the powder from drying out, or placed in a well-closed, wide-mouthed macerating jar. It is then allowed to stand for a period varying from fifteen minutes to several hours, according to the nature of the drug.

The powder is now "packed" in the percolator, which is done by introducing it in portions, distributing it uniformly and evenly, and applying a more or less strong pressure, according to the directions, in such a way, however, that the pressure always diminishes toward the surface. The directions given by the Pharmacopœia, viz., "to pour the powder into the percolator, to shake it down carefully so as to avoid the formation of furrows or cavities, and then to apply pressure on the surface," are liable to produce difficulties during the percolation. The firmness with which a powder should be packed, depends entirely on the structure of the drug and on the menstruum employed. If the drug be porous and spongy and the menstruum aqueous, it should be packed loosely; if the menstruum be alcoholic, it should be packed firmly. As a rule, the more alcoholic the menstruum, the firmer should be the packing.

After the powder has been properly packed, a circular piece of filter paper (nicked around the edges), slightly larger than the diameter of the upper layer of powder, is laid upon the surface, and weighted with pebbles, broken glass, a funnel, or a glass tripod weight made for this purpose. As much menstruum should be added at once as the percolator will hold, great care being always taken not to allow the menstruum to disappear below the surface of the powder; for should this take place, air will be drawn into the interstices of the drug and fissures will form by contraction of its mass; hence, when more menstruum is added, it will flow through those parts where it meets the least resistance, seeking the fissures which allow the passage of the menstruum through these channels, instead of percolating through the powder. When constant attention cannot be given to the operation, a flask may be inverted over the top of the percolator, or else the process may be interrupted by stopping the flow of the percolate.



Receiving Jar.
Fig. 65.

After the menstruum has been added (if the drug has been properly packed), it will permeate the powder and descend at a uniform rate through the mass. Should it descend more rapidly on one side than on the other, this would be due to irregular packing, indicating that too little pressure has been used on one side as compared with the other, and then a

* The rate or speed of percolation may be increased in proportion to the *amount* of drug dercolated.

† Fig. 64 illustrates the official operation of percolation. It also illustrates the solvent action of the menstruum in its descent; the portion, *c–d*, containing the largest amount of extractive, is followed by the layer *d–e*, containing less, and *e–f*, the least amount of extractive. In actual operation the lines of demarcation are not so sharp, but gradually blended from below upward.

portion of the powder will not be as thoroughly exhausted as that more loosely packed, owing to the rapidity with which the menstruum passes through the more porous portion.

Under proper conditions, after the menstruum has penetrated the entire powder, and passed into the rubber tube, the mouth of the percolator is to be covered to prevent evaporation, and allowed to stand at rest for the time specified by the formula. The length of this period of maceration depends on the nature of the drug and the amount of menstruum. Should the amount of menstruum be small, as in the preparation of fluid extracts, a greater length of time is necessary than in the making of weaker preparations, such as tinctures, wines, etc., for with these the length of maceration may be short, since we have a large amount of fluid with which to exhaust a small amount of drug.

Proper Menstruum.

A knowledge of the constituents of a drug, and of their properties, is absolutely necessary before the proper menstruum for percolation can be selected. The menstruum must be so chosen as to extract the active principles, and yet take up as little as possible of the inert matter. The menstruum must also be capable of holding the extractive matter permanently in solution. Such drugs as contain alkaloids, resins, etc., require a more strongly alcoholic menstruum. Such as licorice require a slightly alkaline hydro-alcoholic menstruum. Such as ergot, sanguinaria, conium, etc., are better exhausted with an alcoholic menstruum slightly acidified. In many cases glycerin is added, since it has intermediate solvent properties between that of alcohol and water, and dissolves all principles soluble in either alone. In the case of gentian, scoparius, and quassia, just enough alcohol is employed to prevent fermentation of the finished preparation.

Exhaustion.

The Pharmacopœia directs that displacement be continued until the drug is exhausted. The exhaustion of a drug cannot be insured with a given amount of menstruum, for that depends entirely upon the skill of the operator. In this case, we must be guided by the nature or peculiarities of the drug operated upon. When the active principles possess a bitter taste, as in nux vomica, cinchona, or quassia, exhaustion is indicated by the disappearance of a prominent bitterness. In the case of resinous drugs, such as podophyllum or jalap, the percolation is to be continued until the percolate ceases to produce cloudiness when dropped into water. With astringent drugs, such as catechu or krameria, we judge the drug to be exhausted by the disappearance of an astringent taste. The exhaustion of alkaloidal drugs is best observed by directly testing a fraction of the percolate for the presence of alkaloids by means of Mayer's reagent. The color is but rarely a criterion of strength or exhaustion, for percolates may continue to pass through highly colored, and yet the drug may have long been devoid of activity; an exception to this is cochineal, whose virtues reside in its color only. Hence, to carry on the process of percolation intelligently, we must understand the nature and constituents of the drug operated upon.

After the drug has been exhausted, varying amounts of the menstruum are retained in the drug residue (marc). The recovery of this is quite important where larger quantities are operated upon. It is best then to throw the entire mass directly into a still, into the bottom of which live steam is passed and the distillate then condensed.

Various Forms of Percolating Apparatus.

For the use of the apothecary, in operating with smaller quantities of drugs, the glass percolator is the best, since by its use we are enabled to observe the various stages of the operation. It is also adapted to all kinds of drugs. Glass percolators of a larger size than five gallons are not safe, since, owing to their great size and weight, they are liable to crack. The larger sizes should be supported upon frames covered with some soft material like rubber or cork. Next to glass stoneware jars (Squibb's Siphon Percolator) are to be preferred. These may be used for quantities up to 200 pounds. Most manufacturers employ tinned copper percolators which permit the carrying on of operations involving 300 to 500 pounds of drugs.

Siphon Percolator*.—This form of percolator was designed by Dr. Squibb, who claims for it the following merits: It combines maceration with percolation, enabling the operator to vary the amount of maceration easily during the process; it controls the rate of percolation perfect-

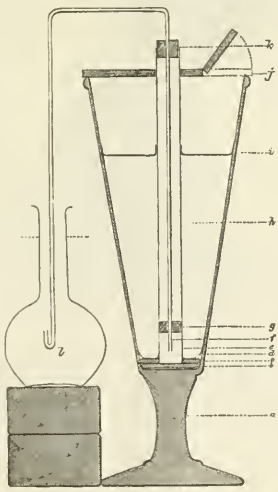


Fig. 66.

ly, and renders the percolation uniform throughout the mass of substance, independent of the packing, hence it requires less skill and experience in packing to obtain a given success in result; it is economical on the material, and as nearly automatic and self-controlling as a piece of apparatus can well be, and therefore requires the least time and attention; it sucessfully exhausts substances in coarse powder better than the usual forms, hence it is better adapted for the use of the apothecary than the usual form, which requires a great deal of care and skillful manipulation.

Fig. 66 illustrates one form of this percolator best adapted for handling smaller quantities of the drug. (For description, see Coblentz's Handbook of Pharmacy, pp. 201--4.)

Pressure Percolation.

For the purpose of hastening the operation of percolation, two methods have been proposed; one by creating a vacuum below the drug in the percolator, thereby increasing the pressure above, and the other, by means of hydrostatic pressure caused by a column of menstruum supplied from a reservoir at a height of from 5 to 10 feet. There are a number of different forms of this pressure percolator, among which are those of Stearns, Rosenwasser, Suits, Berry, Anderson and Lentz. They all differ slightly in various points of construction, but the principle of all is the same, namely, the rapid percolation of drugs by forcing the menstruum at a greater rate of speed than ordinarily attained. These instruments may be used with advantage in some cases, for instance, for squills or calumba, which swell considerably, and allow the percolate to pass only slowly. However, the operation should not be hurried, otherwise the particles of the drug are liable to be simply washed with the menstruum. In order that percolation may be successful, time must be given to the menstruum to penetrate the cells of the drug, and to take up the soluble matter, otherwise a satisfactory exhaustion cannot be expected.

Vacuum Percolation.

This method of percolation was proposed by Duffield in 1869. This consists in introducing the powdered moistened drug into a tight cylinder and exhausting as much as possible of the air by means of a pump. Thus, by the removal of the air enclosed in the interstices of the drug, the menstruum is enabled to penetrate the drug more rapidly and thoroughly, thereby facilitating maceration and subsequent exhaustion.

Expression.

Expression is forcible straining. The separation of fluid from solid matter is effected in small operations by hand, the straining cloth being used. On the larger scale, as in the removal of the last portions of fluid from drug residues, it is accomplished by means of presses or the centrifugal machine. Expression is a necessary part of the process of Maceration; it is also required in the operations of Percolation, for the removal of menstruum adhering to the dregs or "marc." In some instances, the mass is thrown directly into the press or centrifugal machine; in others, it is first enveloped in a strainer of press cloth, before being subjected to pressure.

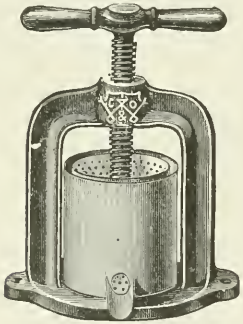
For the purpose of enclosing the material which is to be subjected to pressure, we employ the press-cloth or bag; this must be made of a material sufficiently strong to withstand great press-

* Sometimes called "Well-tube Percolator."

ure without rupture. For this purpose strong canvas may be used, or better, the so-called press-cloth, which is specially made for this purpose. In conducting the process of expression, pressure should be applied very slowly, otherwise, should the substance contain much fluid, the cloth will be ruptured. After the greater part of the liquid has been pressed out and the pulp has become firm, the pressure may be gradually increased to the full power of the press. The compression should be carried on in stages, the press being allowed to rest a few moments after each increase of pressure, thus allowing a new portion of the fluid an opportunity to drain off, and at the same time affording the particles of the mass an opportunity to assume their new positions in closer contact. Each subsequent increase of pressure will require a comparatively smaller effort.

Screw Presses.

Fig. 67 illustrates the more common form, which consists of a vertical screw operated by a lever, the lower end of



Tincture Press.
Fig. 67.

this screw fitting into a cavity in the top of the plunger, which is free to move about in the limited space of the cylinder. The body of the press consists of an outer metallic casing, which serves to receive the fluid when forced through the perforated sides of the inner cylinder. All the parts of the press, which come in contact with the drug or fluid, should be well tinned, to prevent rusting, also to avoid discoloration or injury to the product should it contain tannin-like principles or acids.

Hydrostatic or Hydraulic Press.

This is the most powerful of all the various presses employed. Its action depends on the well known law of equality of pressure, namely, that a "pressure exerted anywhere upon a mass of liquid, is transmitted undiminished in all directions, and acts with the same force on all equal surfaces, and in a direction at right angles to those surfaces."

There are various forms of presses depending on this principle, a more familiar form being illustrated in Fig. 68.

The Centrifugal Machine (or Centrifuge).

As a means for the thorough and rapid separation of fluids from solids, the centrifugal machine forms an invaluable part of the outfit of many industries. It is used to separate the syrup (mother-liqor) from sugar crystals, also in the removal of water from heavy precipitates; for removing the water retained by masses of cotton in the manufacture of absorbent cotton, etc., etc. The centrifugal machine is employed by the chemist in separating crystalline masses from the mother-liquor; in the separation of fats from milk; the rapid separation of precipitates in analytical operations, etc. The centrifugal machine is also useful to the pharmacist for the separation of fruit juices from their pulp, also, for the removal of fluid matter from drug residues. While it does not remove the fluid as completely as a powerful press, yet it is exceedingly useful in many such operations

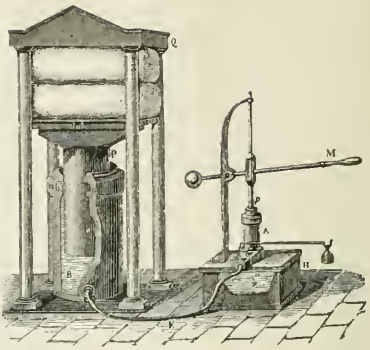


Fig. 68.

The machine (Fig. 69) consists essentially of a perforated cylindrical cage, fixed to a central shaft, and surrounded by a case. The inner cage revolving at a high rate of speed (up to several thousand revolutions per minute), anything contained in it is driven to the circumference, and if it be of a sufficiently fluid nature, it passes out through the perforations in the cage, and flies off tangentially. If we desire to free crystals from their mother-liquor, or to separate the adher-

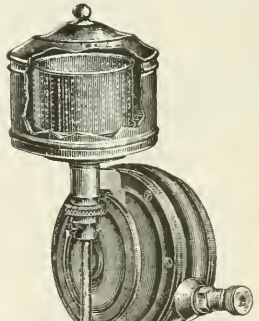


Fig. 69.

ing menstruum from a drug, we place them in the centrifugal machine, whereupon the mother-liquor, or fluid, escapes through the perforations in the cage, while the crystals, or drug, are left behind.

(To be continued).

Spray Insecticide.

Quassia chips.....3½ ounces
Stavesacre seed..... 5 drams

Boil in 7 pints of water until reduced to 5; when cool, strain it and use with a watering pot.

Tartaric acid was first extracted by Scheele, in 1770.

Bromine was discovered by Ballara, of Montpellier, in 1826.

Phosphorus was discovered in 1669 by Brandt, of Hamburg.

THE TREND OF MODERN PHARMACY.*

Taking a survey of the condition of pharmacy in its trade and professional relations, it is impossible to avoid the conviction that a change of some kind is in progress. In common with the drift of the intellectual and technical progress in science, arts and trades, pharmacy is bent to raise the status of its professional aspect, and this it seeks to accomplish through more commensurate educational standards; in its trade relation, however, pharmacy is evidently on an inclined plane in all countries. Specialization in medicine and sanitary science and application and an increasing general intelligence, in all matters relating to health and sanitation, are constantly curtailing the once and ready comprehensive resorting to remedial agents. Medical as well as popular skepticism in the infallibility and omnipotence of medicines are progressing slowly, but surely in accordance with higher civilization everywhere. The inroads of this progress on the once opulent dreams of medication and pharmacy are becoming more and more evident throughout our own land, whilst they have much reduced the prosperity, and, in many cases, even imperiled the raison d'être of the apothecary shop in the old world.

In consequence of this gradual metamorphosis we see that in countries highest and leading in education and culture, the drift of the educated pharmacist is toward congenial additional or modern application. The study and the application of the future pharmacist tend then more and more in the direction of the public analyst and bacteriologist, and it is in this capacity, as well as in that of the medicine dispenser, that he is likely to serve the community and preserve as much as may be left of the "lost art" of the apothecary.

This subject might be pursued further, but it is questionable whether the results would be sufficiently interesting or useful to compensate the tax on your patience. In leaving it we can but point out how necessary it is for our colleges and schools of pharmacy to take the altered and changing conditions into consideration and so construct their courses

* Portion of the report of the Committee on Pharmacy and Queries of the New York State Pharmaceutical Association. Read by the Chairman T. J. Keenan, at the annual meeting, June, 1895.

of instruction as to meet the requirements of modern knowledge and methods. The genius of American pharmacy so aptly referred to by one who recently occupied the elevated positon of President of the American Pharmaceutical Association, can, perhaps, be safely trusted to meet the demands and exigencies of our time and its universal progress, but care should be taken not to occupy ourselves too much with the undeveloped things of the future, nor to drive the chariot of progress too furiously.

No reference to the events of the year would be complete without some mention of the work transacted by the American Pharmaceutical Association at the meeting following that of our own Association in 1894. The thoroughness and painstaking care which characterized the bulk of the papers contributed to the scientific section at the Asheville meeting, give evidence of an active scientific spirit, and this elevation of standard must be especially reassuring to those who have complained in the past that undue prominence was given to subjects of minor importance, causing science to be neglected in its own temple, and encouraging mediocrity. The conditions are now reversed, and complaint has been made regarding the paucity of practical papers. In estimating the value of scientific papers regard should be had for their discussion-provoking qualities. The interesting and far reaching discussions of several of the papers read at the last meeting of the American Pharmaceutical Association took a valuable and practical direction.

Another event of importance occurring during the interval since our last meeting was the convention of the Deutscher Naturforscher und Aerzte, an organization, which resembles in many respects the American Association for the Advancement of Science, but which includes a section on pharmacy. The convention began its meeting in Vienna on September 23d, and adjourned six days later. The fact that Germany is the only country where pharmacy has a recognized standing among the professions shows that the German pharmacist has in time, and in the drift of scientific and professional progress and changes, maintained his particular position and in branching out in the direction where the future application of the educated pharmacist will largely go. Last year's convention of the German Association is worthy of mention from other considerations beside that of the splendid contributions to professional knowledge which it produced. It was here that the first formal announcement of the successful application of antitoxin serum in the treatment of diphtheria was made by the discoverer, Dr. Behring, though not in the section on pharmacy. The section pharmacy was represented by about 150 of the most renowned pharmaceutical scholars in Germany, including as guests some of the noted pharmacists of Russia, England and one representative of the United States.

Lack of time renders it impossible to give a complete summary of the pharmacy of the year, and we can only touch in passing on incidents which are writ large. Thus reference should be made to the discovery of a new constituent of the atmosphere in argon, which derives its name from the Greek words signifying "no work." This interesting addition to the number of known elements has with one exception baffled the efforts of the chemists to make it enter into combination with other bodies, and it may be said to fairly earn its name. Its combination with benzene, which was effected recently by the French chemist Berthelot, is the exception alluded to. It was in the course of some experiments made by an English chemist to discover argon that the latest of all elements was isolated. We refer to helium, which was obtained by Prof. Ramsay in conjunction with argon from the rare mineral cleveite.

Research in the domain of synthetical chemistry has resulted in the discovery of many new compounds, and the day would seem to be not far distant, when the practical application of these discoveries to economic purposes will be felt by even the cultivator of the soil. The only comfort left to the agriculturist in these end-of-the-age times, is the reflection that it is impossible to construct a synthetic fiber or a synthetic fruit. The production of true artificial sugar and amorphous starch cannot be long delayed, and the synthesis of other ingredients of our daily food should quickly follow.

We should have liked in this report to have been able to make extended reference to recent progress in the direction of standardizing drugs for their alkaloidal value, but time and space forbid. The literature of the subject has been enriched during the past year by several contributions from American workers. Alfred R. L. Dohme has studied the titration of alkaloids. Lyman F. Kebler, in a paper, presented at the meeting of the American Pharmaceutical Association, compared the various methods for standardizing drugs, and recommended titration with volumetric acid solutions. In a second paper, the profitableness of standardizing the fluid extract of the drugs was set forth, and the value of titration fully demonstrated. Following the same line of work, Mr. Kebler has made a study of the method of opium assay, and the results have been described in detail in a paper read this year before the New York Section of the Society of Chemical Industry. The analytical methods for assaying opium have also been investigated by F. X. Moerk and J. H. Wainwright, and their researches, bearing on this subject, are especially valuable. Notable contributions to the advancement of our knowledge of standardization have been made by Keller in Germany and Paul and Cownley in England.

In conclusion it seems fitting that record should be made of recent additions to the literature of pharmacy as represented by new pharmacopœias. Of these the supplement to the French Pharmacopœia is the earliest. In this work, many articles not heretofore official in any Pharmacopœia are recognized for the first time. Notable among the new additions are diastase and sulphoricinic acid. The publication of the supplement to the French Pharmacopœia was closely followed by an appendix to the German Pharmacopœia. The appendix contains many additions and alterations and is also noteworthy from the number of novelties included among the additions. The latest among the new Pharmacopœias is the Pharmacopœia Norvegica. This publication has come in for considerable criticism both on account of the inaccuracy and vagueness of the definitions which figure in it and the laxity of the tests prescribed. The nomenclature of the work is objected to as not being in consonance with modern ideas and the pharmacopœia on the whole fails in many respects of meeting the expectations of the pharmacy of to-day.

Fluid Extract of Wild Cherry.*

By Garet V. Dillenbach.

Owing to the unsatisfactory results obtained from the U. S. P. process for Extractum Pruni Virginianæ Fluidum, the writer has been led to make an investigation with a view to determine whether the method and menstruum of the Pharmacopœia are the best that could have been devised; and the results of this investigation have been so highly satisfactory, that the writer is induced to submit the process and samples for the benefit of those interested, that in the end good may come in the form of a preparation better representing the drug.

Nothing is intended that would cast discredit upon the arduous labors of the Committee of Revision, as they undoubtedly adopted in their judgment the best method submitted. No attention has been paid to the comparative astringency of the product of different processes, as any menstruum composed of alcohol, glycerine or water, separately, or in mixtures of any proportions, would extract all of the soluble tannins in the bark, if properly percolated; and any attempt to remove the astringency would produce results more or less unsatisfactory according to the thoroughness with which it was conducted.

Quite, if not all of the coloring matter is astringent, and probably some form of tannin, and removable by simple agitation with gelatine solution; but as stated above the detannated solution does not represent good cherry bark.

The menstruum the writer has adopted is glycerine ⅓, water ⅔, and the process is conducted as follows: 70½ Troy ounces of wild cherry bark in No. 20 powder are moistened with 3½ pints of menstruum and then packed firmly into a narrow glass percolator of about 2 gallons capacity, and allowed to macerate for 12 hours. Now percolate into three jars, numbered, respectively, 1, 2 and 3; the first holding 4 pints, the second 40 ounces and third 1 pint. Make 1 gallon of menstruum in all, and as soon as the last portion has passed into the drug, pour on water until the required percolate is obtained. Proceed with the percolation so that jar No. 1

* Read before the New York State Pharmaceutical Association, June 26, 1895.

will be filled during the first 12 hours after maceration. Pack a second percolator with 73½ Troy ounces of wild cherry, proceeding as before, except macerating longer. Moisten with 3½ pints of the percolate from jar No. 1. The second day continue the percolation of the first percolator until the jars all contain the required amount. The third day pour the remainder of percolate No. 1 into the second percolator, following it with the second and third percolates in order, as the previous portion has disappeared into the drug. Take from percolator No. 2 during the third day enough to fill jar No. 1, and enough to fill jar No. 2, the first part of the fourth day, when the percolation will be complete, as no third portion is taken from the second percolation. Mix percolates Nos. 1 and 2 and add ½ pint of alcohol. Let stand one week and filter. The result will be 1 gallon of fluid extract fully representing the drug, water soluble and permanent.

A word of explanation is necessary regarding the amount of wild cherry used, as the amount would be excessive if full repercolation were used. By careful experiment the writer has estimated that in the first percolation, the first percolate will extract 75 per cent. of the strength of the drug and the second 15 per cent., leaving 10 per cent. wasted. In the second percolation, the first percolate will extract 65 per cent. and the second 20 per cent., leaving 15 per cent. waste, and this waste is allowed in the extra amount of drug used. Full repercolation the writer would not advise, because of the length of the process for a watery menstruum.

Fluid extract of wild cherry made in this way is applicable for making syrup and the syrup made from it is fully equal to the syrup made by the U. S. P. process, and superior to syrups made from fluids by Proctor's method. For syrup the writer would suggest the following formula:

F. E. wild cherry .....2 fl. oz. 292 min.
Sugar .....1½ fl. oz.
Syrup simple, enough to make .....1 pint

Uses of Monazite in Europe.

In response to inquiries made by the State Department, Consul-General Mason, of Frankfort, Germany, furnishes in the Reports for May, 1895, the following:

Monazite—known in American mineralogy as "Eremit," and variously elsewhere as "Mengit" or "Edwardsit"—is a brown or reddish mineral which was originally found at Miask, in the Ural, but has since been discovered in Norway, Brazil, and, still more recently, in the United States, notably in North Carolina. It is a natural phosphate of the protoxides of cerium and lanthanium, two of the rare primitive metals. Monazite contains about 28 per cent. of phosphoric acid, 24 to 27 per cent. of the protoxide of cerium, 37 to 40 per cent. of the protoxide of lanthanium, and, generally, traces of calcia, magnesia, and the oxides of tin. It is infusible before the blowpipe, but is soluble in hydrochloric acid, and upon these two qualities depends its value for the latest industrial purpose to which it has been applied in Germany—the manufacture of hoods for incandescent gas-burners.

Until quite recently, the principal use of monazite in this country has been as a raw material for the production of cerium, lanthanium, and their various chemical derivatives. These are manufactured in Germany principally by two large and important firms, viz., E. de Haen, at Hanover, and E. Merck, at Darmstadt, near Frankfort.

Cerium, a gray metal of lamellar structure and high specific gravity, costs, in this country, $190 per kilogram (2.2046 pounds), and its principal derivatives are the acetate, carbonate, chloride, nitrate, oxalate, sulphate, and the hydrated and anhydrous oxides of cerium. These products vary in value from $2.70 per ounce for the anhydrous oxide, to the carbonate, nitrate, and pure oxide of cerium at $1.31; the salicylate, at $2.18, and the oxalate at 41 cents per pound, respectively.

Lanthanium (also called lanthanum) costs, as pure metal, $6.80 for 20 grains; the chloride, $2.70 per ounce; the anhydrous oxide, $3.40, and the sulphate, nitrate, and hydrated oxide of lanthanium, $2.70 per ounce, respectively. These values are here given to show that both metals and most of their compounds are so expensive that their use must be relatively limited. Metallic cerium and lanthanium are employed for incandescent purposes, and their derivatives are mainly of scientific, rather than industrial, interest.

But the most recent and important application of monazite, which has latterly greatly stimulated the demand for it in this country, is its use as an impregnating material for the hood, or mantle, of the incandescent gas-burner, invented by Dr. Auer, of Vienna. The value of monazite for this purpose is due to its high degree of resistance to fire. The distinctive feature of the Auer burner is a hood or net of fine gauze, which surrounds the flame, and by gently increasing its incandescence, produces a white, intense light without increasing the consumption of gas. This hood is made of cotton thread, loosely woven in the form of a sack or net, closed at one end and open at the other. This is then impregnated with a solution of monazite or the oxides of cerium and lanthanium, prepared by methods, the secret of which is not disclosed. The impregnated cotton tissue being now stretched upon a wire frame and ignited, the cotton is burned away, leaving a skeleton of inorganic matter derived from monazite, in which each thread and mesh is perfectly preserved. This frail but highly refractory gauze-like hood is then inclosed in an argand chimney, attached to the burner, and will last for several months.

Thus far, the supply of monazite has been obtained from Norway and Brazil, the value of the imported mineral being governed by the percentage of available monazite contained, which varies from 1½ to 6 per cent. If the mineral from the United States is equal to or superior to this, there would seem to be a good opportunity for its introduction for this purpose.

The Physician, The Pharmacist, and the Common Foe.*

Four years ago, in pursuance of an invitation extended to the New Jersey Pharmaceutical Association, the speaker had the honor to stand before you as the first official representative of organized pharmacy. Then, as now, it was his agreeable duty to tender the respectful greetings of his co-workers in the art nearest of kin to your own—the art out of which, may I say, yours grew, since, assuredly, physic was before physicians were.

The tendency on occasions like the present to enlarge upon the relations of medicine and pharmacy is almost inevitable. But to all that has been spoken and written thereon, how is it possible, why is it desirable, to add another word? Those relations differ in different localities, and change from year to year. What they should be is well understood; why they are in our day and our land is not matter for congratulation. Because of peculiar circumstances it has fallen to the speaker's lot to think and write not a little about the conditions of modern pharmacy and its relations to medicine; but to set forth even the undisputed truths as to these would be to greatly exceed the limits granted by your courtesy. With your leave, however, I will briefly ask attention to one of the tendencies of the day fraught with evil to both medicine and pharmacy. "Is the philosophical practice of medicine jeopardized by the modern methods of drug venders?" But it too seldom happens that physicians have the opportunity to learn how these methods are regarded by educated pharmacists, and how they affect the art of pharmacy. It is not the drug vender's methods which can really jeopardize the practice of medicine; rather it is the unphilosophical methods of the physician who allows the vender to do his thinking and to supplant him in the sphere of prescribing, who accepts in place of the teachings of science and experience the interested statements of a tradesman; who takes as his guide, his vade mecum, the manufacturer's list rather than the United States Pharmacopœia or Dispensatory. The drug vender's methods are of no avail in the face of a thorough acquaintance with materia medica.

Within the memory of some present the relations of medicine and pharmacy have several times shifted. In the early part of the century, the country being then thinly settled, physicians habitually compounded and dispensed their own medicines, pharmacies were few and hardly existed outside the larger towns. But with the growth of population a distinction between medicine and pharmacy came about, to the gain of both. The physician was enabled to give his time wholly to the practice and study of his art, while the pharmacist was perfecting the production of the required remedies. Roughly speaking, the period in which scientific pharmacy has made its most substantial gain in America was from 1825 to 1875, a period during which our kindred arts followed each its legiti-

*A paper read at the annual meeting of the Medical Society of New Jersey. By Howard P. Reynolds.

mate lines of progress, and which was illuminated by the introduction of anæsthetics and antiseptics, of alkaloids and fluid extracts. More recently the pendulum has taken a backward swing, not because science has paused in its mighty growth, but, on the contrary, because it has enabled enterprising men to place in the hands of physicians a line of materia medica in forms more compact, more convenient, more agreeable than those of the past. We have come to a time when a whole apothecary shop may be carried in a satchel, when the apothecary's services are no longer indispensable to the physician. Yet, curiously enough, it has been during this last period that pharmaceutical education has made its greatest strides. Our colleges have turned out a host of bright young men, far better qualified pharmacists than their predecessors, destined, however, to disappointment, as they find little or no field for the application of their hard-earned scientific acquirements in the modern retail pharmacy. For crude drugs are in small demand, chemicals, whether fine or heavy, and even fluid extracts, tinctures and pills can be less economically produced by the dispensing than by the manufacturing pharmacist; while the latter, favored by ample capital and by modern facilities for correspondence and transportation, reaches out over the head of the apothecary to establish direct business relations with the practitioner. "Othello's occupation is gone." Little wonder that in the struggle for existence he forgets the lore of the laboratory and converts the pharmacy into a bazaar and restaurant, counting more for support upon the soda fountain than the prescription counter; dispensing cigars and confections more freely than chemicals and curatives; compelled to give more attention to cut-rate patent medicines than to pharmaceutical study. Such, indeed, is the deplorable condition of a vast majority of American druggists; and though it remains true that many of us struggle against fate, and despise ourselves for every inch we yield, yet the fact that the legitimate pharmacies of any State in the Union may be counted upon one's fingers, while scores of graduates in pharmacy issue yearly from our colleges, testifies to the evil condition of our day.

Many and loud are the complaints; many and futile are the remedies proposed. In most of these things you, as physicians, are not concerned. But the speaker feels that he would be false to his opportunity if he did not, here and now, utter a protest and a warning. As to the first: While the thinking men of our calling are firmly of the opinion that the best results in the treatment of disease can in general be reached by the division of duties which relegates to physicians diagnosis and treatment, and to pharmacists the providing, compounding and dispensing of medicines, these combined measures making available at once the fruit of the ages in skill, knowledge and material; and while we know that this division of duties is compulsory under most European Governments, yet we perceive that under American institutions the practice of prescription writing cannot be required; and we clearly understand that our physicians are at liberty to adopt such methods as are most profitable and convenient to them, and most acceptable to their patients. The one restriction, however, for which we must stand, a restriction founded in justice and good sense, is that, with entire liberty to dispense medicines to his own patients, the doctor shall not keep "open shop and practice pharmacy without qualifying therefor professionally and legally.

As to my second, a warning: Premising that as the son of a doctor, the brother of a doctor, and from youth an associate of doctors, he hopes to be pardoned for a degree of free speech—the speaker asks serious attention to the topic so well handled a year ago by Dr. Coit, or rather to such aspects of it as occur to the conscientious and observant pharmacist; since it were obviously unbecoming for the latter to lecture medical men upon the propriety of their general methods of practice, whereas he may fairly assume to know something of drug venders.

In Dr. Coit's paper dealers in drugs were classified, first, as professional pharmacists; second, as charlatans; third, as pseudo-scientific drug venders. The valuable services of the first were duly acknowledged and commended; the brazen quackery of the second—the charlatans or patent medicine projectors—was properly condemned, and they were contemptuously dismissed with the judgment that, by reason of their very audacity, they were precluded from constituting a hindrance to the practice of medicine. One might add that their disreputable products frequently serve to injure the health of their victims, and lead to drug habits to the extent of calling for legitimate medical services, thus in the end putting money in the doctor's purse. As to Dr. Coit's third class, it is rightly described as the greatest enemy of the profession, and in terms justified by his standing, but which the usages of courtesy forbid to the speaker, he points out that physicians not only permit themselves to be deceived, but lend themselves as tools for the deception of others; and, further, Dr. Coit shows that a reliance upon and use of ready-made pseudo-scientific combinations tends to displace a working knowledge of legitimate materia medica, to do away with the systematic observation of the effects of drugs, and thus obstruct the progress of medical art. Dr. Coit speaks plainly to his fellows, but he does not go far enough in his condemnation of his third class, probably because he does not realize, how many physicians do?—the absurdities, the audacities, of some drug venders. To the aforesaid observant pharmacist the thought sometimes occurs, When will physicians perceive how they are imposed upon and used for imposing upon others? When will they take in hand definite measures of investigation and of self-defense? As conservators of the public health, do they not owe a further duty to the community which they have properly warned against the outright quackery of patent medicines, but which is likely to suffer from this more dangerous form of imposition? Shall the pharmacist cry aloud? Why, verily! who is he to question the methods of the educated physician? Moreover, it will be said that his is the voice of one crying in the wilderness because his profits are diminished or his business hurt by superior enterprise; and yet, before this audience, it is surely permissible to show some of the results of the prescribing of these pseudo-scientific compounds well known to pharmacists, unknown or unappreciated by physicians. The first and most pernicious result is a vast increase of self-medication. The more intelligent of our people are growing shy of the ordinary patent medicine (so-called), and especially is this true of the city people. But, as to the hosts of invalids and semi-invalids of the well-to-do class, they are ever on the alert for any new remedy or appliance for the healing of their pet ailments. So it proclaims itself "not a patent medicine," and has the indorsement of an "M. D.", it arouses curiosity and hope, and secures buyers. The title "D. D." may have lost drawing power in these days of religious questioning, but "M. D." has yet a charm; and a foreign title is better than a domestic title, it seems—that is, a French or English preparation frequently outsells the home-made article, its higher price being accepted as a certificate of greater value, to the discomfort of all "protection" theories. As an example of what tends to the increase of self-medication, let me remind you of a syrup of hypophosphites introduced some years since. Our own beloved Parish and Proctor had long before instructed the world in the pharmacy of hypophosphites, and their worthy successors had advanced on their teachings. But the proprietor of the preparation referred to successfully "worked" a number of physicians; his preparation—adjudged by competent critics inferior to several already in use—caught a favoring breeze of prescriptions; whiff! away it went on its beneficent errand, the "cure of consumption," and it began to be a question whether there would remain consumptives enough in another generation for the instruction of medical students! As time passes and other wonderful discoveries were announced for the cure of phthisis, physicians ceased to prescribe this hypophosphite, *but the public ceased not to buy.* In 30,000 drug stores of America it is now a staple. In thousands of homes it is dosed for coughs and colds and "general debility." And now our friend cares not a rap for the doctors, for he has reached the people. Whether or not the people have benefited by his labors, judge ye.

With like records we might fill a day; let us write down but one more, and a brief illustration of Dr. Coit's drug venders and their deliberate calculation upon professional influence for the introduction and sale of their products. The making of medicated tablets has come to be a business of itself. The doctor need no longer think out a prescription, here it is at hand in modification, No. 1, 2 and 3; and reference to a price list will show how some one of these cured a case "just like" the one before us. It seems to some of us that tablet medication will

outgrow itself and perish by self-abuse. But, then again, "this is a big country," and its capacities are almost illimitable. A friend of the speaker was recently questioning a great tablet maker as to the extent and prospects of his business, said he, "After you get the doctors all stocked up, and some new thing comes to claim their attention—then what? Why, then this ? after the doctors, then the people, whom the doctors have taught to use tablets. We expect to sell more tablets every year to the American people than all the doctors in the world have used up to date; and the doctors may go hang!" If success be a criterion of good judgment, this man's expectation is like to be realized—as to the sale of the tablets, not as to the fate of the doctors, let us hope.

Self-medication means harm to the health of the people and injury to the personal interests of the physician. Other injuries have been alluded to. Let us consider one point more, viz., the opportunity for fraud lurking in the methods of the pseudo-scientific drug vender. Within a few months has been launched a new, and, of course, "wonderful" nutritive compound, described as "not a drug."

Warning and protest are submitted in the light of these illustrations. Stronger voices, abler pens than mine have already called attention to these things. I am not here to proclaim superior virtue or knowledge for pharmacists, but rather to urge that both pharmacists and physicians owe to the public, not merely the services which they are paid for; but they owe the service always due from knowledge to ignorance, from strength to weakness. Heedful of these duties, aroused by the increasing abuse of the time, whether open or secret, shall we not ally our forces for scientific progress, for professional defence, for the general good?

On Drops.*

By J. B. Hannay.

The formation of drops, their variation with the density and chemical composition of the liquids forming them, and their variation with temperature and frequency, have been the subject of investigation by several chemists and physicists, but without reaching unanimity as to the definition of a drop, or the cause of its parting from the flowing liquid. The author referred to the first investigation to define a standard drop and discover the laws regulating its foundation, by Guthrie, according to whom a full normal drop could not exist, all drops being more or less imperfect. He found that the quicker the rate of dropping, the larger the drop, and this he explained by supposing that when a drop parts from a solid support, a portion of the root or stem of the drop is torn back by the attraction of the solid from which the drop falls. This conclusion the author tested in 1878, by making a liquid drop from itself, (1) by ascertaining if there is variation in the size of drops into which a smooth running stream divides as it falls when the rate is varied; (2) by allowing a liquid to drop from a column of its own substance retained in position by walls to which it does not adhere, for instance, mercury dropped from a clean, dry glass tube. Both experiments showed the same variation of size with rate as when dropped from a solid. The theory of a portion being torn back by adhesion was therefore disproved, and the conclusion arrived at was that the neck of a drop forms a tube through which liquid is flowing into the drop, and after a drop begins to fall it receives an accession of liquid during the time taken to complete the rupture of the neck, this accession varying directly as the flow. Thus a conclusion diametrically opposed to Guthrie's is reached, viz., that a true drop is one of which the rate is infinitely slow, and all other drops are greater than a true drop, and not less, as Guthrie concluded. The weight of a true or normal drop is found by determining the difference of weight with rate, and reducing the rate to zero, which then gives the weight of a drop at the moment it begins to part. Experiments with solutions of potassium iodide, potassium nitrate, potassium sulphate, and magnesium sulphate showed that the size of drops has no connection with the viscosity or internal friction of the solution. Thus, while potassium iodide increases the rate or flow or diminishes internal friction, and magnesium sulphate has an opposite effect, yet potassium iodide solution of twice normal strength and magnesium sulphate solution of normal strength form almost identical drops. The conditions under which a drop parts from its root or stem were studied by causing water to drop through oil of different densities and viscosities, and drops of oil were also allowed to rise upwards through water. In this way the influence of viscosity was eliminated.

The size of the normal drop of distilled water in olive oil was 0.4096 cc. When dropped at the rate of ten seconds to a drop the volume is increased to 0.5611 cc., while drops formed from a cylinder of water arranged so as to eliminate the effects of gravity is 0.5470 cc., which shows that the determining factor in the formation and parting of a drop is contractility. Gravity acts by pulling the drop out of its spherical form, the contractile force of the liquid will not permit of this form, but at once starts a constriction which shears through the neck and detaches a drop. The author confirms Tate's observation, made in 1864, that "the weight of the drop is sensibly proportional to the diameter of the tube from which it falls, hence the force which holds the drop is a surface one, and not one of general cohesion. It is only an extremely thin envelope of the drop which influences its size and shape." This fact was proved by dropping water at 20° C. into benzine vapor at 37° C., so that the benzine vapor quickly condensed and formed a thin envelope on the water drop. The weight of the normal drop of water being 0.1081 cc., when dropped in benzine vapor, it was reduced to 0.0449 cc. Traube has shown that in the case of certain organic alcohols and acids the volume of the drops is proportional to their rise in height in the capillary tube. It was found that in the case of the saline solutions already referred to, the size of the drop is in close agreement with the capillary constant. The author concludes that the weight of a normal or infinitely slow drop is controlled by its surface tension or contractility, while when dropping in practice it is modified by the rate of flow, by its gravity, the viscosity of the medium in which it drops, and by its rate of fall, all of which affect the lifetime of the closing neck.

*Abstract of a paper read before the Royal Society of Edinburgh on May 6. Reprint from Phar. Jour.

The Synthesis of Caffein.

Slowly but surely science is wrestling from nature the secrets of her laboratory. With infinite patience, resourcefulness and ingenuity, the chemist is working his way into the very penetralia, gaining here a point and there a point of advantage, each bringing him nearer the long sought goal. It is now a matter of but very few years when he will be able to construct from elementary substances any and all of the complex organic bodies, the alkaloids, the glucosides, etc., exactly as they occur in nature.

The latest important triumph in this direction is the synthesis of caffein, recently affected by E. Fischer and L. Ach, and reported in the Akademische Berichte (Nat. Dr.), and while the achievement has, at present, no practical or commercial value, it is of the highest scientific importance. The process requires a series of chemical operations, which bring the cost of the artificial product to considerably more than that of the natural; but we must remember that this was the case in other similar achievements that have since become the bases of great commercial enterprises. If we reflect that coffee, tea, guarana, kola, etc., substances used by man in enormous quantities, owe not merely their taste but their physiological action, their restorative properties, to caffein, we may form an idea of the magnitude of the field that lies open to the artificial production of that substance as soon as the simplification of processes enables us to make it at a reasonable price. That this simplification will quickly occur is almost certain. The following are the steps in the process of synthesis:

Caffein is a trimethylxanthin, and the latter stands very close to uric acid. All attempts at the direct conversion of the latter substance into caffein by substitution have failed, because it has been found impossible to methylize it in the alloxan nucleus. Our authors took as starting point dimethylpseudo-uric acid, which they converted into the hitherto unknown dimethyl-uric acid, by means of fused oxalic acid. This was converted into theophyllin (dimethylxanthin), discovered by Kossel, who also showed that it could be converted into caffein. The steps of the synthesis occur as follows:

Dimethyl-urea and malonic acid unite to form di-methy-malonyl urea. From this latter, by nitric acid, a nitroso body is obtained which, by reduction, produces dimethyluramil, and this combined with urea yields dimethyl-pseudo-uric acid. From the latter dimethyl-uric acid is obtained, and from it theophyllin, which by methylization gives us caffein.

The authors are hopeful of an early simplification of the process, and indeed indicate that the same is in sight.

PHARMACY.

SYNTHETIC OIL OF ORANGE FLOWERS.—Schimmel & Co. claim not only to have discovered the body which represents the peculiar, characteristic odor of orange flowers, but to have established its chemical nature and effected its synthesis. The product, an artificial oil of neroli, has been placed on the market, but all information regarding its constitution and production is withheld.

CEMENT FOR SEALING BOTTLES.—To make cement for sealing glass bottles that will not soften at a temperature of less than 250° F. Cut three parts of good india-rubber into small shreds; dissolve it by heat and agitation in 34 parts of cold naphtha. Add to this 64 parts of gum shellac in fine powder, and heat the whole, with constant stirring until the shellac is dissolved. Then pour it while hot on metal plates to form sheets. When required for use, heat to 250° F. and apply quickly.

A LOST CITY.—Owing to the occasional damage done to the fishermen's nets by what appeared to be fragments of masonry in the sea off the Italian peninsula of Istria, the city authorities of Robigno sent down a diver the other day to investigate. At a depth of 90 feet he found himself in a submerged city with streets and squares laid out, the doors and windows of the half-ruined houses being almost hidden by masses of seaweed. Archæologists identify this lost city with the island and city of Cissa, described by Pliny, and of which no trace has been found since the days of the Cæsars.

BISMUTHOL.—Under this name Radlauer has introduced a body, which is a bismuth sodium phospho-salicylate, or is described as such. Its description under this name renders it probable that it is merely a mixture of phosphate and salicylate rather than a true chemical compound. It is said to possess all the virtues and none of the disadvantages of the components. It is described as a powerful but non-toxic antiseptic, without irritating properties. As a dusting powder, it is to be used with talc in the proportion of 1 to 4. As an ointment, it is mixed with vaseline in the same proportion. As a solution, 1 in 40 of distilled water is suggested.

A DRINK CURE.—A remedy is described by a correspondent of the Buffalo Courier, who says: "One day, two months after I had signed the pledge, I had a craving for a drink of whiskey so strong that I could see nothing else but drinks about me and felt as if I must have at least one drink. I told a friend of my state of mind. He said, 'You need not drink. I can tell you of a substitute that will stop your discomfort. Get a bowl of ice water and a raw potato, peel it and cut down one end of it to a size convenient to take in the mouth. Dip the potato in the ice water and suck it every time you think you must have the whiskey.' I did as he advised. I took the bowl of ice water and the potato and placed them on a table at the head of my bed and would dip the potato in the water and place it between my lips every few moments till I went to sleep. I awoke free from any desire to drink whiskey and have been free from it ever since. That one treatment eradicated my craving for whiskey for all the time that has since elapsed."

COLOR AND PERFUME OF FLOWERS.—Botanists are agreed that the earliest petals were yellow, and that, originally, all flowers were of that color. The order of development of color in flowers appears to be yellow, pink, red, purple, lilac, up to deep blue—probably the highest level—while white may occur in any normally colored flower, just as albinos are found among animals. As flowers become more specialized, they become more dependent upon the visits of special insects, purple and blue flowers, for instance, benefiting most from, and being most preferred by, bees and butterflies. A French authority states that about 4,200 species of plants are utilized for various purposes in Europe. Of these only about one-tenth have an agreeable perfume, the others being either inodorous or having an unpleasant smell. White flowers are the most numerous. One thousand one hundred and twenty-four species out of 4,200 are white, and 187 of these have a scent; 931 (77 perfumed) are yellow; next in order comes red, with 823, of which 84 give forth a perfume; then blue, 594 (34 scented), and violet, 308, only 13 of which have any perfume. The remaining 400 kinds are of various shades of color, and only 28 of them have a pleasant smell.

UNGUENTUM CASEINI is a new ointment base which finds employment by Unna in his dermatological work. The formula is:

Casein	1,400.0 parts
Caustic potash	34.5 parts
Caustic soda	8.5 parts
Glycerin	700.0 parts
Vaselin, yellow ...	2,100.0 parts
Zinc oxide	50.0 parts
Carbolic acid	50.0 parts
Water, sufficient to make	10,000.0 parts

The casein is obtained by coagulating skimmed milk, at a temperature from 30° to 40° C., with essence of rennet; the coagulum is assembled, washed until the wash water no longer has a sour reaction, dried and powdered. The powder is then dissolved by the aid of heat in a portion of the water, in which have been dissolved the caustic alkalies; the glycerin is added and well stirred in, and then the vaselin is incorporated; finally, the carbolic acid and zinc oxide are added, and sufficient water stirred in, a little at a time, until a homogeneous emulsion is made. If only a small portion of the unguentum caseini is wanted, for immediate use, the drying and pulverizing of the casein may be avoided by proceeding as follows: After washing the coagulum and pressing out as much water as possible, weigh the mass. Take a small amount, weigh, and dry it over a spirit lamp. Weigh the dried residue, and from this may be calculated the value in dried casein of the entire mass.

New Remedies and Chemicals.

A few collected by Nat. Drug.:

HELCOSOL.—Trivial name of bismuth pyrogallate.

VICOSIN.—A mixture of caramel and extract of saponaria, used for producing a permanent foam on beer.

ANAESTHYL.—Name given by Bengué to a mixture of the chlorides of ethyl and methyl in equal parts. Used as a local anaesthetic.

RESOL.—New disinfectant obtained by saponifying 1,000 parts of tar with 200 parts of caustic potash, and adding 200 parts of any indifferent substance, methylic alcohol, for instance.

MENTHENE.—A liquid extracted from menthol, of the composition $C_{10}H_{18}$, soluble in alcohol, ether and benzin, and insoluble in water. It boils at 163° C., and has the density, at zero, C., of 0.8226.

IODOGEN.—Trade name of a pastille prepared by mixing potassium iodide and charcoal, to be used as a fumigating and disinfecting agent. In burning it gives off vapors of iodine, and hence its name.

ZAPON LAC is a new quick-drying lac or varnish which consists of gun cotton dissolved in a mixture of amyl acetate and amylic alcohol. It is coming into use in pharmacy abroad as a varnish for unguent boxes, etc., especially the new and elegant celluloid boxes.

ALUMINUM-POTASSIUM SALCYLATE.—This double salt is produced by a process recently patented by Athenstedt, in which hot potassium acetate is made to act on aluminum salicylate. It contains a high proportion of alumina, and is said to be a powerful astringent as well as possessing high antiseptic properties.

SECALOSE.—A carbohydrate obtained from green rye by Schulze and Frankfurt. It is soluble in water, from which it is precipitated by alcohol. Desiccated over sulphuric acid it forms a white powder which is very hygrometric. According to the authors (Ber.. d. d. chem. Gesell.) its formula is $C_{18}H_{32}O_{16}$. By inversion it is converted into laevulose.

MELANTHINE.—A glucoside obtained by Greenish from the seed of Nigella sativa, resembling in character sapotoxin (obtained from quillaya bark). It is regarded by Kobert and Schulz as one of the series of saponines, whose typical physiological properties it possesses, being, however, considerably more toxic than others of the series.

GALLICIN.—Methyl ether of gallic acid, introduced by Sandoz & Co., Basle. The process (patented in Germany, and perhaps elsewhere) for preparing gallicin, consists in warming a solution in methylic alcohol of gallic or tannic acid, with chlorine or with concentrated sulphuric acid, upon which the substance crystallizes out in anhydrous rhombic prisms. The crystallization changes as the solution cools to snow-white slender interlocking needles. Gallicin thus prepared melts at 200°—202° C. The substance is easily soluble in warm water, hot alcohol and ether.

DISINFECTANTS.

What is ordinarily meant by a disinfectant for use about the house is a deodorizing antiseptic. Copperas, on account of its cheapness, is most frequently used, and is efficient. It has one especial recommendation in its cheapness. The fault found with it is, that it produces rust stains and unsightly discolorations wherever it is used. This does not interfere with its usefulness in stables, outhouses, drains, etc., but is an objectionable feature. Salts of alumina, especially the sulphate, answer the purpose better for use about the house, but are, of course, somewhat more costly. A strong solution of chloride of zinc, prepared by dissolving scrap zinc, or zinc oxide, to saturation in muriatic acid, is of much greater intrinsic value as a disinfectant, and on the whole is probably the best thing to recommend. The only objection to it is that it is poisonous, and it should never be sold without a poison label. Among the disinfectants said to be especially useful in destroying foul odors is thymol, which may be most conveniently used in the form of an alcoholic solution, to be employed with a spray apparatus.

Household Disinfectant.

Iron sulphate	8 ounces
Ammonium chloride	1 ounce
Corrosive sublimate	1 dram
Alcohol	4 ounces
Water, to make	32 ounces

Dissolve the iron sulphate in 24 ounces of water, and the corrosive sublimate in the alcohol. Mix both solutions, add the ammonium chloride and enough water to make 32 ounces. Mix with equal parts of water, and use as a disinfectant.

Solution of Four Chlorides.

Alum	10 ounces
Sal soda	10 ounces
Sal ammoniac	2 ounces
Common salt	2 ounces
Chloride zinc	1 ounce
Muriatic acid, commercial, q. s.	
Water, quantity sufficient to make	1 gallon

Dissolve the alum in ½ gallon of boiling water, then add the sal soda, which gives the precipitate of aluminum hydrate. Muriatic acid is then added in sufficient quantity to dissolve this precipitate, thereby forming aluminum chloride. The other salts are then dissolved in the remainder of the water and added to the first solution. The advantages claimed for this preparation are cheapness, ease of preparation, odorless, nonpoisonous, and its adaptability for general use. Its freedom from iron, in the disinfection of clothing, is an important point, in so much that it will not injure the fabric in any way. It commends itself for the disinfection of rooms, by saturating a sheet with the diluted solution and hanging up in any convenient place. This diluted solution may be made by mixing 1 pint of the concentrated solution with 1 gallon of water.

Liquid Deodorant for Water Closets.

1.) Ferric chloride	4 parts
Zinc chloride	5 parts
Aluminum chloride	5 parts
Calcium chloride	4 parts
Manganese chloride	3 parts
Water, sufficient to make	90 parts

Dissolve, and add to each gallon 10 grains thymol and ¼ ounce oil of rosemary, previously dissolved in about 6 parts of alcohol, and filter.

2.) Potassium chloride	5 parts
Sodium chloride	5 parts
Magnesium chloride	5 parts
Zinc chloride	3 parts
Aluminum chloride	3 parts
Calcium chloride	6 parts
Water, sufficient to make	100 parts

Dissolve, and saturate with methyl salicylate and oil of eucalyptus.

Dry Powders.

1.) Calcium sulphate	15 parts
Quicklime in powder	10 parts
Magnesia	10 parts
Crude carbolic acid	15 parts
Infusorial earth	7 parts
2.) Quicklime	70 parts
Charcoal	10 parts
Crude carbolic acid	6 parts
Zinc chloride	10 parts
Hypochlorated zinc oxide	5 parts
Infusorial earth	5 parts
3.) Slaked lime	100 parts
Coal tar	25 parts

Infusorial earth, sufficient to make a dry powder.

4.) Sulphate of iron	68 parts
Plaster of paris	6 parts
Calcium sulphate	5 parts
Infusorial earth	5 parts

Carbolic Disinfectant Tablet.

Intimately mix 20 parts of talc with 50 parts of plaster of paris and 10 parts of carbolic acid; sufficient water is then added to form a mass, which is poured into small paper capsules prepared for the purpose. The mass soon becomes hard; each tablet is wrapped in paper and tinfoil, and the whole preserved in a tin box. For use, the wrapper is removed and the tablet placed in a suitable place in the room, in which a pretty strong odor of phenol will be perceptible for 10 or 15 days, according to the temperature.

Atomizing Liquid for Sick Rooms.

Best oil of turpentine	20 parts
Oil of lavender	2 parts
Oil eucalyptus	2 parts
Oil of lemon	1 part
Oil of bergamot	1 part
Alcohol	100 parts

Mix. Expose to the rays of the sun for one week, shaking it once in a while.

Hospital Deodorant.

For deodorizing and disinfecting sick room "chambers," privies, etc., a solution made according to the following formula is used with very satisfactory results in a number of city institutions:

Copper sulphate	2 drams
Potassium bichromate	1 dram
Terebene	4 drams
Solution corrosive sublimate	(1-2,000)
Enough to make	2 pints

Label, "Hospital Deodorant," Poison.

French Antiseptic Elixir.

Carbolic acid, crystallized	5 parts
Tincture of iodine	10 parts
Essence of citron	3 parts
Essence of mint	5 parts
Alcohol, of 60°, sufficient to make	1,000 parts

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(C. F. G.) See rules at the head of this department.

For Warts.

(C. C. F.) See last issue, page 813.

Embalming Fluid.

(R. S. A. & Co.) See page 748, June 13, 1895, Era.

Pennsylvania Board of Pharmacy.

(W. T. S.) For place of meeting, date, and name of secretary, see calendar of meetings published elsewhere in this issue.

Alkaloids of Cod Liver Oil.

(Subscriber). See reply to query No. 6563, Dec. 15, 1894, Era, page 543; also paper by Prof. Schlotterbeck in Aug. 15, 1894, Era, page 149.

Depilatory.

(Constant Reader.) We cannot give you the formula for the proprietary preparation you name. For information regarding preparations used for the removal of superfluous hair, see April 4, 1895, Era, page 430.

Clarification of Essence of Tea.

(C. N. S.) Filter it through a stratum of calcium phosphate or powdered talcum. Another method is to use paper pulp as a filtering media. We cannot comment upon your process and product because you do not furnish us with any facts.

Elixir Terpin Hydrate.

(L. A. C.) The following may answer your purpose:

Terpin hydrate	128 grains
Glycerine	1 ounce
Alcohol	2 ounces
Aromatic elixir or adjuvant elixir, N. F.	8 ounces
Water, enough to make	1 pint

Each fluid dram of the finished elixir contains 1 grain terpin hydrate.

Pile Ointment.

(W. M. G.) For Itching Piles.

1.) Yellow oxide of mercury	5 grains
Petrolatum	1 ounce
2.) Gallic acid	20 grains
Extract of opium	10 grains
Extract of belladonna	10 grains
Simple ointment	1 ounce

Apply night and morning.

3.) Ointment of galls with opium	20 grains
Bismuth subnitrate	1 dram
Powdered opium	10 grains
Soft paraffin	1 ounce
4.) Bleeding Piles.	
Tannic acid	½ dram
Morphine acetate	5 grains
Liniment subacetate of lead	½ fl. ounce
Simple ointment	7 drams

Triturate the tannic acid with the liniment and then mix all together.

Prize Elixir.

Sam'l A. Graves, Findlay, Ohio, writes concerning the "prize" elixir, the formula for which was published in the Jan. 3, 1895, Era: "Just say to any man, who finds fault with the instructions given for making the prize elixir, that he is either not a druggist or he has failed to follow directions. There is no difficulty, if the instructions are followed."

Effervescing Bromide Compound.

(J. L. O.) We cannot give you the formula for the proprietary article. A formula for a preparation which has been recommended for a similar purpose is this one:

Acetanilide	8 grams
Tartaric acid	35 grams
Sodium bicarbonate	40 grams
Potassium bromide	15 grams
Sugar	30 grams

Hunyadi Janos Mineral Water.

(Hotel Pharmacy.) The National Dispensatory reports the following analysis by Tichborne: Sixteen ounces of bottled water contain free carbonic acid and 337.066 grains of solids, consisting of 157.957 sodium sulphate, 156.350 magnesium sulphate, 0.716 potassium sulphate, 10.531 sodium chloride, 6.051 calcium carbonate, 5.152 sodium carbonate, 0.20 strontium carbonate and 0.029 iron and alumina.

Tincture of Nux Vomica.

(Subscriber). The object of the present U. S. P. process is to secure a more reliable and definite tincture than was possible under the old process. The present formula yields a tincture which corresponds to that made by the former process in containing 2 per cent. of dry extract, but at the same time it is superior from the fact that the extract contains a definite quantity of alkaloid, the only trustworthy standard of valuation. The dose of the tincture is stated at from 5 to 20 minims, or even more. Tincture of nux vomica made by the process of 1880 did contain 2 per cent. of extract, but this extract did not always represent a definite quantity of alkaloid.

Headache Remedy.

(A. B. C.) Several formulas for headache powders may be found in the April 18, 1895, Era, page 495. The following have been used with satisfaction as "liquid" remedies:

1.) Caffeine ..... 20 grains
Ammonium carbonate .. 20 grains
Elixir guarana ..... 1 ounce
Dose, 1 teaspoonful every hour until relieved.

2.) Ammonium chloride ... 3 drams
Morphine acetate ..... 1 grain
Caffeine citrate ..... ½ dram
Aromatic spirit ammonia. 1 dram
Elixir guarana ..... 4 ounces
Rose water ..... 4 ounces
Dose, a dessertspoonful every quarter hour until relieved. The acetate of morphine may be omitted if desired.

Scales or Gauges for Catheters.

(I. H. S.) There are three scales in use, viz.: The American (Van Buren and Keyes scale), the French (used by Otis) and the English Gauge. We understand that many dealers in this country use the American gauge in filling orders unless directed to the contrary. The American scale advances by one-half millimeters, while the French advances by one-third; an instrument therefore that is nine millimeters in diameter is No. 18 American, and No. 27 French. The English scale is not a regularly graduated one, is not based upon any standard, and varies with different makers and authors. We presume any manufacturer would send you approximate scale cards upon application.

Sodium Bicarbonate, Tincture of Iron and Morphine.

(W. H. E.) submits the following prescription as evidence that "fool doctors are not all dead."

Potassium acetate	6½ drams
Sodium bicarbonate	2 drams
Morphine sulphate	2 grains
Tincture muriate of iron	1 dram
Quinine hydrochlorate	10 grains
Distilled water, enough to make	6 ounces

Our correspondent's estimate of the above is quite correct. There are several incompatibilities, each depending upon the order of procedure. The principal difficulty, however, arises from the sodium bicarbonate, which is incompatible with the tincture of iron, morphine sulphate and quinine hydrochlorate, iron, morphine and quinine being precipitated.

Household Ammonia.

(J. N. W.) This preparation is made after a patented process, and the manufacturers claim trademark protection on the use of the name. The method of preparation is described thus in the specifications: To 100 lb aqua ammonia, 18° Baume, is added 1 lb oleic acid, and stir thoroughly. Let stand 12 hours to settle, then bottle. Hence this preparation is an oleate of ammonia dissolved in excess of ammonia, and the patent claims the right to use, instead of oleic acid, any other fatty acid that will make a soap soluble in and with the ammonia used. The owners of this article, in a letter to a contemporary a few years ago, said: "We have not the slightest objection to anybody bottling and selling any form or preparation of ammonia, pure or otherwise provided it does not interfere with patent No. 210,208, and provided they do not sell it under such title as may cause their goods to be mistaken for ours"

Laxative Tea.

(W. M. G.) For a "laxative tea" the following has been found very satisfactory:

Buckthorn bark	4 ounces
Dandelion root	4 ounces
Senna leaves	4 ounces
Licorice root	1 ounce
Coriander seed	½ ounce
Anise seed	½ ounce

Reduce the drugs to a coarse powder and mix uniformly. The cathartic effect of this remedy may be increased by introducing a proper quantity of coarsely ground rhubarb. The decoction or "tea" is made from the mixture by steeping one tablespoonful in about three-quarters of a pint of hot water and allowing it to stand about thirty minutes. An adult dose of this is about a teacupful.

Here is another:

Moisten twenty-five parts of cut senna with a small quantity of water, and sprinkle over it as uniformly as possible five parts of bitartrate of potassium, allow to dry and then mix lightly with four parts each of althaea, licorice root, anise, fennel and couch grass, all bruised and cut to suitable size.

Root Beer Extract.

(H. E. A.) The following formula may answer your purpose:

1.) Fluid extract of American sarsaparilla .. 10 fl. drams
Fluid extract pipsissewa ..... 10 fl. drams
Fluid extract wintergreen ..... 4 fl. drams
Fluid extract licorice. 4 fl. drams
Oil of wintergreen... 48 minims
Oil of sassafras ..... 24 minims
Oil of cloves ..... 12 minims
Alcohol ..... 10 fl. ounces

Mix 9 gallons of warm water, 1 gallon of refined molasses and 1 quart of yeast; add the above "extract" and set aside in a warm place to ferment. The yeast and fermentation may be omitted, the extract being mixed with 10 gallons of water charged with gas and drawn from an ordinary soda fountain.

Here is another formula, taken from the Era Formulary:

Oil wintergreen	4 ounces
Oil sassafras	4 ounces
Oil anise	2 ounces
Oil orange	2 ounces
Oil nutmegs	4 drams
Oil cloves	4 drams
Tincture vanilla	1 pint
Fluid extract sarsaparilla	4 pints
Fluid extract licorice	4 pints
Fluid extract ginger	2 pints
Fluid extract althaea	2 pints
Fluid extract angelica	8 ounces
Fluid extract soap bark	8 ounces
Caramel	3 gallons
Syrup	30 gallons

A "head" or "foam" may be given to beverages by adding a solution of gum arabic, gelatin, egg albumen or infusion of soap tree bark to them before they are carbonated. Beverages made from drugs rich in saponaceous principles, like sarsaparilla, ginger, etc., rarely need any additions to make them hold their "foam" when drawn.

See also July 15, 1894, Era, page 60.

Chocolate for the Soda Fountain.

(H.) The following formula has been published as making a satisfactory article:

Po. chocolate (Baker's for fountain use)	4 ounces
Po. cocoa, Van Houten's	2 ounces
Cold water	11 ounces

And when evenly suspended, add

Infusion of quillaja	5 ounces

Let stand until dissolved, or about an hour then add

Condensed milk	1 can
Powdered boric acid, about 2 teaspoonfuls.	
Simple syrup	1 gallon

Stir well, boil one minute and use without straining.

Here is another one which is claimed to produce a superior syrup:

2.) Powdered chocolate (best grade) .....8 ounces
Granulated sugar .....6 pounds
Glycerin .....2 ounces
Extract vanilla .....3 drams
Rose water .....3 drams
Water .....½ gallon

Reduce the chocolate to a smooth paste with 2 or 3 ounces of water. Add the sugar and glycerin. Heat to the boiling point, remove from the fire, and when cold, strain and add the vanilla and rose water.

3.) Powdered chocolate 8 ounces
Condensed milk ....1 can
Granulated sugar ..5 pounds
Extract vanilla ....1½ fl. ounces
Whites of eggs.....No. ii.

Rub chocolate with sufficient hot water to form a smooth paste and add remainder of water in which has been dissolved the other ingredients.

4.) Powdered chocolate .½ pound
Water .....1 pint
Extract of vanilla....2 fl. ounces
Rock candy syrup, sufficient to make..1 gallon

Heat water and rub with chocolate to a smooth paste; then add syrup and heat to boiling point. When cool, strain through cheese cloth and add extract of vanilla.

Preparation of a "Remedy."

(F. C. C.) writes as follows: I have been making a "remedy" from the following formula for some time, and now I want to make it on a larger scale and put it on the market. In the small quantities I have made, I have met with more or less success. At times the evenness in strength is not maintained, the percolate is "stringy," and again, it is watery and not so strong. What degree of fineness should the powdered drugs have, and how shall I pack the drugs to be percolated? The formula is:

Senna .....12 parts
Buchu .....
Snakeroot .....
Bitter orange peel.....
Valerian .....
Fringe tree, of each.... 3 parts
Percolate and add
Sugar ..... 3 parts

The menstruum contains 1 pint of alcohol to the gallon.

In sending us the above formula, our correspondent has omitted to state whether the quantities of drugs given are those intended for 100 parts of finished product or for some other quantity. However, it matters very little, for with the menstruum given (1 pint of alcohol to the gallon, [alcohol 1, water 7 (?)]) there is not enough spirit to extract and hold in solution the resinous portions of some of the drugs, especially the buchu. Then again, the preservative action of 3 parts of sugar, supposing the finished product to be 100 parts, would amount to but very little, and the "remedy" would commence to ferment almost immediately. The preparation may be satisfactorily made by reducing the drugs to a No. 40 powder. Moisten the powder with a sufficient quantity of dilute alcohol and macerate for twenty-four hours; then pack it firmly in a cylindrical percolator until the desired quantity of percolate has been obtained, and to which add the sugar. Another method is to prepare an infusion after the general formula for infusions, U. S. P. After straining, add a sufficient quantity of alcohol to preserve it, filter through paper and add the sugar to the filtrate. In this method most of the vegetable products insoluble in an aqueous menstruum are eliminated.

Principles of Faradic Electricity.

(Subscriber). In 1832 Faraday discovered that electricity or an electric current could be produced in a conductor by the mere proximity of another conductor, through which a galvanic current was flowing. To this he gave the name of induced electricity or currents of induction. The same effect is produced by the influence of magnets. The peculiarity of the induced current is notable; i. e., it is only apparent at the moments of making or breaking the circuit in the conductor, through which the galvanic or inducing current flows.

To demonstrate this, let us assume a copper wire conductor, both ends of which are connected with a galvanometer; i. e., including the latter in a circuit; a similar wire connects the elements of an ordinary galvanic cell; if the latter be rapidly brought near to and parallel with the first conductor, the galvanometer will indicate an electrical current passing through it, but in a direction opposite to the flow of current in the other or inducing conductor. If now the conductors are permitted to remain stationary in this position, the galvanometer will show no evidence of a current continuously flowing through the wire with which it is connected; but if the wire attached to the galvanic cell be rapidly removed from its proximity to the former, the galvanometer will again momentarily indicate a current, and it will now be in a direction opposite to the first, or in the same direction as the current flowing through the conductor just removed.

From these observations we obtain the following very important facts:

1. If a metallic conductor, through which a galvanic current is flowing, be rapidly brought near to and parallel with another metallic conductor, a current will be induced in the latter, but its direction will be opposite to that of the former. 2. If the conductors remain stationary and the current of constant strength, no such induced current will be observed to continue. 3. If the inducing conductor be removed from its position in proximity with the other conductor, a current will again be observed, but it will now flow in a direction opposite to the first, i. e., in the same direction as the current in the inducing conductor. 4. If the current in the inducing conductor be of very decidedly decreasing strength, a direct current will be observed in the adjacent conductor. 5. If the current in the inducing conductor be of very decidedly increasing strength, a reverse current will be observed in the adjacent conductor. 6. If the circuit of the inducing conductor be broken, a momentary direct current will be observed in the adjacent conductor. If the circuit of the inducing conductor be closed, a momentary reverse current will be observed in the adjacent conductor.

The "faradic" current is the induced current. The faradic and galvanic currents are important ones in therapeutics. The current flowing through the conductor connected with the galvanic cell is called the primary current; the current induced thereby in an adjacent conductor is called the secondary current.

At each closure of the primary circuit a current is developed in the secondary circuit, momentary in duration and in the same direction. Instead of straight parallel conductors, coils of insulated wire, one within the other, may be used; a current passing through one inducing a current in the other. Generally the inner coil is connected with the galvanic cells, thus forming the primary coil, and should consist of a comparatively small number of turns of a thoroughly insulated, rather large, copper wire. The secondary coil should be made to slide over and completely encircle the primary coil, but at no point to come in contact therewith. It should have many more turns than the primary coil, and the wire should be much finer. It also must be well insulated.

The primary coil, when encircled by the secondary, is practically parallel thereto. Opening or closing, the primary circuit will be followed by an induced current in the secondary coil, governed by the statements above made. If the opening and closing of the primary current occur quickly and continuously, they will be followed by a recurrence of rapidly alternating currents in the secondary coil. It is by this method almost exclusively that the faradic current is utilized in medicine. The strength of current in the secondary coil is proportionate to the number of turns in the primary coil, multiplied by the number of turns in the secondary.

Beetles, to Exterminate.

Red lead, sugar and flour, equal parts, mix; sprinkle near the holes.

Cockroach Powder.

Angelica root well powdered..... ....100 parts
Essence of eucalyptus.. 20 parts

Mix. Scatter at night plentifully around the haunts of the pests. It answers equally well against all the coleoptera, etc.

Perfumed Naphthaline-Camphor (Moth Preventive).

Naphthalin .. .. 9 ounces
Camphor.. ..... 3 ounces
Coumarin .. .. 3 grains
Nerolin .... 2 grains
Nitrobenzol .. ..15 drops

Melt the solids by a gentle heat, and add the perfumes. While liquid, pour into suitable moulds.

Essence for Cockroaches.

Ethereal oil of cherry laurel .... 2 parts
Essence of cloves.... 2 parts
Essence of bergamot.. 2 parts
Oil of turpentine..... 2 parts
Camphor.... ..... 5 parts
Garden pepper..... 15 parts
Alcohol. .....1,000 parts

Digest and filter.

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ASSOCIATION ADVERTISING.

METHODS OF SOME ASSOCIATIONS SEVERELY CRITICISED BY ADVERTISERS.—IT IS CLAIMED THAT SOME OFFICIALS USE THE ASSOCIATIONS FOR THEIR PERSONAL GAIN.

"Say, Era man," called out the proprietor of a big William street drug house, as he caught sight of the reporter, "if you want some news, why don't you stir up the matter of advertising in the proceedings of the different associations? It is getting so now that about one-half of my mail is letters from secretaries of associations and pharmaceutical clubs, promoters of meetings, etc., asking for advertisements. Let me show you some that I have before me. Here is a letter just received from an enterprising committee out in Colorado. I think this is the eighth letter we have had requesting us to give them an advertisement. Now, why we should give them an advertisement, is beyond my comprehension. Do the druggists of Colorado want the dealers of New York to chip in to add to the entertainment fund? When the meeting of the National Wholesale Druggists' Association was held in New York last fall, we did not ask the druggists of Colorado for a donation. So far as advertising is concerned, Colorado has so few druggists, and we have so little business in that part of the country, that it is practically of no benefit, it would be simply a donation, and we are not making that kind of donations this year.

"Here is another letter from an enterprising secretary in a State which makes great claims for its large number of pharmaceutical and wholesale drug establishments. Let us see what he says: 'Contrary to our former custom, we have decided to ask assistance this year of the wholesale trade.' I have taken pains to look into this matter some, and the developments are particularly interesting. Here is a copy of the proceedings issued by this association for their 1894 meeting. It contains no less than thirty-eight pages of advertisements. I, of course, don't know what prices they got, but if based upon what one of my neighbors paid, they must have had at least $1,000 worth of advertising in these proceedings. To satisfy my curiosity, I looked up the list of members, and I found that the published list numbered 441, so I presumed that they published about 500 copies. Now, I am no printer, but I had my printer give me an estimate on printing this number, and his outside figure was $300, which would show a clean profit to the association of $700, but this is where the snap comes in; did the association get it?

"By looking at the secretary's report for the 1893 meeting I find that the receipts from dues, etc., for that year were $485.10, and of the expenses $225 was the secretary's salary, plus $93.26 for his expenses. He don't say a word about the expense of getting out the proceedings, or the returns from the advertising that year, except in a paragraph, where he says, 'The proceedings were issued this year, as usual, without expense to the association, though somewhat delayed on account of securing sufficient advertising funds.' Now, who got this profit on last year's proceedings? There is no record of its going to the association, so it must be that this bright secretary is using his official position to make a few extra dollars for himself. But now, contrary to former custom, the association has decided to ask the wholesale trade for assistance. This is the most deep-dyed exhibition of gall that I have ever seen. Why should the wholesale druggists of New York be asked to assist in publishing the proceedings of these State associations? In the first place, the druggists themselves should publish these proceedings if they want them, and in the next place, if they must have help, the manufacturers and jobbers of their own State should be willing to chip in enough advertising to make up the deficit. It is an imposition to ask outside people to help in an affair so local, and it is still greater imposition, if not a downright fraud, to allow the secretary to use the name of the association to make money for his own pocket-book.

"New York is naturally the first place which all these schemers turn to for advertising, and it is getting pretty tiresome. Nearly all the State associations in the country think we have nothing to do down here but help them to get out their proceedings. It would be just as well to let them know that we have a few charitable institutions of our own to look after. We have our Pharmaceutical Club, our Drug Trade Club, our local association, our local College, our State Association, and the drug clerks who want to give a dance in the winter. All this kind of advertising is pure charity; it never can be looked upon as a business investment, for the rate they charge for advertising is from 10 to 20 times more than what one has to pay to the regular journals.

"We want the Era to tell these secretaries and these local associations all over the country, that we here in New York appreciate the compliment of their invitations to contribute, but until there is a turn in business for the better, our hands are full looking after matters at home."

Thinking that other drug merchants in this city might also have something to say on this subject, the Era man called at several of the large houses and asked for opinions. The first wholesaler accosted said: "Your informant expressed my views exactly. This business has become a great nuisance to me personally, and I know it has to almost every man in the trade. We are pestered with circulars and letters not only here in New York, but from cities in the West. We help along local affairs of this kind, because we know we are helping ourselves by so doing, but even here at home we are imposed upon. There is a suspicion of blackmail about some of the requests, for we have been told that it would be to our benefit to give a worthless organization an 'ad.' for its programme, as trade would result. This was as much as to say that if we didn't give the 'ad.' the organization would keep business away. Happily, there are few such cases. If you are making a crusade on this question you are doing a good thing."

Another took a slightly different view. "Our firm," he said, "does quite a little business out West. We sent our 'ad.' to that Denver committee. If we do not help these folks, and say 'get your aid from your local territory,' they will say 'all right, we'll get our goods of our local dealers.' You may say, however, that the retailers out there only buy here when they can do so advantageously. We all know that these innumerable requests for assistance in the form of advertising have become very tiresome, but we return a soft answer in each case, for policy's sake, and send our cash whenever we can see a chance to get it back."

Several others summed the whole matter up in practically these words: "This business you speak of has been run into the ground. It used to be kept within the bounds of reason, but of late years we are in receipt daily of letters from church fair committees, hospital people, ball programme managers and dozens more. We feel that this Denver committee, with its eight circulars, has almost become as impertinent as many of the local nobodies who have sought our dollars without reason or excuse."

Peculiar St. Louis Ailment.

St. Louis, June 26.—The St. Louis druggist is having quite a boom in business as a result of a peculiar stomach complaint, which has become prevalent throughout the city. The exact nature of the ailment is not known, and no name has as yet been given to it. The complaint assumes the form of a slight attack of cholera morbus, but in many respects is quite different. The victims of the new disease are subjected to squeezing pains in the stomach, frequently accompanied by something approching the effects of mal de mer. There are different theories as to the cause of the complaint. Some were at first inclined to think it was the water, but this is hardly probable as the sufferers include several gentlemen who are totally unfamiliar with nature's drink. Several physicians think it is due to the eating of unripe or stale fruit, while cold drinks are also thought to have something to do with it. The majority, however, are of the opinion that the ailment is chiefly due to the effect of imperceptible chills taken while overheated.

Fire at McKesson & Robbins'.

McKesson & Robbins' seven-story building at No. 79 Ann street, this city, just in the rear of their main house, was gutted by fire on Monday evening last, and a loss of about $30,000 was caused. The structure is used for the storage of stock and by the firm's printing department.

The flames were discovered about eight o'clock, and for one hour the fire department had the hardest kind of work. Ann street is very narrow at that point, and the suffocating smoke filled the street, almost driving the firemen away. The block of buildings, in which No. 79 is located, contains some of the most valuable property on the South side of the city.

The burned building has 25 foot frontage on the North side of Ann street and runs back to the rear of an office building at No. 49 Beekman street. The width of Ann street is about 20 feet, and had it not been for the iron shutters, with which the McKesson & Robbins building is provided, the firemen think the main building of the house, which fronts on Fulton street, would have been set on fire, so fierce was the outburst of flame. The fire began in the basement of the building, and was seen by a policeman. Before he had time to ring in the alarm, smoke was pouring from every crevice in the lower part of the building. Then a sheet of flame came from the basement windows, igniting half a dozen carboys of ammonia and sulphuric acid, which stood on the sidewalk. When the firemen appeared, the street was filled with a stifling smoke, which drove them back. When they managed to get to the building, they found the fire had gutted the engine room and was spreading upward through an open hoistway. The drug storeroom on the second floor, and the packing box shop above were soon invaded, and just as the first stream of water was directed on the fire, the printing department was filled with flames. The laboratory at the top of the building was full of smoke and could not be entered.

Seeing the dangerous character of the fire, a third alarm was sent in. This brought enough men and hose lines to have the surrounding buildings protected and used as perches from which the fire could be fought. There was no fire from the roof of the building, only great, dense masses of smoke that hung over the other buildings and moved towards the Downing building, which for an hour was almost hidden from the view of those on top of the Ann street buildings.

About 9.30 o'clock the fire was under sufficient control to allow an examination of the building. In the course of their investigation the firemen said they found that the place was closed at six o'clock, and they say that at that time all the waste was taken from the various floors and packed away in the fire-boxes under the boilers. They came to the conclusion that the fire had originated in some of the waste. A later investigation may dispose of the firemen's theory. The watchman, Metzinger, does not go into the store-house until 8 o'clock. When the fire broke out he opened the doors of the main building, so the firemen might attack the blaze from the South side of Ann street.

The loss is entirely covered by insurance. McKesson & Robbins suffered $10,000 loss by fire a little over a year ago.

Alleged Piracy on Patent Medicines.

St. Louis, June 28.—Two injunction suits of considerable importance to the drug trade were filed in the United States Circuit Court, in this city, on the 26th inst., against the Allan-Pfeiffer Manufacturing Company, a concern doing business at 617 North Main street, St. Louis, and against its proprietors, J. Egbert Allan and H. Pfeiffer. The first suit is by Charles I. Hood, manufacturer of Hood's Sarsaparilla, Lowell, Mass. In his petition Mr. Hood alleges that the defendants, fraudulently desiring to procure the custom and trade of persons who desired to purchase and use, and otherwise would purchase and use, his sarsaparilla, and to deceive such persons and the public without doing any advertising themselves, but unfairly relying for a market upon the world-wide advertisement of "Hood's Sarsaparilla," have put on the market a certain spurious article known as "Hodd's Sarsaparilla," and have sold the same as pretending to be "Hood's Sarsaparilla"; that they have also sold the same in large quantities to divers persons, with the intent and design that said persons should re-sell the same to others as the genuine "Hood's Sarsaparilla" to persons who reasonably suppose themselves to be buying the genuine article. Mr. Hood further alleges that the spurious article sold by the defendants is put up in bottles of substantially the same size and shape as those used by him, and that said bottles are enclosed in wrappers nearly identical with his. On the wrappers, he says, appear the words "Hodd & Co., Boston, Mass.," but Mr. Hood says he is informed and believes that there is no Hodd & Co. in Boston, and the defendants fraudulently inserted the name for the purpose of deceiving purchasers into believing that the said spurious article was the same as that made by the plaintiff. Mr. Hood concludes by saying that the conduct of this company is a fraud upon his rights, and an infringement of his trade-mark and trade-name. He adds that the conduct of the defendants is not only injuring him in the sale of his sarsaparilla and the profits otherwise accruing, but by reason of the inferiority and worthlessness of the preparation sold by the defendants, is greatly injuring the reputation of the genuine article, and unless prevented will destroy the character and standing of Hood's Sarsaparilla. Mr. Hood asked for a restraining order to prevent the defendants from continuing with their work, and also wants an accounting for the profits accruing from what he calls a "piracy."

The second suit is against the same parties, and is brought by the Wells-Richardson Company, of Burlington, Vt., manufacturers of "Paine's Celery Compound." Their complaint is similar to that of Mr. Hood. The defendants, they say, produce an article known as "Haine's Compound Extract of Celery," which is put up in bottles and wrappers nearly identical, so as to deceive the incautious buyer into believing that he is getting Paine's goods. Both cases went before Judge Amos Thayer. The latter granted a temporary injunction, and cited the defendants to show cause on June 29 why the injunction should not be made permanent.

Alleged Phenaceline Smuggler Caught.

Another alleged smuggler of phenacetine was arrested last Monday by special agent of the Treasury Scally. He is James M. Grady, who claims to be a laboring man. Grady was caught in the drug store at No. 274 Tenth avenue. He had in his possession 130 ounces of phenacetine, all of which Scally says was smuggled. Grady asserts that the drug was not his property, and that he does not know where it came from, but was given to him by a man. Grady's counsel told Commissioner Shields that his client was penniless, and that Grady's statement to the effect that he knew the drug was smuggled should not be used against him, as it was made under duress. Mr. Shields denied the counsel's request to have the case dismissed, and held Grady in $2,500 for the United States Grand Jury. Grady's counsel says he can prove the defendant's innocence.

A Good Example.

The following circular is of peculiar interest:

To the President and Members of the Kentucky Phar. Association:

About May 1st, at the earnest solicitation of members of our association residing in the cities and towns adjacent to Lexington, President Clarke appointed the following named members, Robert J. Snyder, Louisville; J. A. Wilson, Paris; Jos. Le Compte, Frankfort, a special committee to go to Lexington and use their good offices to restore commercial harmony between members of our profession at that place.

The committee at once put itself in communication with our members surrounding Lexington, and found them anxious over the situation and eager to be of any service to the committee. After conference by letter May 6th was appointed the day to meet in Lexington. Upon meeting we found, what is always the case where there is cutting in prices, distrust and demoralization in business with the dear people ready and willing to assist its aggravation.

Presenting as best we could the cardinal principles of our association, your committee made but one plea, "the good of all," and requested the druggists of Lexington to restore prices as a favor to the entire drug trade of the State, urging that the demoralization, like the smallpox, if not checked, would gradually spread, until it permeated the whole Commonwealth, ruining us all.

After patiently and courteously hearing our argument they yielded to our request, with the single provision that thirty days be allowed them in which to arrange a schedule of prices and otherwise adjust their affairs to meet the new order of things. With commendable punctuality this agreement has been fulfilled.

The marked courtesy and consideration accorded your committee by the druggists of Lexington is an evidence of the high character of the members of our profession in that city and of their ap-

preciation of your action.

Thanking you for the confidence reposed in us, and trusting that our work meets your approval, the above is respectfully submitted.

ROBERT J. SNYDER,
JOS. LE COMPTE,
J. A. WILSON.

Chicago Trade.

Chicago, June 29.—The general condition of the wholesale trade in Chicago is quiet, but it is confidently expected that by fall there will be an active demand. During this season of the year business in all lines is quiet, and the drug trade is no exception to the rule. Retailers have not yet begun to put in general stock. The reports from the Western agricultural States indicate a full crop, and the revival of industry in many lines. This cannot but react favorably upon all business and the wholesale houses are feeling especially encouraged over the prospect. A representative of one of the large wholesale houses said: "Copious rains have fallen in all the Western agricultural and stockraising States, insuring an abundant corn crop. This means an assured strengthening of the cattle markets. Farmers and stockraisers are in better heart than for several years. During the heated term of July and August a slight lull is expected, owing to the fact that those months are the growing season when no crops are harvested. The prospects for fall trade, however, are in every respect encouraging. Small dealers will then begin to put in fresh stock, and with the revival of business in all lines, a brisk trade is expected for the fall and winter."

In Court for Selling Cigarettes to Minors.

Manchester, N. H., June 27.—Through the efforts of the Anti-Cigarette League, many of the druggists here were arraigned in court to-day on complaint for selling cigarettes to minors. The president of the league said that there was no desire to be severe, and if the dealers would agree to discontinue sales, the prosecution would be pushed no further. Tobacco dealers, as well as druggists, had to answer to the charges. Some of the defendants agreed to make no more illegal sales, others paid fines, and still others will make a fight in a higher court.

——The Quinn building is a handsome, modern, new hotel structure erected at Poplar Bluff, Mo., by L. F. Quinn, druggist, who has leased it to Strait & Sydney, formerly of St. Louis, but who reserves for his own handsome drug store the Quinn Pharmacy, the northeast corner of the building. The new store is finely fitted up in quartered oak and has the latest conveniences.

——H. E. Johnson, for a number of years a popular druggist at Poplar Bluff, Mo., has quit the business and has taken charge of an advertising company for a patent medicine concern.

——Charles H. Talcott, of Talcott, Frisbie & Co., Hartford, Conn., was married last month to Miss Mary Dudley Vaill, of Winsted.

NEW YORK AND VICINITY.

——Thos. F. Main, of Tarrant & Co., has been out of town for a week.

——Henry Bohling, N. Y. C. P., class of '90, has resigned his position at Hegeman & Co.'s store.

——W. E. Jennings, of Tarrant & Co.'s force, is up the State, after a trip East. He will be back July 8.

——Robert C. Faulkner, class of '91, N. Y. C. P., is now employed at R. J. Westermayr's store in Portchester, N. Y.

——Peter R. Lance and S. D. Wadham, of W. R. Warner & Co., are both up the State, the former being expected here shortly.

——The latest word from Albert Plaut, of Lehn & Fink, was that he had spent a few days enjoyably in Berlin and had left for Carlsbad.

——Albert Lurch, a recent graduate of the N. Y. C. P., has secured a position with Bartlett & Plummer at their 34th street and Broadway store.

——Rudolph Boenke, a graduate of the last class of the N. Y. C. P., has accepted a position with Mr. Schmidt, No. 148 Fourth avenue, Brooklyn.

——I. Freid, class of '94, N. Y. C. P., has left Wheeler & Gucks, and has accepted a position with J. Dorn at his 93d street and Columbus avenue pharmacy.

——Oscar Lambert, formerly employed by H. Walter, corner of Houston and Suffolk streets, in this city, is now at Sand's drug store, corner of Tenth street and Avenue C.

——August C. Dohrman, N. Y. C. P., class of '91, has recently changed his position, now being employed as clerk in the pharmacy at the corner of Broadway and Cornelia street, Brooklyn.

——Edward Thornton, for 45 years with McKesson & Robbins, has just returned to his accustomed place as foreman of the dry counter. Mr. Thornton has been sick for eight months with congestion of the lungs and rheumatism.

——Arthur J. Reeder, N. Y. C. P., class of '90, one of the firm of Reeder Bros., pharmacists at No. 460 Fourth avenue, in this city, was married on Tuesday, June 25, to Miss Southerland, of Aquetuck, Albany County, N. Y.

——Wm. Miller Kerr, a graduate of the last class at the New York College of Pharmacy, and formerly with D. Masters, Jr., at Sixth and Flatbush avenues, Brooklyn, is now with the Wohlfarth Pharmaceutical Co. as salesman.

——Abraham J. Hardenbergh, Jr., a N. Y. C. P. graduate, class of '90, and formerly in business at the corner of Columbus avenue and 75th street, is now with William H. Hyler, in Portchester. His former partner is in one of the Hudson River towns.

——The announcement of the marriage of Louis P. Rupp, N. Y. C. P., class of '85, to Miss Carrie Ammon, was recently made in these columns. They sailed for Hamburg on the 27th of June and will spend their two months' honeymoon in Germany. A large party of friends saw them off.

——Chas. A. Vrooman, Jr., of the class of '93, N. Y. C. P., has been obliged to resign his position at H. W. Atwood's Long Branch pharmacy, owing to ill health. He has gone to his home to recuperate. Mr. Vrooman is to be one of the assistants in the pharmaceutical laboratory of the New York College of Pharmacy during the coming session.

——Col. John J. Dargan, the South Carolina lawyer who was driven out of a town in that State because he made a speech in favor of the fair treatment of negroes in the election of convention delegates, is a cousin of City Salesman Dargan, of Tarrant & Co. The Dargan family has for years been prominent in that State.

——Among the passengers with Frank A. Ruf and John W. Cox on the Saale was Gustavus Koch of St. Louis, who spent a few days in this city previous to sailing. He is a retail druggist and has many friends here. Messrs. Ruf and Cox had the finest cabin on the steamship, and were prepared to enjoy the trip, having all the needful appurtenances.

——A. E. Holden, who, since 1884, has traveled in the interests of Fairchild Bros. & Foster on the Pacific coast, through the Western and Middle States, and in Canada, sailed on the Ems, June 29 for Southampton. He goes to London to represent his house at the International Medical Congress, which meets in that city the latter part of July. He anticipates a trip profitable in both a business and recreative way.

——Druggist Campbell, whose store is at the corner of Washington and Montgomery streets, in Jersey City, has been bothered a good deal lately by inquiries about the human bones found in the cellar of the building, but he hasn't been located in the building very long, and doesn't know how the bones came there. They were unearthed by workmen who were clearing out the front part of the cellar, and had probably been there for years.

——Augustus C. Geist, a druggist's clerk, of 237 Floyd street, Williamsburg, was arrested on Thursday last on the charge of threatening to kill his wife. Mrs. Geist says he has been jealous of her for about six months, and that she woke up one morning to find him standing over her with a razor in his hand. He told her to prepare for death, but she fought him off and escaped. The officer who arrested Geist had a hard fight with the clerk, who is now awaiting trial.

——Joseph Trostler, 26 years old, a graduate of the New York College of Pharmacy, class of '90, committed suicide on June 22 by shooting himself in the head. He lived with his mother at 1431 Amsterdam avenue and kept a drug store at No. 1429. Business had fallen off of late, and Trostler became despondent. On the day of his death he refused to eat any breakfast and when dinner time came his mother sent his niece to tell him to come home. She found him in a back room dead. He had seated himself before a mirror so that he might see to direct the bullet.

——Van Horn & Ellison's new branch store in the Bolkenhayn, Fifth avenue and 58th street, is attracting much attention from druggists as well as from the public. The firm has two large

floors, one 90 by 47 feet, the other only slightly smaller, and their general business is kept entirely separate from the dispensing, chemical and sterilizing departments. On the ground floor nothing but sundries, perfumes, etc., are kept. The show cases are like tables on rollers, and can be easily shifted from place to place. Altogether the store is an attractive one and a credit to the firm.

——The will of the late Wm. H. Schieffelin was filed last Friday in the office of the Surrogate of New York county. It bears the date of Nov. 18, 1872, and under its provisions the testator gave all his property, both real and personal, to his wife, Mary Jay Schieffelin, whom he appointed executrix. He also appointed Wm. A. Gellatly executor, to act with Mrs. Schieffelin, but by a codicil, executed on Feb. 10, 1885, he appointed his son, William Jay Schieffelin, to act as executor in place of Mr. Gellatly, deceased. In a statement made by Mrs. Schieffelin, it is shown that neither the amount nor the value of the estate of Mr. Schieffelin can be given at the present time. An inventory of the property will be made.

——J. M. Haynes, one of Lehn & Fink's salesmen, is popular "in spots" up the State. He was very popular in Poughkeepsie until recently. One day he arrived at the Nelson House in that city and registered as usual, adding "in advance of summer." Next day a hot wave struck the place and things got so warm for the man who preceded it that he left in a hurry. Another reason why Mr. Haynes goes to the Nelson House with fear and trepidation is because he once signed his name there as being in advance of "A Gold Brick" company. The hall boys were very attentive and received in return numerous passes for the show. Upon presenting the passes the boys found they had been made the victims of a practical joker.

——Wm. Pickhardt, of Pickhardt & Kuttroff, wholesale dealers in dyes and chemicals at No. 98 Liberty street, died last week at Cologne, Germany, where he had gone to spend the summer. Mr. Pickhardt was very wealthy, and many interesting stories are told of him. He became known to New York people particularly through the stories published about his great Fifth avenue house. The Era told its readers months ago how he planned a grand mansion on the corner of 74th street, and after spending a million dollars on it, was so dissatisfied with the structure that he sold it at auction, losing thereby over half a million. The failure of his hobby worried Mr. Pickhardt considerably. In May last he left New York for his native town, Berghausen, of which he was practically the owner. He was on his way to Carlsbad when he died, and his body was taken to Berghausen for interment. His estate is estimated at from eight to ten millions, and comprises large tracts of land in the Adirondacks. He was 61 years old and leaves a wife, four sons and a daughter. Three sons, Adrian, Emil and Sidney, are associated in business with the Liberty street concern, and the other, E. W. Pickhardt, is at Harvard University.

HERE AND THERE.

——Druggist T. W. Davis, of Columbia street West, Detroit, has gone out of business.

——James Palmer, retired druggist at Conneaut, Ohio, unsuccessfully tried suicide June 16.

——Dr. E. A. Craighill has resigned the presidency of the Piedmont Drug Mill Co., Lynchburg, Va.

——Avoca, a thriving village in Murray county, Minn., is anxious to have some live young druggists locate there.

——R. M. Larrabee, of Le Roy, Minn., is about to put a new stock of drugs into Henderson, that State, in the near future.

——The druggists of Akron, Ohio, propose to fight the Liquor League, which wants them to keep their stores closed Sundays.

——John T. Plummer, Treasurer of the Morrisson and Plummer Company, Chicago, is spending his vacation in Minneapolis.

——Charles Weber, manager of the Medical Hall Pharmacy, Poplar Bluff, Mo., was married June 6 to Miss Hallie Boker, of Paducah, Ky.

——Ed. Starkey, who learned pharmacy in St. Paul, has for some time been in London, England, with Dr. Dixon, also of St. Paul, pushing antitoxine.

——Sixteen charges of selling liquor without a license have been preferred against W. W. Sweringen, who runs a drug store at 360 West Sixty-third street, Chicago.

——Harry A. Reindollar, a young Baltimore druggist, was married, on June 25, to Miss Mazie B. Bealmear. The bride is a niece of Wm. R. Brewer, clerk of Circuit Court No. 2.

——At the convention of the American Institute of Homeopathy, at Newport, R. I., the other day, it was announced that $25,000 had already been subscribed toward a monument to Samuel Hahnemann.

——Dr. H. S. Herman, doing business as the Hagerstown Pharmacy Company, has opened his new drug store at 213½ South Potomac street, in Hagerstown, Md. One of Tufts' fountains supplies soda water.

——The directors of the Baltimore General Dispensary have elected these officers: President, Dr. J. Brown Baxley; Vice-President, Thomas Mackenzie; Treasurer, Charles E. Baker; Secretary, Adrian Oudesbreys.

——P. R. Loveland will open a pharmacy on August 1 in Baltimore, on the ground floor of the Equitable building. It will be finely furnished and ought to do a good business, as there are no competitors on the same street.

——A. R. Thayer, long and well known to Michigan druggists as a traveller for a Detroit wholesale drug house, was removed from a train at Owosso June 17, suffering from a stroke of paralysis. He was removed to his home at Saginaw.

——G. A. Doty will be associated with his brothers in their drug store in Detroit. Mr. Doty took the degree of Ph. C. at Ann Arbor last week, and passed a very satisfactory examination before the Michigan State Board of Pharmacy on June 25.

——An empty whiskey barrel exploded in front of the store of the Wolff & Wilson Drug Company, Sixth and Washington avenue, St. Louis, on the afternoon of June 20, and caused considerable excitement, but little damage. What caused the explosion appeared to be a mystery.

——Miss P. M. Bruner, of Dayton, O., who is one of the female knights of the grip in the country, paid a visit to St. Louis recently and made quite a hit. She signs her name plain P. M. Bruner, and sells lard, oil and textile soaps to the wholesale drug trade, to railroads and to laundries.

——An attempt to rob Quigley's drug store, Twenty-first and G streets, Washington, D. C., June 29, led to a fusilade. The police came upon the burglars, who ran away. The police fired at them and they returned the fire, but, so far as is known, all the balls were ineffective. The burglars escaped.

——A. F. Parker, a druggist of Frostburg, Md., was required to give bail in the sum of $200 on June 25, for the action of the October Grand Jury of Allegheny Co., on the charge of beating his wife. Mrs. Parker was severely injured. It is said to be the husband's second offence of the kind. Parker was intoxicated at the time.

——Druggist E. R. Beals, of Ypsilanti, Mich., has his new store well under process of construction. It is on the site of the old opera house, which was destroyed by the tornado some time ago, and the upper floor of the new building will be used as an opera house. Mr. Beals has bought the drug stock of A. F. Smith, of Ypsilanti, and has moved it to Briton, Mich., where he will run a branch store.

——Mr. Thompson, attorney for the defendants in the case of Dickerson v. the Druggists, will apply for leave to file a cross bill on behalf of his clients at the next term of the United States Court, soon to be held by Judge Jenkins in Chicago. Some fifteen or more druggists are sued, but all have not yet made answer. It is hoped to get all the parties defendant in the cross bill, in order that the case may more speedily come to a final issue.

——B. F. Emrich, a pharmacist on West High street, Carlisle, Pa., has applied for an injunction to restrain John C. Groome from engaging in the drug business. Mr. Groome formerly conducted the store now occupied by Mr. Emrich, and the latter contends that one of the conditions of the sale was that Mr. Groome should not open a new establishment in the town. Mr. Groome went to Washington, but in a short time returned and embarked in another venture, hence the suit.

——Albert W. Smedley, a well known druggist of Media, Pa., died June 25 at his home. He was in his 26th year, and for the last three years had carried on the drug business on State street, Media, and was one of the most prominent citizens of that city. He was taken ill on Thursday, and it was found that he was suffering with appendicitis. He was then operated upon, but continued to grow worse until death resulted. Mr. Smedley was a graduate of the Phila-

delphia College of Pharmacy, and was well known throughout Delaware County, being the son of Ellis Smedley, city tax collector of Chester.

——The Joseph Bancroft & Sons Company, of Wilmington, Del., has filed a bill in the City Circuit Court of Baltimore, against Victor G. Bloede, of the Bloede Manufacturing Company, manufacturers of dyes and chemicals at Paradise, Baltimore Co., asking that Mr. Bloede be required to surrender to the plaintiff 474 shares of the Bancroft Company's stock. The bill alleges that the stock in question was issued to Mr. Bloede in consequence of an agreement made at the time the Bloede Company was formed, in return for the same number of shares issued by the latter to the Bancroft Company, and upon representation that the Bloede Company had earned a profit of 40 per cent. a year on a capital of $100,000, which statement is said to be untrue. The trouble is all over the management of the Bancroft Company, of which both parties are trying to get control. An order was passed requiring cause to be shown by July 26.

——Dr. Joseph S. Shaw, better known as Brother Julian, a member of the order of Christian Brothers, and Professor of Chemistry at Rock Hill College, near Ellicott City, Howard Co., Md., died suddenly, on June 27, of apoplexy, while bathing at Bay Ridge, whither the students had gone on an excursion. Dr. Shaw was born in New Orleans, educated at the College of Christian Brothers in that city, and entered the Louisiana State University to study medicine. A few months after his graduation the war broke out, and he entered the Confederate Army as a private. In an engagement with Gen. Sigel's Germans he received a sabre cut across the forehead, and was left on the field for dead, but recovered, was taken prisoner, and assigned to duty in the pharmacy department. Making his escape, he joined another Confederate regiment as surgeon, and went through the whole war. In 1869 he joined the Christian Brothers. He was regarded as one of the best chemists in the country.

——A story from Atlanta relates that "R. C. Williams, a negro drug clerk in a negro drug store on Cotton avenue, will be tried in the city court on the charge of malicious mischief. Mrs. S. Crawford had a prescription filled some time ago at the Vineville drug store. Later she gave the bottle to a negro named Bucker to have it refilled, supposing he would take it to the Vineville drug store. Instead, he carried it to the negro drug store, where Williams clerks. Of course Williams couldn't fill it, as he didn't know what the prescription called for. Williams, however, so it is alleged, tried to get Bucker to take a bottle of some other kind of medicine, but Bucker declined. Williams, so it is further alleged, then commenced to scratch the label off the bottle, presumably to fill the bottle with medicine. About this time an officer appeared on the scene and arrested Williams, and preferred a charge of malicious mischief against him."

——Edward Hagee, a traveling salesman for the Hopkins-Weller Drug Company, St. Louis, paid costs in the police court the other day, as a result of an endeavor on his part to imitate a detective. Hagee was just recovering from a voyage into the land of the artistic, and had painted the town a brilliant hue, when he stumbled against E. L. Priest and James McLaughlin, also traveling salesmen, who were on their way to the Mona House, on Sixth street. There was something about the two gentlemen that Hagee did not like, and he halted them, stating that he was a member of Furlong's Detective Agency. The men were at first inclined not to notice him, and this was more than Mr. Hagee could stand. He considered it an insult to the profession, and placed the men under arrest and started to march them to a police station. This, however, was no easy task, and a genuine police officer finally came up. When the facts in the case were made plain, he proceeded to put an inglorious ending to the would-be detective's promising career by locking him up in the holdover, which was followed the next day by his being fined costs.

——A meeting was held on Monday, June 24, at the room of the Philadelphia Drug Exchange between a committee of that body and the president and secretary of the new Bourse Building Co. It is understood that the meeting was relative to getting up some kind of a daily bulletin of information for all members or tenants of the Bourse Building, but, owing to the manner in which the drug trade is connected and the objection by a number of the druggists to giving out to the public any news relative to their profession, it is more than likely that nothing will be done in these premises. While Mr. Tucker, who represented the Bourse people, was very profuse in defining the object of the bulletin and also thinking it would greatly benefit the drug trade, his oratorical powers, however, had little effect upon the Drug Exchange committee, and they seemed to be set in their opinion that no other news than that furnished by the trade journals would be any more beneficial to them, and for this reason it is more than likely that they will object to placing any information in regard to their business in the bulletin. Preparations are now being made, not only by the Philadelphia Drug Exchange, but by other houses as well who are interested in the drug trade, for taking up their new quarters in the Bourse Building as soon as it opens. It is thought that this building will be ready for occupancy by the latter part of September or early in October, and, by the way the tenants talk, they think it is going to greatly benefit them.

——The druggists of Philadelphia have of late taken more interest in politics than for many years. Some of the druggists have higher ambition than to serve merely in a perfunctory way for the good of the city. There are a number who represent the interests of the property holders in Councils. Common Councilman Bennett L. Smedley is from the Tenth Ward. He was elected a member in 1892, and is now serving his third term. At one time he was a member of the Pharmaceutical Examining Board of Philadelphia, from which he retired 15 years ago, and the body was reorganized under control of the State. Mr. Smedley is a graduate of the Philadelphia College of Pharmacy, class of '62, and shortly after he purchased the drug store at the southeast corner of 21st and Vine streets, which he still owns. Another druggist-councilman is Bernard A. Hertsch, who represents the 28th Ward in Common Council. Mr. Hertsch is a graduate of the '81 class of the College of Pharmacy, and is one of the most aggressive druggists of Nicetown. Besides being Councilman, he served a term as a member of the 28th Ward School Board. He has been a member of Councils since February, 1894. He has leased the store at 4164 Germantown avenue. Another druggist-doctor-politician is Dr. Matthew J. Wilson, of 1750 Frankford avenue. Dr. Wilson graduated from the Philadelphia College of Pharmacy in 1881, and in 1883 took a degree of Doctor of Medicine from the Vermont University. In 1889 he was elected to the 19th Sectional School Board, of which he is now president. He is well known in a number of the secret societies.

California Letter.

San Francisco, June 26.—As yet no clue has ever been obtained to the murderer or murderers of the late Eugene Ware, the drug clerk who was so cruelly killed in the Hotel St. Nicholas Pharmacy. The general opinion prevails that the deed was done by some morphine fiend who had been denied the drug by Ware, as it is a well known fact he was in the habit of selling to this class of people.

——It has come at last—the sale of bicycles in drug stores.

——Y. R. Cragin now owns the pharmacy at Fruitvale, Cal.

——The drug trade of the city has been very dull of late, both retail and wholesale.

——Wm. Blaisdell, manager of the Owl Drug Co., has returned from a short vacation.

——W. F. Hurtzig, 140 Third street, San Francisco, has sold out to his brother-in-law, Mr. Donoghue.

——A young drug clerk recently committed suicide in Golden Gate Park. He had become despondent over lack of work.

——M. A. Kibbler, a druggist at the corner of Turk and Larkin streets, San Francisco, recently went through insolvency.

——"Mannit," commonly known as sugar of manna, has a heavy sale in the Italian section of the city, many of the druggists importing it direct from the mother country of Italy.

——The druggists are being carefully watched for the illegal sale of morphine preparations. The practice is not a general one, although there are a few black sheep who will stand watching.

——Capt. W. W. Seay, an old-time druggist of New York City, can now be found at the Junction Pharmacy, 2000 Market street, this city. The captain is a veteran of the civil war, his original home being Rome, Ga.

——A new preparation has recently come into prominence on the Coast, viz., Laxative Dates. The date is pitted and medicated, after which it is glazed in sugar syrup. One date constitutes a dose for an adult.

——Chas. Wentworth, of East Oakland, has one of the best conducted pharmacies on the coast. Mr. Wentworth can always be found at his place of business; there is not a harder working and more conscientious druggist in Oakland.

——The Prosser-Bew Drug Co. have recently opened a new and complete drug store in Alameda, directly across the street from where Mr. Prosser was in business for so long a time. The store is also used as the waiting room for local trains to 'Frisco.

——A druggist of the State has been in great trouble of late and all about his hair. For some time, for no aparent cause, it has been turning gray; then this stopped, leaving the rest of his hair its natural color. He is now very anxious to know of some preparation which will turn all of it gray.

——It is rumored that a large cut-rate pharmacy will occupy considerable space in the Parrott Building, now in course of erection on Market street. The building will be one of the largest in San Frantion—a location commanding everything cisco, to say nothing of its superb locato make its stores pay.

——An unusually large amount of Californian wines and brandies will be shipped East, South and to Europe this year. To save the excessive freight charged by the Southern Pacific road, a line of steamers has been chartered to ply between 'Frisco and New Orleans to carry the output of the State vineyards.

——While roses were selling in New York at Easter time at from $5 to $7 a dozen, the same quantity, but of far better quality, could have been bought in 'Frisco or Oakland for about 50 cents—"four bits." Calla lilies, so much admired in the East, are here used for brushing flies off horses. Nothing is too rich for the native Californian.

——A new drug store has been opened at Baker City, Ore., under the firm name of Johnson & Edwards. Mr. Edwards has owned a store at Arlington, Ore., for years, while Mr. Johnson was connected with a store at La Grand, Ore. This city has always been a good drug center on account of its close proximity to the gold and silver mines. As both of the gentlemen are so well known throughout the State, we predict for them a good trade.

——It was a sad day for the general drug trade of San Francisco when cutting prices on patent medicines was started. As a rule all patents costing $8 a dozen are now sold at 65 cents each. One store recently even went better than this, advertising Hood's Sarsaparilla at 50 cents a bottle. The prices on prescription work have also been materially lowered, so that now there is but very little profit in the business, except, perhaps, to a favored few who command a large trade.

——"The Half-Million Club" returned recently from a tour of the State in a special train which had been at their service during the entire trip. The object of the club is to swell San Francisco's population to the above mark. The exhibition at Atlanta, Ga., next September, will contain a large and very attractive display from this State. Fruits, flowers, minerals, etc., will fill a part of the space allotted, while the rest will be occupied by an enormous assortment of wines and brandies.

——It is a shame the number of stores in 'Frisco which employ unregistered men behind their prescription counters allowing them to fill any and all prescriptions that may be brought into the store. This is not only true of the smaller stores, but the larger ones as well. Good work could be done by somebody in eradicating this evil. Cheap help is all right if they are kept where they belong, and surely this is not behind a prescription counter. There is great need of reform in this particular in San Francisco.

——Three Oakland druggists were convicted in the police court recently of selling liquor in violation of the license law. They were F. S. Osgood, H. D. Kellogg and V. R. Cragin. Their cases hinged on a proposition whether whiskey is medicine, or just whiskey. Judge Wood decided that whiskey was whiskey, and found the dispensers of drugs guilty. The decision will have considerable effect on the sale of spirituous liquors by druggists. It has been a well established fact that in not a few drug stores quite a trade has been done in "bottled goods," and the saloon and liquor men have entered a protest that they find it difficult to compete with that class of opposition. President Edoff, of the California State Protective Association, during the recent Sunday closing agitation in Oakland, told the city council that he proposed to gather evidence against a large number of places which were selling liquor openly, although they failed to pay the license of $100, a quarter, demanded from all retail dispensers of liquors. The cases of the other eight druggists arrested at the same time fell to the ground because of carelessness in handling the evidence procured. The three now convicted were forced to a defense, however, and put forth the argument that the whiskey they had sold was a medicinal preparation. A leading expert on the question was called, and was so explicit in his statement that the liquor in question was not only whiskey, but of an inferior quality, that the conviction very promptly followed. They were each fined $100 and costs.

——A. Paginstecher, a druggist at Canarsie, L. I., died on Thursday, June 20, of consumption. He leaves a wife and five children.

——Chas. H. Kirchein, a graduate of the N. Y. C. P., class of '95, has secured a position with H. C. Schmidt at Park avenue and 91st street.

——Brent Good don't think any more of going to Europe than John Peters and Tom Cook do of going to Brooklyn. He sailed Saturday on the Campania—his 69th trip. His daughter, Miss Kate Hamilton Good, went with him. He expects to return in time to go to Denver to the N. W. D. A. meeting.

ASSOCIATIONS,
CLUBS, SOCIETIES.

JULY.

9, Arkansas—Pine Bluff.
10, North Carolina—Morehead City.
15, Michigan—Detroit.
16, Virginia—Blue Ridge Springs.
17, Tennessee—Monteagle.
24 to 26, Illinois—Peoria.

AUGUST.

——, North Dakota—Fargo.
14, A. Ph. A.—Denver, Colo.

SEPTEMBER.

2, N. W. D. A.—Denver, Colo.

——The committee on national legislation appointed by the Chicago Retail Druggists' Association is meeting with general responses from State and local organizations, indorsing the resolutions in reference to tax free alcohol and patent and trade mark laws.

——The New Brunswick Pharmaceutical Society held its annual meeting at Moncton, N. B., June 19. Officers elected for the coming year are M. V. Paddock, St. John president; John M. Wiley, Fredericton, vice-president; H. W. Howatt, St. John, secretary; Hazen J. Dick, St. John, treasurer; R. W. McCarty, St. John, registrar.

——The sub-committee on transportation to the Denver meeting of the American Pharmaceutical Association has published a programme of entertainment along the line of the Santa Fe road. A special train will leave Chicago Sunday afternoon, Aug. 11, at 5 P. M., and will reach Denver Wednesday morning, Aug. 14.

——A meeting of the executive committee of the Chicago Retail Druggist Association was held on July 1. The principal subjects brought up were matters relating to the new pharmacy law, the World's Pharmaceutical Exposition, to be held in Chicago Sept. 1, telephone rates and the appointment of delegates to the American Pharmaceutical Association.

——The Virginia Pharmaceutical Association meets at Blue Ridge Springs July 16–18. In a stirring appeal to the druggists of the State to be present, local Secretary William G. Burgess, says a most attractive programme of amusements, with prizes for all games and contests, has been prepared. There will be music, vocal and instrumental, on two evenings. Polk Miller will play the banjo and recite in his negro dialect, and there will be a ball, too. The games, contested on all three days, will be a needle threading contest, lawn tennis, quoits, target throwing, button sewing, croquet, baseball, running long jump, wheelbarrow race, guessing contest, fishing contest, tenpins, target contest, running race, shooting, high jumping, etc. A very large attendance is expected.

——Not a stone has been left unturned by the committees for the coming State pharmaceutical meeting in Detroit, Michigan, and arrangements are almost completed for the biggest meeting in the history of the association. Everybody should be present on opening day, Tuesday, July 16, for there will be plenty of fun going. On that afternoon will occur

the games and races at Belle Isle. Generous donations of cigars, perfumery, toilet articles, cases of wine and so on have been received by the committees, and will be awarded as prizes to the members of the association. On Wednesday, Thursday and Friday there will be business sessions held at 10 A. M. and 2:30 P. M. at the Light Infantry Armory. Jobbers and manufacturers will hold a reception at the same place on Wednesday evening for visitors and the trade. The exhibit will be in the Auditorium, which will be opened at 10 o'clock daily. On Thursday evening there will be a promenade concert, with vocal and instrumental music, given at the exhibit, and on Friday evening there will be a moonlight ride on the river, with dancing and refreshments. It will be seen that an all around good time is provided for.

——Local Secretary Frank C. Smith, of the South Dakota Pharmaceutical Association, which holds its tenth annual meeting July 17–19, at Lake Madison, has arranged this amusement programme:

July 17, 3:30 P. M.—Lecture by A. W. Lamar, D. D., subject, "Brace Up;" 8:00 P. M.—Concert, Chicago Artiste Concert Company, First Regiment Band and Little Ada Heist; 8:30 P. M.—Entertainment. Prof. R. L. Cumnock; July 18, 3:30 P. M.—Entertainment, Professor Cumnock; 8:00 P. M.—Concert, Chicago Artiste Concert Company and First Regiment Band; 8:30 P. M.—Cantata, under direction of Professor Lee G. Kratz, musical director of the Assembly; July 19, 4:00 P. M.—Lecture by General J. B. Gordon, "The Last Days of the Confederacy;" 8:00 P. M.—Concert, Chicago Artiste Concert Company and First Regiment Band; 9:00 P. M.—Camp Fire. This is G. A. R. day, and the old soldiers will be out in force and will add greatly to the interest of the occasion with addresses from distinguished members of that organization. The regular business sessions have been outlined by Secretary I. A. Keith, and many valuable papers will be read and important questions discussed. The railroads have granted a one and one-fifth rate for the round trip, and hotel accommodations will be very cheap.

Maine Pharmaceutical Association's Annual Meeting.

There was held at Kineo, Me., on June 26 and 27, the annual meeting of the Maine Pharmaceutical Association. Time was allowed for delightful trips on Moosehead Lake and for other entertainment, yet the members did not overlook the fact that they had come together primarily for business, and many important matters were considered. It was stated that since the pharmacy law was enacted 610 druggists have registered, of whom 261 were already in business. Of 342, who were registered after examination, 10 were women. During the last year 44 persons applied for examination, and 16 were successful in passing the tests.

A committee was appointed to confer with the faculty of the State College in relation to a course in pharmacy. A prize for the best original essay was unanimously awarded to Wm. A. Robinson, of Auburn. It was voted to meet next year at Rockland. Officers were chosen as follows: President, D. W. Hezelton, Portland; First Vice-President, George W. Dorr, Waterville; Second Vice President, F. M. Wilson, Brunswick; Third Vice-President, W. A. Robinson, Auburn; Secretary, C. A. Fowler, Bangor; Treasurer, John Williamson, Portland.

The American Chemical Society.

Nothwithstanding the heat, considerably more than fifty members of the American Chemical Society gathered in the room of the American Microscopical Society, in Mott Memorial Hall, 64 Madison avenue, on the evening of June 14, to attend the monthly meeting of the New York Section. Owing to the absence of Dr. Peter T. Austen, the President of the section, Dr. William McMurtrie occupied the chair. The first paper presented was by J. W. Fields, and was entitled "Modification of the Gunning Nitrogen Method." The Gunning method consists in letting a nitrogenous liquid enter drop by drop into a hot mixture of sulphuric acid and potassium bisulphate in a Kjeldhal digestion flask, and then proceeding as usual in the Kjeldhal process. Mr. Fields advises the use of potassium bisulphite in lieu of potassium bisulphate. Mr. W. G. Stone followed with an "Exhibition and Elucidation of Specimens of Asbestos and Its Products," and among his remarks was the statement that 90 per cent. of the world's production came from Canada. The lower grades of the mineral contain iron, and the product is regarded more valuable, as it is found fiberized during crystallization. At least 60 per cent. of the asbestos mined is worked up into cloth or paper. For the Gooch crucible the poorest quality was most satisfactory, because the fibre being shorter, it could be packed better. The third paper on the programme was "The Examination of Lard for Impurities," by David Wesson. This gentleman defined lard as the fat rendered from various parts of swine. Its difference in chemical composition was due to many causes, thus that from swill-fed hogs differed from that from corn-fed hogs; moreover, processes of rendering caused variations in composition. Age was also a factor. Concerning impurities, a solution of 2 grams silver nitrate in alcohol and ether was reduced to black metallic silver by cottonseed oil contained in lard. Pure lard had no such effect, but old samples must first be washed with dilute caustic soda and then with nitric acid before being treated with the alcoholic solution of silver. The phospho-molybdenum test was of doubtful value, and that with sulphuric acid was satisfactory only as a qualitative test. The specific gravity ranged from .860 to .864, and was influenced by the admixture of cottonseed oil. The melting point was largely dependent upon the method followed in cooling the fat so that it could not be relied upon as a test in cases of small samples. The point of crystallization likewise differed according as the lard came from different parts of the animal. Concerning its absorption of iodine, it was found that the softer the lard the greater its power of absorption. It also differed according to the fodder of the hogs; thus, those fed on beechnuts yielded a lard that absorbed a greater amount of iodine than those fed on corn. All these discordant results tended to show that unless the origin of the samples was positively known, deductions from the usual tests were almost without value as far as comparison was concerned. Dr. William McMurtrie then made a very interesting "Exhibition and Elucidation of Specimens of Argol and Its Products." Insomuch as the synthetical manufacture of tartaric acid was not as yet a commercial success, the sole source of the tartaric acid found in commerce was still from the argol obtained from the grape in the manufacture of wine. The green grape contains about $2\frac{1}{2}$ per cent. of tartaric, malic and citric acids, and as the grape ripens the proportion of tartaric acid increases, but decreases again as grape sugar is formed. In Italy, which is the chief source of supply, the process is somewhat as follows: Every fifteen pounds of grapes yield 1 gallon of must, which is left to ferment for three days in vats. The tartrates of potassium and calcium crystallize on the stems and skins of the grapes as alcohol forms. The fluid is then racked off, and the lees, as the refuse is called, is allowed to settle and then dried in the sun. The European lees usually contain from 6 to 7 per cent. of calcium tartrate, while that from Virginia, in this country, has been known to yield as much as 25 per cent. These lees contain 8 per cent. of alcohol, which is made into brandy by distillation with water, while the residue is concentrated until the calcium tartrate crystallizes out. The argol thus formed is then purified by boiling with water, filtering, and the tartrates crystallized by concentration. The crystals are still farther purified by treatment with hydrochloric acid, filtration through bone black, and crystallization, yielding a cream of tartar that is over 99.7 per cent. pure. From this tartaric acid is made. Pure cream of tartar finds also use in standardizing alkalies. Some discussion followed this paper, in which Mr. J. Howard Wainwright, of the U. S. Laboratory in New York, called attention to the tartrates that he had received for examination as they came into this port. Also, Mr. Mason spoke of the use of silver evaporating dishes that were employed in England for concentrating the acid in preference to leaden vessels, owing to the fact that the latter give up lead, which had been declared an objectionable constituent by the English authorities. The next title on the list was a double one: (1) "Titration of Zinc and Aluminium Hydroxids," (2) "Certain Basic Salts," by Prof. Albert R. Leeds. The warm weather, or the inconsistency of the printed title giving the old form of spelling "aluminium" with the new form of "hydroxid" proved too much for Dr. Leeds, and he was absent, so that his paper was read by title. Prof. C. L. Speyers, of Rutgers College, New Brunswick, then presented an erudite paper on "A Modern View of Electro Chemical

Action." It had to do with the relation between chemical action and electricity. It was in the line of an investigation instituted some years ago by Oswald, and needs for its comprehension a good knowledge of mathematics. The results were shown in equations on the blackboard, in which differential signs were abundant. John Enequist brought the meeting to an end, by an interesting paper on "The Management of Chemical Works." Within a few months the very able reports of Otto N. Witt, of Berlin, and A. Haller, of Nancy, on the chemical industries of the United States, made to the German and to the French Governments by these officials who were sent to Chicago for that purpose, have been received in this country. They agree in acknowledging the wonderful natural resources of this country, and its great future in industrial chemistry. Mr. Enequist pointed out and discussed three reasons why our success thus far had been only partial. These, he said, were, first, because the proprietors of the chemical works themselves were not chemists, and therefore could not appreciate the full value of chemical work. Second, because the superintendents were not chemists, and not familiar with the details of the processes, and third, there was a need of a greater number of chemists in chemical works. That these conditions yield good results is shown by the statements made by Prof. Charles F. Chandler, before the American Chemical Society, and reported on page 503 of the Era for April 18, of this year.

THE NEW YORK PHARMACEUTICAL ASSOCIATION.

The seventeenth annual meeting of the New York Pharmaceutical Association was in progress as the last issue of the Era emerged from the pressrooms. In that issue, however, were quite fully reported the deliberations of the first session held Tuesday, June 25, in the United States Hotel at Saratoga. In his annual address President Fish, after referring to the members who had died during the past year and the status and proper recognition of pharmacists in the army and navy, discussed the subject of trademarked and patented remedies as follows:

"Your attention is invited to the subject of certain trademarked or patented remedies, the importation of which it is alleged would render the importer liable to an action at law, notwithstanding the fact that the act of importation is permissible by our government, subject to a duty of 25 per cent. ad valorem. The very great difference in the price of these remedies, if purchased in the United States, as compared with the price if bought in foreign countries, necessarily restricts their use to a class which does not number among its members those of very moderate means. If these remedies are valuable as therapeutic agents among the rich and well-to-do, it is logically true that they must prove equally so among that large class who are less favored in purse. Take, for illustration, a single remedy, phenacetine, which in Canada can be bought for 25 cents per ounce. Add to this the duty, and the net cost, exclusive of transportation, is 31½ cents. You are all well aware that the alleged trademarked article costs more than three times that amount unless bought in large lots. I have no recommendation to make relative to this matter, for the reason that we are in receipt of a letter and argument from the Chicago Retail Druggists' Association asking for co-operation, both as regards trademarks and free alcohol. While both subjects are important, the former is pigmy-like as compared with the colossal menace of the latter to the retail trade, if the law ever becomes operative."

In closing he said:

"The enterprise exhibited by various journals in keeping us informed regarding that which transpires throughout the entire pharmaceutical world, is commendable and is undoubtedly highly appreciated by all.

"The important discoveries that have been made in the fields in which we labor, demonstrate that the members of our profession, and their confreres have been indefatigable in their work. New processes, new remedies and the new application and heretofore unknown therapeutic value of old remedies are among the achievements of the age in which we live. The realm of synthetical chemistry is boundless, and the field that offers for a study of metabolism in plant life knows no limit. The study of bacteriology is not confined to any petty orbit, while the application of electricity to chemical investigation has but just commenced. We are standing on the threshold of a scientific age that may be so rich with discoveries that in comparison the achievements of the past may seem insignificant. No one can predict the possibilities of the future. There are problems to be solved and enigmas to be answered. Whatever comes as the result of discovery must be tried in the great crucible of time and experience. False theories may be promulgated, and false lessons taught, but to quote from Emerson, 'If the right theory should ever be proclaimed, we shall know it by this token, that it will solve many riddles.'"

The address of the president was referred to a committe consisting of W. H. Rogers, Middletown; D. L. Cameron, Brooklyn; and E. S. Smith, Port Henry. The reports of the secretary and treasurer were read. T. J. Keenan, Chairman of the committee on Pharmacy and Queries, read a report on the condition of pharmacy in this country and abroad, and Dr. A. B. Huested read the report of the legislative committee. W. H. H. Rogers, Middletown; E. S. Smith, Port Henry, and W. E. Baldwin, Glens Falls, were appointed a committee to recommend the names of five pharmacists to the Governor, from whom he may select a successor to F. L. Norton, whose term as member of the State Board of Pharmacy expires Sept. 1.

Afternoon Session.

After the minutes of the morning session had been read and approved, Secretary Clay W. Holmes began a discussion of the pharmacy law, which had been made a special order of business. In his talk Mr. Holmes stated that the present law was not successful in its operative work, and besides there was a lack of funds to carry it out. The majority of druggists in the State do not know what has been accomplished, and there are only about 650 druggists members of this association who pay annual dues out of about 4,000 druggists in the State. To make a pharmacy law successful to the highest degree, he thought that every pharmacist must be made to take part in the costs as well as the benefits. He thought the various boards of pharmacy in the State for matters of general interest should be consolidated, and as the State Pharmaceutical Association is the parent of the State Board of Pharmacy, he thought it was the proper body to conduct a movement towards a better pharmacy law. He then submitted a plan, which had been suggested to him by the Quebec Pharmaceutical Association, and which contemplated the creation of an office where one man would do all of the registering and keep track of the deliberations of the separate boards. After considerable discussion the "plan" was referred to a committee of nine, consisting of E. S. Dawson, Jr., C. A. Osmun, E. S. Smith, D. L. Cameron, J. A. Lockie, G. J. Seabury, W. H. Rogers, P. W. Ray and W. B. Fuller.

The committee on president's address reported favorably upon the various recommendations made by that officer. The committee also indorsed the action of the Chicago Retail Druggist's Association in its stand on the "alcohol question." The secretary was directed to prepare suitable memorials for deceased members and transmit a copy to their families. In discussing the army and navy pharmacist, Mr. Seabury introduced a resolution, which stated that the pharmacist was a professional man and he thought that the secretaries of War and the Navy should be petitioned by pharmacists to convince Congress of this fact. Dr. Huested thought that if the pharmacist was made an officer there would be an incentive towards getting "men" into the service. Mr. Rogers said he was convinced that the present requirements did not tend to call out the best men. The resolution was adopted and copies were ordered to be sent to the Senators and Congressmen representing New York State, the State legislators, Dr. Payne, Chairman of the A. Ph. A. committee having the matter in charge, and others. A resolution favoring the repeal of the "free alcohol" law was passed, and Messrs. Huested, Lockie and Keenan were appointed a committee on "Trademarks and Free Alcohol." After a speech on "free alcohol" by G. J. Seabury, the association adjourned to meet after the carriage drive on the following day.

Wednesday Third Session.

The association was called to order at 1.30 P. M. In addition to the families of G. W. Getman, Lyons; S. W. Slaughter, Waverly and E. S. Gregory, Fort Plains, whose deaths were announced at a previous session, the secretary was directed to prepare and send suitable memorials to the families of deceased members C. H. Lloyd, Albany; John Thomas, Buffalo, and W. H. Schieffelin, of New York. The committee on Credentials, through its chairman Mr. Marvin, reported, and the credentials were ordered placed on file and the delegates given the freedom of the floor. The report of the committee on New Remedies was presented by Jas. H. Hutchens, of New York City, and ordered printed in the annual proceedings. Mr. Holmes wanted authority for himself and the treasurer to revise the roll of membership. Privilege was given these officers to make the revision, and they were ordered to drop from the roll the names of all members whose dues are not paid within one month.

The committee to select the names of five pharmacists for the association to recommend to the Governor, from which to appoint a member of the State Board of Pharmacy to succeed F. L. Norton, Delhi, reported the following: F. L.

Norton, Delhi, J. L. Dykes, New Berlin; C. M. Frisbie, Bainbridge; Ferris M. Pronk, Middletown, and L. E. Howard, Hancock. Messrs. Huested, Cameron and Lockie were appointed a committee on place of meeting for next year. At this point J. H. Razer, of Reading, Pa., was introduced as the delegate from the Pennsylvania Pharmaceutical Association. His speech was followed by one from G. J. Seabury as delegate from the New York College of Pharmacy, and Dr. Eccles made his report as a delegate to the last session of the A. Ph. A. at Asheville.

Wednesday—Fourth Session.

This session began at 4.15 o'clock. T. J. Keenan, Chairman of the committee on Pharmacy and Queries, read a paper on "Fluid Extract of Wild Cherry" by Garet V. Dillenbach. This was followed by a paper on "Recent Additions to Our Materia Medica," by Dr. R. G. Eccles. This paper was ordered printed in the proceedings.

E. S. Dawson, Jr., chairman of the committee of nine appointed to consider the resolutions introduced by Clay W. Holmes at a previous session, reported and suggested a number of amendments. The report was exhaustively discussed, and many motions and amendments were offered. The following is a draft of the proposed bill to be submitted to the legislature:

Draft of Proposed Bill.

Sec. I. Every licensed pharmacist in the State of New York who desires to continue the practice of pharmacy shall, annually hereafter, during the time he shall continue in such practice, pay to the secretary of said board of pharmacy whose license he holds the sum of $2, and every licensed assistant pharmacist in like manner the sum of $1, within 30 days after the 1st day of October in each year, for which sum renewals of licenses shall be issued, and exposed with the original certificates. By virtue of the payment of the registration fee every licensed pharmacist or assistant pharmacist shall be eligible to membership in the New York State Pharmaceutical Association, and entitled to all its privileges and benefits without the payment of any further sum upon application to the secretary of said association.

Sec. II. The New York State Pharmaceutical Association shall, at the first meeting after the passage of this act, elect a competent pharmacist, of not less than ten years' experience, who shall be commissioned Registrar of Pharmacy for New York State, by the Governor of the State.

Sec. III. Said Registrar of Pharmacy shall hold his office for a term of five years. He shall devote his entire time to the service of the New York State Pharmaceutical Association, and the various boards of pharmacy in the State of New York. He shall perform all the duties of secretary of the New York State Pharmaceutical Association without further compensation. He shall be required personally to investigate all complaints made by any of the boards of pharmacy in the State.

Sec. IV. The Registrar shall publish annually between June 1 and Aug. 1, in connection with the proceedings of the State Association, a full report of State and national legislation affecting pharmacy, a full report of the workings of all boards of pharmacy in the State, together with a full and authentic list of the names and places of business of all licensed pharmacists and assistant pharmacists practicing pharmacy in the State the 1st of November of the previous year, and also a list of all unlicensed owners of stores. This published list shall be delivered to every licensed pharmacist and assistant pharmacist in the State.

Sec. V. The Registrar of Pharmacy shall be paid an annual salary of $1,500, and all expenses approved by a Board of Censors composed of the president of the New York State Pharmaceutical Association and the presidents of the boards of pharmacy in the State.

Nothing in this act shall interfere with the regular work of the various boards of pharmacy now existing, in the State of New York, which pertains to the examination of candidates for license.

Sec. VI. The laws of the county of Erie, the county of Kings and the county of New York are hereby amended so as to conform to this act in the matter of renewal of license, and the payment of all funds hereafter received for such renewals into the treasury of the State Association.

Sec. VII. The power of removal of the Registrar for just and sufficient cause shall be vested in the Board of Censors, and said board shall have power to fill the vacancy then created until his successor shall be elected at the next annual meeting of the New York State Pharmaceutical Association.

Sec. VIII. The mode of procedure in cases of violation of the law shall be the same as laid down in Chap. 661, of the laws of 1894.

Sec. IX. The treasurer of each board of pharmacy shall pay to the Treasurer of the State Association all funds received from renewals of licenses, and make a detailed report of to the New York State Pharmaceutical Association, and to the Governor of the State each year.

Sec. X. He shall be a duly commissioned officer of the State, with power to arrest any offender and bring him before the nearest court of justice for a hearing.

Sec. XI. Every pharmacy owned by a non-registered proprietor must have two registered pharmacists or one registered pharmacist and one registered assistant regularly employed.

It was finally decided that the association take no action upon the proposed amendments to the pharmacy law until the views of the four boards of pharmacy in the State were ascertained.

Election of Officers.

In a very nice little speech Dr. Eccles nominated Geo. J. Seabury, of New York, for president of the association, and "Seabury it was." Dr. Ray, of Brooklyn, in seconding the nomination, said that "Mr. Seabury was a politician; he knew how to pull the wires, and therefore he was the man." Mr. Seabury was elected. The other officers elected were: L. A. Baker, Cambridge; Donald L. Cameron, Brooklyn, and E. S. Smith, Port Henry, vice-presidents; Clay W. Holmes, Elmira, secretary, and W. B. Fuller, Syracuse, treasurer; executive committee, W. L. DuBois, Catskill; P. W. Ray, Brooklyn, and Thomas Stoddard, Buffalo. Delegates to the A. Ph. A.: Caswell A. Mayo, New York; Clay W. Holmes, Elmira; S. H. Carragan, Brooklyn; C. H. Butler, Oswego, and D. L. Cameron, Brooklyn. The association then adjourned to Thursday evening.

Thursday—Fifth Session.

The association convened at 8 o'clock in the evening, after the members had returned from the excursion to Lake George. The Committee on Place of Meeting made its report, and stated that while Buffalo seemed to be the choice of the majority, the members of the committee thought it would be a good thing to leave the time and place of next meeting to the Executive Committee, to be announced at least three months in advance. It was so ordered. The installation of officers came next, each officer responding as he was inducted into office. Mr. Seabury said, on taking the president's chair, that he thought the association had reached a critical period in its history. It was at low ebb, but he would attempt to create a new state of affairs. He would work to the best of his ability, and he asked the cordial support of the new officers and all of the members. E. S. Dawson, Jr., secretary of the State Board of Pharmacy, read the report of that organization for the past year. The board had granted 351 licenses during the year just closed, certificates being granted to 302 registered pharmacists by examination, and to 15 registered assistants. Thirty-four persons were granted licenses by virtue of certificates held from other boards of pharmacy in the State. Four hundred and eight candidates were examined. The board had a balance on hand of $1,009.09. Mr. Dawson then explained the method of procedure by the board in cases of violation of the pharmacy law, collecting evidence, etc., and various members discussed the methods and fees of the various boards of pharmacy in the State. A resolution was passed that the association call the attention of the various boards of pharmacy to the advisability of considering a uniform examination fee of $10 for registered pharmacists. It was finally decided that a conference of the boards of pharmacy would settle the question, and the subject was dropped. A telegram of greetings was read from the secretary of the Maine Pharmaceutical Association, in session at Moosehead Lake. A vote of thanks to the retiring officers, the local secretary and Entertainment Committee was the last official act of the association, and the seventeenth annual meeting passed into history.

Entertainment.

The entertainment features of the meeting were in charge of Local Secretary Fred. Menges and a committee consisting of Messrs. Carragan, Quinn and Colcord. Tuesday evening a musicale and readings were given in the main parlor of the United States Hotel. Wednesday morning the visitors accompanied by the ladies took a drive in carriages, visiting the various points of interest in and about Saratoga. Woodlawn Park, the Wilcox-Harvey natural carbonic acid gas well, and the Geysers, Vichy, Kissingen and Carlsbad Springs were among the places thus honored. An informal hop at the United States Hotel in the evening wound up the exercises of the day. Thursday, the druggists left Saratoga at 8 o'clock in the morning by the picturesque Delaware and Hudson route for a steamboat ride on Lake George. An ascent of Prospect Mountain by the inclined railroad was made, dinner being served later at the Lake House, Lage George, the guests returning to Saratoga about 6 o'clock.

——Miss Eberbach, bookkeeper for the Eberbach Drug & Chemical Co., of Ann Arbor, died very suddenly last week.

——S. T. Lyman, pharmacist at Pelhamville, N. Y., was married on Wednesday, June 26, at Carrollton, O., to Miss D. Birch.

——At Springfield, Mo., P. A. Day has sold his drug stock to J. C. Squibb Drug Co., and A. M. Mahle has sold to Elston & McClelland. Hinton Bros. is a new firm.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parenthesis the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.

Arkansas (W. W. Kerr, Russellville)—Pine Bluff, July 12.

California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, July 10.

Colorado (C. H. Wells, Pueblo)—Denver, Sept. 7.

Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Sept. 3.

Delaware (C. D. Sypherd, Dover)—At any time.

D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, July 8.

Florida (Thomas Clarke, Jacksonville)—.

Georgia (H R. Slack, La Grange)—Atlanta, Nov. 4.

Illinois (Frank Fleury, Springfield)—Springfield, July 23.

Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Aug. 6.

Kansas (H. W. Mehl, Leavenworth)—Wichita, Sept. 11.

Kentucky (Wiley Rogers, Louisville)—Louisville, July 11.

Louisiana (W. T. Taylor, New Orleans)—.

Maine (F. R. Partridge, Augusta)—Portland, Aug. 14.

Maryland (J. F. Hancock, Baltimore)—Baltimore, July 9.

Massachusetts Freeman H. Butler, Lowell)—Boston, Oct. 1.

Michigan (F. W. R. Perry, Detroit)—.

Minnesota (H. G. Webster, Minneapolis)—Minneapolis, July 16.

Mississippi (J. C. Means, Natchez)—Jackson, Oct. 1.

Missouri (F. W. Sennewald, St. Louis)—Sedalia, July 8.

Montana (G. W. Shoemaker, Billings)—.

Nebraska (M. E. Shultz, Beatrice—Lincoln, Aug. 14.

New Hampshire (George F. Underhill, Concord)—Manchester, July 24.

New Jersey (Albert S. Elwell, Bridgeton)—Trenton, July 18.

New Mexico (W. C. Porterfield, Silver City)—Albuquerque, Sept. —.

New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburgh, Rochester, Syracuse and Yonkers, June 21.

North Carolina (Wm. Simpson, Raleigh)—Morehead City, July 9 and 10.

North Dakota (W. S. Parker, Lispon)—Fargo, Aug. —.

Ohio (W. R. Ogier, Columbus)—Toledo, July 16.

Oklahoma (C. P. Wickmiller, Kingfisher)—

Oregon (Dan J. Fry, Salem)—Albany, Oct. —.

Pennsylvania (Charles T. George Harrisburg)—Williamsport, July —.

Rhode Island (Wm. E. Cates, Providence)—Providence, Oct. 7.

South Carolina (H. W. Hummel, Charleston)—Columbia, July 17 and 18.

South Dakota (I. A. Keith, Lake Preston)—Canton, June 26.

Tennessee (J. O. Burge, Nashville)—Mont Eagle, July 17.

Vermont (J. G. Bellrose, Burlington)—

Virginia (E. R. Beckwith, Petersburg)—Richmond, Oct. 15.

Washington (W. H. T. Barnes, Seattle)—.

West Virginia (H. Floyd Pfast, Jackson)—.

Wisconsin (E. B. Heimstreet, Janesville) Sheboygan, Aug. 16.

Erie County, N. Y. (C. O. Rano, Buffalo)—Buffalo, July 6.

Kings County, N. Y. (L. T. Perkins, 19 Greene ave., Brooklyn)—Brooklyn, Sept. 17.

New York City (Wm. Balser, M. D., 218 East 13th street)—College of Pharmacy building, Sept. 9.

—The Mass. Board of Registration in Pharmacy has just examined 45 applicants, and granted certificates to Fred. E. Lewis of Boston, David R. Dorn of Springfield, Frank A. Murphy of Lawrence, William M. Kennedy of Ware, John T. Loftus of Worcester, Willis J. Middleton of Waverly, Chester O. Padelford of Bridgewater.

—The bill revising the Illinois Pharmacy law has become a law, without the Governor's signature.

—A. R. Edmonds, of Saline Co., and August T. Fleishmann, of Pettis Co., Missouri, have been reappointed as members of the Board of Pharmacy of that State by Gov. Stone. The appointment is for three years.

—Only nineteen out of a total number of 105 applicants succeeded in securing licenses as registered pharmacists in the examination given by the Illinois State Board of Pharmacy at a session of that body in Chicago closing June 22, after five days' work. The board awarded licenses to the following young men: G. Voltz, Arlington Heights; Emil Ragnet, Aurora; C. W. Bailey, Hebron; T. O. Musser, Joliet; H. D. Oldham, Urbana; and A. Aisenstadt, W. T. Braun, D. Flavin, J. W. Germer, J. H. Greves, K. B. Hare, E. O. Haschenberger, A. Heiburg, J. C. Hermanek, H. Hollander, J. S. Mattas, D. T. Powers, J. H. Senn, and J. A. Stewart, all of Chicago.

—The Board of Pharmacy of the County of Kings (Brooklyn) met for examination of applicants on Tuesday, June 18, in Public School building No. 3 on Bedford ave. There were 37 applicants, of whom seven passed a satisfactory examination as pharmacists, and five as assistant pharmacists. The names of the applicants who passed as pharmacists are: Fred. H. Wuger, Harrison W. Eames, Rudolph Schuelte, Charles Schumann, Adolph Linser, Hugo Rosenthal, Elisha Shanroy, and as assistant pharmacists J. M. Kranz, Wm. Falkiner, Edward Parrish, S. Rosenfeld, Edward C. Bell. The next examination will be held on September 17. Applications for examination must be made in person to the secretary, L. T. Perkins, 19 Greene avenue, Brooklyn, N. Y., previous to the day of examination. From September next, examinations will be held each month.

—The Wisconsin Board of Pharmacy closed a three days' meeting on June 21. The following certificates were granted, the holders having passed examination in other States: Licentiate—J. A. Gutzin, West Superior, from Minnesota; R. T. Rowlands, Cambria, from Illinois; Leo Kulfuss, Milwaukee, from New Jersey; William C. Smith, West Superior, from Iowa. Assistant—F. A. Florine, Cuba, from Iowa. Of a class of fifty-two candidates for examination Licentiate or first grade certificates were granted to E. J. Hoppenyan, Ashland; John W. Walters, Oregon; Fred Medland, Stanley, A. H. Miles, West Salem; R. J. Dukelow, Chippewa Falls; H. J. Bartells, Marshfield. Assistant certificates were granted to Laura N. Jones, Madison; E. T. Freytag, Milwaukee; C. R. Baumann, Racine; W. D. Hall, Kenosha; C. H. Zinn, East Troy; Herman Setz, Lake Mills; J. F. Plelm, Chippewa Falls; C. J. Mutschmann, Watertown; T. L. Nash, Hudson; George Elsner, Milwaukee; O. W. Ihk, Ashland; A. J. Martens, Milwaukee; W. P. Beil, Ashland; C. J. Niehaus, Fennimore, H. A. Schumaker, Janesville; F. C. O. Murich, Jefferson. The next meeting of the board will be held Friday, Aug. 16, at Sheboygan. A. F. Menges, of Madison, presented his papers, being appointed as member of the board by Governor Upham to fill the place of John Rosen, of Menasha, time expired.

—There were fourteen applications for the examination at the meeting of the Washington State Board of Pharmacy, held at Tacoma, June 17 and 18, twelve of whom appeared for examination, two applicants being absent. The successful candidates were as follows: Registered Pharmacists—Frank J. Stone, of Colfax; William Berg and Fred C. Field, of Seattle. Registered Assistants—Harry Raleigh, of Tacoma; S. P. Rowell, Edward F. Hinckley, T. B. Lyon, all of Seattle; Joseph T. Alexander, of New Whatcom; Henry D. Clark, of Chehalis, registered respectively in Oregon and Nebraska by examination, and Jay E. Dunn, of Bloomington, Ill., graduate of the School of Pharmacy of Northwestern University, Chicago, were granted certificates as registered pharmacists in this State. There having been a number of complaints of violation of the pharmacy law since the last meeting of the board, a resolution was passed to the effect that the Secretary be instructed to enforce the requirements of the law in all case where evidence of its violation is sufficient to warrant prosecution. The following resolution was passed, after which the board adjourned, to meet in Seattle, Sept. 13 and 14:

"Whereas, A number of practicing pharmacists in this State have failed to remit their registration renewal fees to the Secretary of the State Board of Pharmacy, it is hereby

"Resolved, that 60 days' further time be granted such delinquents in which to comply with the requirements of the Pharmacy law.

"Those failing to send the required fee on or before Aug. 5, 1895, will therefore forfeit their right to legally practice pharmacy in the State of Washington."

—The Michigan State Board of Pharmacy held its summer meeting at the Star Island House, St. Clair Flats, on June 24 and 25. A full board was present, and a very large class presented themselves for examination—92 in all. Of these 66 took the examination for full registered certificates, and 42 were successful in getting them. For certificates entitling them to be assistants, 26 applied, and all but 4 made the required per cent. Of the 64 successful candidates two are young ladies, Miss Delia O'Conner, of Ann Arbor, and Miss Ida M. Courville, of Detroit. The following is a list of those who passed: Registered pharmacists—B. T. Baerr, Port Huron; D. H. Beeson, Three Oaks; Henry Bowerfind, Adrian; A. W. Brown, Big Rapids; C. H. Brown, Detroit; F. H. Camburn, Blissfield; A. F. Cragg, Dresden, Ont.; F. S. Dean, Niles; George Doehne, Jr., Ann Arbor; G. A. Doty, Detroit; C. S. Elliott, Detroit; E. J. Fletcher, Grand Rapids; F. Glass, Jr., Jackson; F. A. Francis, Yale; Robert Goodfellow, Clio; G. Goodwin, Escanaba; W. A. Hall, Sault Ste. Marie; C. DeJonge, Zeeland; E. L. Knopp, Saginaw; J. C. Knight, St. Joseph; D. L. Livingston, Detroit; H. A. Main, Tekonsha; F. M. Marsh, Lyons; G. W. Messenger, Spring Lake; N. G. McBean, Detroit; M. F. Nichols,

Ohio; Delia O'Connor, Ann Arbor; W. D. Patterson, Port Huron; J. Przybylowski, Detroit; L. A. Raider, Newaygo; E. G. Reese, Ohio; H. C. Reinhold, Detroit; E. E. Sherrard, Detroit; J. E. Simpson, Detroit; Samuel Swartwout, Marshall; C. F. Vaughan, Mancelona; Peter Venenia, Menominee; G. J. Wain, Detroit; E. M. Wallace, Detroit; G. H. M. Watson, Detroit; E. B. Williams, Ann Arbor; A. H. Young, Detroit.

Assistants—J. P. H. Bradshaw, Davison; J. A. Bicknell, Detroit; W. A. Crabb, Nashville; Ida M. Courville, Detroit; Henry Chavey, Detroit; W. B. Fortier, Detroit; A. J. Holman, Detroit; H. C. Kraus, Lansing; Henry Kuehn, Detroit; Milo Kaylor, Indiana; E. E. Lucas, Ann Arbor; J. J. Masse, Chatham, Ont.; E. I. Martin, Capac; A. E. Morrish, Sault Ste. Marie; K. McIntosh, Detroit; D. C. Nale, Detroit; C. J. F. Schroeder, Detroit; W. C. Schrouder, Grand Rapids; R. B. Taber, Benton Harbor; T. E. Taggert, Marlette; A. E. Wright, Detroit; S. R. Young, Carsonville. Retiring President F. W. R. Perry, of Detroit, reports the class as doing unusually creditable work. He attributes this in part to the working of the rule made by the Board something over a year ago, which requires that a person shall have three years' experience before receiving a full-registered certificate, and two years' for an assistant's certificate. No new rulings were made by the Board, and the reports of the secretary and the treasurer were accepted without comment. Secretary Parkill's very interesting statistics showed that the Board had prosecuted 37 persons for violating the pharmacy law, and had secured the conviction of 28 of these, who paid fines amounting to $505.13. The following officers were elected for the coming year: President, C. A. Bugbee, of Charlevoix; Secretary, F. W. R. Perry, of Detroit; Treasurer, George Gundrum, of Ionia. The next meeting of the Board will be held at Sault Ste. Marie during the first week in September.

——The following is an interview given to the Era correspondent by Mr. Albert E. Ebert, of Chicago, concerning the effect of the new pharmacy law recently enacted by the Illinois legislation: "The bill to regulate the practice of pharmacy in the State of Illinois, which was passed in the Legislature by a vote of two hundred yeas to only nine noes, and became a law July 1, has the following meritorious features, which will to a great extent benefit the commercial as well as the professional status of the drug business in Illinois. This law provides that no one but a registered pharmacist can open a drug store or conduct a pharmacy; that all drugs, medicines and poisons must be sold in a drug store or pharmacy conducted by a registered pharmacist; that the name of the registered pharmacist must be over the door of such place of business; that all drugs, medicines and poisons must bear the label of the registered pharmacist and his place of business. The law further prevents the wholesale druggist from retailing drugs, medicines and poisons, and gives to the registered pharmacist and his assistants permission to recommend his merchandise to the people, a privilege, which under the existing act for the regulation of the practice of medicine in Illinois, had been prohibited. The new law introduces a system by which the apprentice is recognized under the law, and his qualifications prior to becoming such are investigated by the board. This in itself is a step in the right direction for the advancement of professional pharmacy in this country. The law provides for the sale of proprietary and domestic remedies in those districts of the State where there are no registered drug stores by general stores, under proper regulation and a permit which shall specifically state just what is there allowed to be sold.

The annual renewal fee has been restored to $1.50, the sum of $1, which had been fixed as the minimum for renewal by a previous amendment to the pharmacy law being found insufficient. Retirement from the profession for over five years by any registered druggist deprives such person of renewal of registration without examination. One important feature, if not the most important feature for the proper execution of the law, is that a penalty ranging from five to one hundred and fifty dollars is attached to each and every section of the enactment. These penalty clauses are of vital importance for the enforcement of the law. One reason for the failure of the old law was the lack of specific penalty clauses.

While this may not be an ideal pharmacy law, it has the merit of being brief and free from questionable language and technicalities, so that it can be easily understood by those engaged in the business, and executed by those in authority.

The thanks of the trade and profession of Illinois are especially due for the devotion and work that was evinced and performed by Dr. T. M. Jamieson, Louis Lehman, ex-Senator Emil Thiele and George F. Wisshack, of the committee. Their efforts were aided by President Green, Secretary Fleury and Frederick M. Schmidt, of the Board of Pharmacy."

——A sort of matrimonial fever seems to have struck the St. Louis druggist, and the numerical strength of the afflicted is decidedly on the increase. An unusually large number of marriages among pharmacists has occurred within the last month, and a peculiar thing about the matter is that they have all selected brides from other cities. The latest additions to the list of Benedicts is H. F. Helwig, druggist at Twenty-second and Chouteau avenue, who has married a handsome and popular society lady of Alton, Ill., and Benjamin J. Otto, of Kaltwasser's pharmacy, at Salina and Pestalozzi streets. The latter went to Trenton, Ill., for his life partner, and was married on the 12th inst.

——The Morrisson & Plummer Co., Chicago, are the Western agents for a new device, the Woodbury sterilizer. This consists of a simple rack with sterilizer bottles.

COLLEGES
AND SCHOOLS OF PHARMACY.

——Nineteen young men took the degree of Ph. C. at Ann Arbor.

——In pursuance of a plan cherished for some time, and which aims at making instruction at the Maryland College of Pharmacy more thorough, the members of the institution at the last meeting on the 20th inst., elected D. Boss professor of microscopy and instructor in the chemical laboratory, Charles Schmidt instructor in pharmacy, and John P. Piquett instructor in materia medica and botany. These are additions to the faculty, intended to raise still higher the standard set by a better division of the work. John W. Geiger, who has been secretary of the college, asked to be relieved of his duties. His resignation was reluctantly accepted, as he declined to withdraw his resignation. He feels that he needs rest and may take a long vacation. E. B. Fischer, druggist at Fayette and Ann streets, was elected in his stead.

To Attract the Alumni.

PLANS FOR MAKING THE N. Y. C. P. ASSOCIATION MORE POPULAR WITH THE YOUNGER ELEMENT.

The outing of the Alumni Association of the New York College of Pharmacy proved to be the most enjoyable ever given by the organization. The day was perfect. At the dinner President Storer made a brief introductory address and was followed by A. Hy. Mason, ex-President Graeser, Julius Tannenbaum, Charles F. Keale, Miss Mahony, of the class of '95, and Mr. Rogers, of Johnson & Johnson. There were 33 new members elected at the business meeting, as follows: Theodore A. Merritt, Agnes B. Mahony, Henry W. Volkmar, J. J. Bailey, Otto Hensel, Edgar P. Weed, Henry S. Steinheuer, Charles E. Schwallie, Alonzo P. Green, Frederick W. Fletcher, A. D. Lurch, William F. Green, Jr., Francis P. Connelly, Christopher Niederer, Edward A. Sawyer, David S. Hilliard, C. S. Woodhull Davis, Albert Koehler, John Woell, Herman Schmelz, James B. Ryan, S. I. Vanderbeck, Jr., David M. Wells, A. J. Koerber, Harry B. Ferguson, Pedro de Soto, Luther Hummel, Frederick L. Flick, Gustavus Rohne, all of the class of '95; George H. Jorgenson, John M. Case, R. Ulrich, all of the class of '94, and Eugene F. Lohr, of the class of '93. It is the intention of the officers of the Alumni Association to make the organization more popular than it has been heretofore, and to that end the social side will be developed in order that the younger graduates may have an incentive to join and enjoy themselves. More meetings will be held beginning with the fall of '95, and various entertainments will be given in the college rooms. A ball during the winter is a possible feature. The usual series of lectures will also be given. In this way it is hoped that the association will attract many who have not heretofore cared to join, besides bringing to the meetings many present members who never attend.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ARIZONA.

Phoenix.—O. J. Thibodo, sold to E. Butt.

ARKANSAS.

Revenden Springs.—Gibson & Grubb, now E. L. Gibson.

CALIFORNIA.

Los Angeles.—California Chemical Co., sold to A. Wm. Imhof.

Oakland.—H. Bowman, retired from H. Bowman & Co.; business continued under style of Bowman & Co.

Henderson & Graham, attached.

CONNECTICUT.

Bridgeport.—H. D. Patchen, 171 E. Main, sold to A. G. Kaesmann.

New Haven.—Hogan Drug Co., 90 Meadow st., new store.

FLORIDA.

Bartow.—Bartow Drug Co., J. H. Watson, Pres., succeeded by G. S. Wade; firm name unchanged.

Key West.—Perry & Co., dissolved; F. R. Maloney continues.

GEORGIA.

Augusta.—Mrs. C. E. Hahn, sold out.

ILLINOIS.

Cookville.—W. H. Mahon & Bro., now E. E. Mahon.

Pekin.—H. M. Ehrlicher, now Ehrlicher Bros.

Roberts.—E. G. Reinhardt, now Reinhardt & Linn.

Tolnca.—Potter's drug store, sold to T. C. Colehower.

Waynesville.—Whitman & Graham, dissolved.

INDIANA.

Anderson.—Chas. Henderson, will open new store.

Claypool.—D. A. Caldwell, succeeds Claude Hallowell, deceased.

Cowan.—C. W. Ice, damaged $2,000 by fire; ins., $1,000.

Fortville.—A. C. Pilkenton, moved to Greenfield.

Fort Wayne.—A. J. Keller, Broadway, sold to L. Schmidt.

Geneva.—Schmuck & Bergman, burned out. Porter & Deitsch, burned out; partially insured.

Hammond.—A. B. Schacher, sold out.

Indianapolis.—Dryer-Bassett Co., incorp.; capital, $5,000.

Newberry.—D. Gantz, now D. Gantz & Bro.

Richmond.—Dr. I. C. Teague, sold to James Luyman.

Rosedale.—Blackburn Medical Co., assigned.

IOWA.

East Dubuque.—C. W. Lick, recently burned out; reopened.

Manchester.—E. J. Conger, now E. J. Conger & Son.

KANSAS.

Kansas City.—J. W. Giesburg, 436 Minnesota ave., removed to McGrew Building.

KENTUCKY.

Cynthiana.—H. Jett, sold to J. T. & C. L. Gayle.

Madisonville.—K. Earle, assigned.

MAINE.

Wiscasset.—S. Dana, sold to S. A. Stevens.

MASSACHUSETTS.

Haverhill.—Jas. E. Connor, has bought Locke st. pharmacy.

Salem.—J. Thomas Tudbury, deceased.

Springfield.—J. T. Egan, 188 Eastern ave., sold to D. F. Keefe.

Worcester.—E. V. Bouchard, moved to East Brookfield.

A. Hutchinson, discontinued.

C. H. Shea, closed by foreclosure.

MICHIGAN.

Alma.—B. Vandenbergh, sold to C. E. Mahan.

Cedar Springs.—F. A. W. Tripp, recently reported sold to A. J. Skinnel, has sold to Fallass & Skinner instead.

Grand Ledge.—A. W. Hixon, now Hixon & Ehley.

Lawton.—Gillies & Hamilton, now I. E. Hamilton.

Saginaw.—Parkinson & Parkinson, cor. Court and Mich. ave., new store.

MISSOURI.

Stanberry.—Harris & Sparlock, sold to Yeater Bros.

MONTANA.

Glendive.—Glendive Drug Co., new store.

NEBRASKA.

Clatonia.—L. C. Wheeler, moved to Peoria, Ill.

Lincoln.—H. T. Clarke Drug Co.'s loss by recent fire was much less than reported; they have resumed business.

Odell.—J. Duncan, damaged $5,000 by fire.

Wymore.—P. M. Hobbs, damaged by fire.

NEW JERSEY.

Newark.—D. W. Smith, Walnut st., damaged $2,000 by fire.

W. H. Warren, now W. H. Warren & Co.

NEW YORK.

Delhi.—F. Norton & Son have opened new store, cor. Main and Kingston sts.

Hornellsville.—J. W. Bachman, sold to Thompson & Hollands.

N. Y. City.—W. H. Schieffelin & Co., now Schieffelin & Co.

W. Pickhardt, of W. Pickhardt & Knttroff, deceased.

Rochester.—H. N. Thayer, sold out.

Rome.—J. G. Bissell & Co., dissolved; J. G. Bissell continues.

NORTH CAROLINA.

Louisburg.—Aycock & Co., damaged by fire.

OHIO.

Cleveland.—A. W. Bock, deceased.

Dayton.—W. C. Fonts & Co., new store.

George E. Giddinger, closed by sheriff.

Mansfield.—P. J. Laver, sold to C. C. Coblentz.

Portsmouth.—J. F. Davis Drug Co., incorp.; capital, $85,000.

OKLAHOMA.

Hennessy.—Sproul's drug store slightly damaged by fire.

OREGON.

Portland.—Blackman & Ford, sold to Phil. Blumauer.

Salem.—L. Steiner, now Steiner Drug Co.

Baskett & Van Slyppe, now G. L. Baskett.

PENNSYLVANIA.

Lansdale.—L. S. Bigoney, sold to E. J. Kuhns.

Media.—A. W. Smedley, deceased.

Scranton.—Dr. Thompson, East Market st., new store.

York.—A. L. Ziegler, 327 So. George, new store.

RHODE ISLAND

Auburn.—J. C. Conley, Jr., sold out.

Providence.—W. W. Hall, assigned.

TENNESSEE.

Bells.—W. H. Jelks, assigned.

Murfreesboro.—M. Nelson, deceased.

TEXAS.

Livingston.—W. K. McCordill, discontinued. Marsh & Marsh, sold to H. B. Davis.

McKinney.—H. Herndon, sold to Wallace & Everett.

Navasota.—S. B. Rucker & Co., now S. B. Rucker.

VERMONT.

Burlington.—Jas. Naylor, Rand Block, new store.

WASHINGTON.

Northport.—Roberts & Osier, sold out.

WISCONSIN.

Augusta.—J. R. Rundlett, sold to G. W. Paul.

Milwaukee.—A. C. Liefe Drug Co., incorp.; capital, $5,000.

ONTARIO.

Brockville.—J. A. Barr, sold to F. R. Curry.

St. Williams.—L. McKinnon, assigned.

Toronto.—S. Tapscott & Co., dissolved.

Tottenham.—W. H. Sanford, burned out.

PATENTS

TRADE MARKS, DESIGNS, ETC.

PATENTS.

Issued June 25, 1895.

541,489—Joseph F. von Mering, Halle-on-the-Saale, Germany.—Acidyl compound of para-oxyphenylurethan ethers.

541,529—David Genese, assignor of one-third to L. J. Cohen and S. Drey, Baltimore, Md.—Suppository-mould.

541,569—Isaac D. Pearson, Revere, assignor to Low Art Tile Co., Chelsea, Mass.—Sirup-can for dispensing-fountains.

541,573—Johannes Selwig, assignor to Selwig & Lange, Brunswick, Germany.—Nitrating apparatus.

541,597—Jas. D. Darling, assignor to Harrison Bros. & Co., Philadelphia, Pa.—Method of and apparatus for manufacturing sulfuric acid and by-products.

541,598—Jas. D. Darling, assignor to Harrison Bros. & Co., Philadelphia, Pa.—Utilizing niter-cake or other acid sulfates.

541,599—Michael J. Dempsey, assignor to J. Mackay, Sydney, New South Wales.—Process of and apparatus for extraction of tallow and meat extracts, etc.

541,639—Henry D. Smith, Newark, assignor by mesne assignments, to Riverside Rubber Co., Belleville, N. J.—Bulb for syringes.

541,777—Isaac D. Pearson, Revere, assignor to Low Art Tile Co., Chelsea, Mass.—Soda-water-dispensing apparatus.

TRADE-MARKS.

Registered June 25, 1895.

26,729.—Medicine to Cure Tobacco Habit and Chronic Constipation. The Sterling Remedy Co., Chicago, Ill. The figure of a victorious gladiator, with his right foot resting upon the breast of a prostrate opponent.

26,730.—Liquid Medicine for Indigestion and Liver and Kidney Troubles. Leon F. Freytag & Co., Detroit, Mich. The words "Vin Pernviana."

26,731.—Certain Named Remedies. Edward Alexander, El Paso, Tex. The words "Mata Dolor" and the representation of an eagle holding a snake.

26,732.—Chemical Compounds for Medicinal Purposes. Dr. F. von Heiden Nachfolger, Radebeul, Germany. The word "Creosotal."

26,733.—Arnica Liniment. Van Vleet Mansfield Drug Co., Memphis, Tenn. The word "Mansfield's" in connection with the pictorial representation of two men, one decrepit and hobbling on crutches, the other an old man dancing in glee.

26,734.—Essences of Peppermint, Wintergreen and Anise, and Flavoring Extracts. The Red Seal Remedy Co., Rockland, Me. The representation of a red seal.

26,735.—Chewing-gum. Faultless Chemical Co., Baltimore, Md. A figure having a blue background of rectangular shape and two circular spaces of equal size and of buff color arranged side by side on said background.

26,736.—Writing Inks and Fluids. Charles L. Lochman, Bethlehem, Pa. The representation of a locomotive engine.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

What Causes Headache.

Pleasantville, N. Y., June 26, 1895.

To the Editor:

You report in a recent issue of the Era, that Dr. Mobius uses salicylate of soda for headache. Allow me to say a few words on this question. Dr. G. M. Beard wrote a big book about headaches, and traced them to the ultimate vibration of nerve atoms. Now I do not care about these learned disquisitions. Practical experience with — — American nervousness has shown me that it is nothing more or less than the uric acid diathesis. Dr. Beard says that sick headache is one of the foremost symptoms of American nervousness, and that neuralgia of the face is a different thing. This is, however, not so.

"Their aches and groans
In thousand tones
Have all one source
And all one mode of healing."

When a man gets a sick headache he stops eating. The fasting has some good influence and the organs get a rest. Next day his urine is red and has a sediment. The disease has exploded itself, and he goes at it again. Sooner or later in life that man will get an attack of rheumatism or the gout, and being properly treated for it will be rid of his headaches for a while. But salicylate of soda continued for a long time destroys the red blood corpuscles. I treat headaches with the greatest success as follows. In fact, I never knew my method to fail: One tablespoonful ex-

tract of malt (with a few drops of dilute hydrochloric acid, to stop fermentation), after meals. This will digest the starchy food. Five to fifteen drops of fluid extract cascara sagrada, if constipation is present, just enough for one evacuation. Half to one teaspoonful of phosphate of soda three times a day. This can be continued indefinitely, without danger, and is more successful than salicylic acid. It is equally as good in acute rheumatism.

When phosphate of sodium is taken internally, there are formed in the urine, while it is descending through the lumen of the uriniferous tubules, by the chemical union of the uric acid with the salt and the decomposition of the two, an acid urate of sodium, and an acid phosphate, the di-hydrogen phosphate, and in this way does the patient get rid of his rheumatism, his headache, neuralgia, or other attacks dependent upon too much quantity of uric acid.

I see you always have inquiries for headache medicine, and perhaps there are a few hints in this that will help those who cannot help themselves, id est, cannot do their own thinking. Robert Bartholow says that phosphate of soda removes catarrhal conditions of the intestines, and relieves headaches in this way. According to him, such headaches are reflex pain (if not dependent upon lesion of the nerve), but phosphate of soda removes both the catarrhal condition as well as the headaches, for they are both symptoms of one and the same state of the internal economy. They are not causative, but results. Very truly,

C. C. CROLLY.

Shorter Hours and More Pay.

Chicago, Ill., June 28.

To the Editor:

I have read the articles on the above subject in the Era with much anxiety as to how it will turn out. That our hours are much too long, and our pay way out of proportion, none but the ill-informed will gainsay. However, who is to blame for all this and can it be remedied? In the remedy lies our fate, so a remedy we surely must have.

One of the principal causes undoubtedly is the soda fountain; this must be kept going as late as possible to satisfy the public. Can we take this marbleized long hour adjunct out of our stores? Hardly. Every man seeks to make as much money as he possibly can. That's what he's there for; it's human nature. The fountain is here to stay, like it or not like it, the same as bloomers. Cigars are another long hour adjunct, but these will probably share the same fate as the fountain. Other things might be mentioned, but these will suffice. Jealousy is another important factor entirely lost sight of through years of late hours, one always trying to outdo the other by a few minutes in closing nights. If all the druggists of a city would sign an agreement to the effect that beginning on a certain day they would close their respective stores, say at 9 o'clock P. M., and continue so, and when the day came, live up to it, one of the important questions before us would be solved. But if one backslides, the whole thing becomes a fizzle, and this would undoubtedly be the case, if attempted. I think the most satisfactory solution, and the one about which we would have the least grumbling, would be to have more hours off. Instead of the stingy little afternoon and evening once a week, make it a full day, and the same way every other Sunday. It is not too much, certainly not. I am glad to know that some Milwaukee druggists do this, and they are to be commended for their humane deeds. And an hour or two earlier off evenings twice a week, would also be a great help, this a good many druggists are now doing. Every store of course would have to be governed by its own peculiar hours, according to business, number of clerks, etc. A day's labor is generally conceded to be 8 hours, while a drug clerk seldom gets off with less than double this, and the proprietor, if around much, is in the same fix. Now this can only have one very serious effect, viz., premature old age and shortened life. Eight hours work, eight hours play and eight hours rest are nature's laws, and if we sip against Dame Nature we must suffer.

The more pay, part of a drug clerk's troubles are easier to deal with: When we compare a drug clerk's salary and time with the same in other fields of labor, manual and professional, we find that he receives less for his work than almost every other calling.

The average salary of a drug clerk, registered, is about $60, which is about $2 per day of 16 hours each, Sundays included. A common laborer with pick and shovel gets $1.25 to $1.50 per day of eight hours. A factory laborer, common, from $1.50 to $2.00 per day of 8 hours. An ordinary bookkeeper $75 a month (no work Sundays) being about $3 a day for 8 or 9 hours work. I might extend this list to every field of labor, and the result will be the same, and even worse. Then look at the responsibility the drug clerk carries on his shoulders: the least little miscue might land him in the penitentiary, and he must forever be on his guard to prevent fatalities. When any one can show me the laborer or professional man, with equal responsibility as a drug clerk, who does not receive double or more the drug clerk's wages, I want to know who it is, and what he is doing. Cut rate stores and extensive competition may have something to do with wages, but it does not lessen our responsibility one continental bit, nor does it shorten our hours. I say, let the clerks know they are living; nobody will suffer thereby. I have been both clerk and employer, and I believe that most druggists will agree with me. One word about night clerks, this important personage very seldom receives any reward for his valuable night work. As no one but himself suffers thereby, he ought to receive extra pay for it; that is, a reasonable amount of the sales that he makes. I remain, very respectfully,

OTTO E. BRUDER.

—The board of trustees of the Alabama Agricultural and Mechanical College have established a department of pharmacy and placed at its head Professor Emerson R. Miller, now an assistant in the School of Pharmacy in the University of Michigan.

What Druggists Must Know.

Battodano salv
5 c Powdered niter
alcaholl
organum
tincture of Mur
each 1 oz
Pleas give
Him for 20 ct
Vesalean Salve
Plain.
Bodel Dr Shoop
Coffmadens
Cubu buery
for
Cattar & sperme oil.
Synkanatu
Solpeter 2 oz
Copras 1 oz
Pursata Potash 1 oz.
Bate Oxid Iron 3
Sinidite Bacashem
Corran Amoid
Bicaria Bisoda
10 c wuth Analine
2 bunchis of sage
One smal grass serang
5 sents magnifie
Pirces liver Pallads
5 c Rid Persipety
yello rook
for soar mouth
Harp of Soda
Cus Maline salve
Column
Rushell Salt
Oil cox burris plastar
Tincher iron
¼ lb carosive
supliment
2 oz Lodnun
2 do asophety
3 do Puco
Aniakey
Cloriet of Subliment
Phanasten 5 gr.

C. W. Brimhall,
Schaller, Ia.

Catalogues, Price Lists, etc., Received.

W. N. Wilkerson & Co., Memphis, Tenn.
E. L. Ford & Son, Middlefield, O.
Harris & Co., Salem, O.
Lloyd Bros., Cincinnati, O.
West Disinfecting Co., New York.
Goodrich Hard Rubber Co., Akron, O.
Bosshardt & Wilson Co., Philadelphia.
Chapman & Rodgers, Philadelphia.
Henry C. Blair, Philadelphia.
A. G. Cassell, Vicksburg, Miss.
C. L. Flaccus Glass Co., Pittsburg, Pa.
Empire Pharmacy, Philadelphia.
Jno. F. Betz & Son, Philadelphia.
Myers Mfg. Co., Fremont, O.
W. F. Ware, Philadelphia.
F. W. Brown Co., Wyncote, Pa.
H. K. Wampole & Co., Philadelphia, Pa.
J. Parker Pray Co., New York.
Southwestern Soda Fountain Co., Waco, Tex.
W. B. Eddy & Co., Whitehall, N. Y.
Morrison Mfg. Co., Syracuse, N. Y.
F. W. Floyd & Co., Owensboro, Ky.
W. H. Pile & Sons, Philadelphia.
The Pharmacy Co., New York.
Dr. Bosanko Med. Co., Philadelphia.
Thomas Daniels, Toledo, O.
F. W. Leypoldt, Philadelphia.
Thurmond Chemical Co., Dallas, Tex.
Houston Drug Co., Houston, Tex.
Kohler, Huyssen & Stehn Mfg. Co., Sheboygan, Wis.
Campbell Cutlery Co., Syracuse, N. Y.

—Claude Hollowell, druggist at Claypool, Ind., died last month, aged 37, leaving a wife but no children. The store is closed.

—Druggist E. Wahl, Warsaw, Ind., was severely burned by the explosion of a turpentine can, which he was engaged in cleaning.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

Marshall's Fly Catcher (the sticky string) will catch flies where any other fly catcher can, and it is way ahead for use in stables. Lots of horse owners are using it and praising it. It costs $4 per gross and retails for 5 cents. Send 10 cents for three samples to H. Warrick, 252 Greenwich street, New York.

If dry goods stores are taking your trade in soaps and perfumes, it is a good idea to look into the matter of prices. David S. Brown & Co., Bank street and North River, New York, furnish soaps and perfumes in bulk, and their prices, as shown in their price list A, will be of interest to the retail druggist.

The first edition of Harrop's monograph on Flavoring Extracts is almost exhausted, and a new edition will be issued early in 1896. Harrop's new book, "Monograph on Fluid Extracts," is promised during the present month. It will be fully advertised through the drug journals, and orders and inquiries should be addressed to Harrop & Co., Columbus, Ohio.

Pan-Peptic Elixir is an elegant, palatable preparation of pure pepsin, pure pancreatin with acid, lacto-phosphate of calcium and celery. Children take it readily and its appetizing flavor makes it equally acceptable to delicate ladies. It is also put up in tablet form (Pan-Peptic Tablets), and the manufacturers, Sharp & Dohme, have got the medical profession deeply interested in this new tonic-digestive combination.

Are you making money selling patent medicines? F. F. Ingram & Co., Detroit, Mich., do not request a direct answer to this question, but if you will send for quotations and samples of their line of domestic non-patent remedies, such as blood purifiers, tonics, carminatives, pills, etc., they will understand that you are after goods which pay a profit to the man who sells them to the public.

The Oriental Tea Co. of Boston has been established nearly ninety years and every Bostonian knows of the delicious coffee soda which is served with shaved ice and pure cream at their counters. The Coffee Extract which they use is advertised to the trade in the Era, and their success with it indicates that it is a valuable addition to the list of soda fountain flavors. Write them for samples and prices.

Quinine, morphine, cocaine and acetanilid are four of the most important drugs in the pharmacy, and there should be no question about their purity. There will not be if the druggist specifies "N. Y. Q." upon his order. The morphine made by the New York Quinine & Chemical Works is put up in cubical form, so that the dispenser easily distinguishes it from the loose filiform crystals of their sulphate of quinine.

James A. Webb & Son, of 165 Pearl street, New York, quote prices on alcohol, f. o. b., Chicago and New York, and from these great distributing centers they say they can give some figures which will interest every druggist who buys alcohol in barrel lots. Get their price list.

Bronze pill boxes at less than 4 cents per dozen ought to satisfy any druggist, and the boxes, sizes 20, 24 and 28, furnished by E. N. Rowell & Co., Batavia, N. Y., at that price, leave nothing to be desired as far as appearance and careful workmanship are concerned. Send for samples.

The Department of Pharmacy of Scio College makes a special feature of laboratory work, and is thoroughly equipped with five separate laboratories. It provides a forty-two weeks' course for Graduate in Pharmacy, and a seventy-eight weeks' course for Pharmaceutical Chemist. Address J. H. Beal, Scio, Ohio, for catalogue.

On account of its astringent properties, blackberry wine is greatly in demand during the summer months, but its astringency should come from the natural constituents of the blackberry, not from other drugs. Weideman, Holmes & Co., of Cleveland, Ohio, have a stock, home-made from the fruit only, which they are offering to the drug trade in cases at $7 per dozen. They guarantee the quality and will refund money if goods are not as represented.

"True Fruit" fountain syrups and "Crushed Fruits" are among the most satisfactory and popular of soda fountain preparations; in fact, many dispensers consider them the very best. They are manufactured directly from the fruit by the J. Hungerford Smith Co. at Rochester, N. Y., which is in a fruit belt famous for the flavors and quality of its fruits. The process employed is their own invention and preserves the fresh flavor of the ripe fruit in a marked degree.

The Sweatine Chemical Co., in their estimate that 80 per cent. of the population needs Sweatine, have relied upon Chicago statistics. From a Chicago standpoint, this is no reflection upon that city, as the Chicagoan argues that upon that basis other localities will show a higher percentage. Then the size of feet must also be taken into consideration. However this may be, the druggist will find that there is a good demand for Sweatine all over the country, and this is the season for it.

For a new preparation "Mrs. J.'s Bug Exit," made by the New York Manufacturing Co., Schenectady, N. Y., is meeting with a remarkable demand. It is guaranteed and pays the retailer over 100 per cent. profit. The manufacturers make the following offer for 1895: With every order for three dozen, at $1.35 per dozen net, one dozen is sent free. As the goods retail for 25 cents per box, this gives the retailer an extra profit of $3 on each three dozen. The best recommendation for the goods is the number of duplicate orders received.

Corks are best judged by seeing them, and the Conestoga Cork Works, Lancaster, Pa., want to send you samples so you can pass judgment on the kind they make especially for druggists.

A side line which the department and dry goods stores cannot touch, and one which the physician will encourage, is the handling of trusses. But the trusses should be the best, and in order to have the best success, the druggist should know something about fitting trusses. This knowledge can be gained by sending for the new 130-page book just issued by I. B. Seely & Co., 25 South Eleventh street, Philadelphia, which is very explicit regarding the treatment of hernia, and tells why Seeley's Hard Rubber Trusses are the most satisfactory appliances for the druggist to handle.

Billings, Clapp & Co., of Boston, say that their Ideal Tablets are meeting with a phenomenal sale this season. They are overrun with orders, which are coming in with a rapidity far beyond their expectations, and they now predict with the hot weather of July an even larger call for these goods. They attribute their success largely to the superior quality of the Tablets—the old-fashioned spicy character of the Root Beer Tablets, and the delicate flavor of the Lemonade and Orange Phosphate. On another page is a list of a number of leading wholesalers all over the United States, who have these goods now in stock. A trial order for a few dozen may be an experiment, but it is one of the safest in the field.

Care in selection of material and skill in brewing are required to make a pure malt beverage of proper alcoholic percentage that the physician can recommend. The Koppitz-Melchers Brewing Co., of Detroit, Mich., have given special attention to making an article which will meet this demand, and their Pale Select Export Beer, with its excellent keeping qualities is a product which the druggist can keep in stock.

"Our New England business," says Mr. Henry Spavin, of the Low Art Tile Co., "is double what it was a year ago. Business looks brighter all around." And he refers to the following list of druggists, to whom sales of Low fountains have been made within a few days, as evidence of his good trade. A. W. Broberg, Tremont street, Boston; Archie Osborne, 3720 Washington street, Boston; A. J. Hayman, 380 Dudley street, Roxbury, and 1363 Beacon street, Brookline; F. C. Ingersole, Haverhill; H. E. Holmes, Brookline; Frank Emerson, Lawrence; G. A. Tasker, Lawrence; R. A. Knowlton, Revere; C. R. Smith, Newburyport; A. Schlehuber, Lynn; H. S. Emerson, Everett; E. N. Bigelow, Webster; W. H. Newbegin, Kezar Falls, Me.; A. F. Marsh, Oldtown, Me.; H. H. Little, South Gardiner, Me.; Wm. K. Potter, Providence, R. I.; C. M. Mitchell, Harrisville, R. I.; David E. David, Danbury, Conn.; George R. Steele, Thompsonville, Conn.; Howland Stark Co., Bridgeport, Conn.

The Holder.

Occasional inquiries have reached the O. & W. Thum Co. regarding the five Tanglefoot Holders advertised as being in every case of regular size of Tanglefoot. The holders are not packed in a separate package, but every alternate box contains one holder wrapped up ready to hand out. The purpose of this mode of packing is to give those who buy broken cases a chance of receiving a few holders, thereby distributing the holders to a greater number of dealers.

Adeps Lanae and Lanolin.

The Adeps Lanae Co. call attention to a recent report by Dr. P. G. Unna in "Monatshefte f. prak. Dermat." on experiments made by him with Adeps Lanae and Lanolin. He found Adeps Lanae to be at least equal to Lanolin, both as a vehicle for medicaments and as a cold cream, and the former has an important advantage in its power to take up concentrated fluid or volatile medicaments, such as caustic ammonia, etc. The property of the Cholesterin-ester of holding medicaments is so marked that water, glycerine or neutral fats are purposely mixed with Adeps Lanae to diminish its consistency and to give the remedies a chance to act.

"In this respect also the softer cholesterine fats of Adeps Lanae, with their lower melting points, are superior to those of Lanolin. They are comparatively as lard to suet. If Adeps Lanae had been the first pure cholesterin fat placed upon the market, we would never have dreamed of adding a certain quantity of water to it for pharmacal purposes, and then giving this softer mixture a special name (Lanolin). It was a clever move, however, in the case of the tough, unknown woolfat; and thus the watered cholesterin fat became a favorite preparation. Those who did not merely prescribe, but actually worked with it, soon had recourse to Lanolinum anhydricum itself. But Adeps Lanae needed no such bush; and it cannot be compared at all with hydrated Lanolin."

Basing his statement on Troplowitz's researches, Unna mentions the applicability of Adeps Lanae to the preparation of plaster mulls, and plasters in general. The employment of Balsams, etc., such as Turpentine, Copaiva, etc., can be avoided in the manufacture of plasters.

The author then gave some formulas for the preparation of medicated pencils, in which such agents as chrysarobin, salicylic acid, etc., were combined in varying proportions with from 50 to 60 per cent. Adeps Lanae and 20 to 30 per cent. wax.

Unna was at first disinclined to use Adeps Lanae for pastes, fearing that the cholesterin fats would not give a sufficiently soft covering when powders in large quantities had been added to them. But he found that the following formula gives a perfectly satisfactory sulphur-zinc paste: Zinc oxidi, sulphur precip., Terr. silicias, Adeps Lanae of each 50, Ol. raparium 100, Aquae 200.

Druggists' Fortunes.

Among the retail druggists of the country few have amassed a fortune of any considerable magnitude in the pursuit of that business alone. Those having acquired a comfortable one are very numerous. Some by means of specialties have become wealthy, and a few of these have created a world-wide reputation for their goods. Lowell, Mass., can probably boast of more examples of the latter than any city of its size in the world, having produced from the ranks of the druggists such well known men as Dr. J. C. Ayer, Ayer's Sarsaparilla and other goods; E. W. Hoyt, Hoyt's Cologne; C. I. Hood, Hood's Sarsaparilla; Dr. Thompson, Moxie, while I believe Dr. Hilton, Hilton's Specific, has never had a pharmaceutical training. When a single city of the size of Lowell can furnish such examples of world-wide conspicuousity, and in different articles pertaining to the druggists' craft, it shows something of the possibilities which any druggist may acquire locally in every branch of his business by the proper direction of his efforts. How these men have made their goods known throughout the world requires no explanation from me. As every one knows, they have brought their business into prominence by advertising. They have made these goods appear especially desirable in the eyes of the people. If you take the more numerous class, which, as a retail druggist you may easily enter, that class which has acquired and is acquiring moderate fortunes, you will find that each and every one of its members has, by one means or another, made himself conspicuous in the community in which his money has been made. The desirable, in fact the necessary requirement is to bring yourself into marked and favorable prominence in your neighborhood or city. There are, at present, as in the past, various ways of accomplishing this end. Advertising is open to all, but it requires rare good judgment and skill to do it economically and successfully. Your own personality may be another means of drawing or driving away trade, and is one of the means most difficult to arrange to order, while apparently the most simple, from the fact that we cannot "see ourselves as others see us," and further, that salesmen are born, not made, though education undoubtedly can and does go a long way toward furnishing a person with the tact and agreeableness necessary to create and hold trade. Certainly in any method that might be adopted disagreeable personality is a great barrier, although hundreds with this defect have been successful owing to their ability in other directions. In many instances I have known persons having this defect almost to surliness, as if aware of it and to make amends, who have fitted their store and made all their surroundings exceptionally pleasant and agreeable. In fact nature does not seem to have endowed any one of us with all the virtues. But speaking of salesmen, it takes one of much greater ability to overcome the natural prejudice against slovenliness or one badly dressed, just as it requires great talent to run a badly furnished, untidy store with any degree of success. I do not believe one druggist in fifty realizes how much trade he loses by just this lack of tidiness alone, nor what an insensible attraction its opposite is. I say I do not believe he realizes it since so many are careless on this point, and I do not think many are indifferent regarding their sources of income. The matter of income must always remain a forceful issue with the druggist, and no detail of interest should be allowed to escape his attention. There comes to my mind at the present moment a man who started in the drug business without the remotest degree of knowledge of that business, nor do I believe to-day he knows scarcely the barest rudiments of it. Yet he has nearly or quite the side of a large block devoted to it. In five years he has more than doubled the size of his store, and his sales run up into very large figures. How did he do it? Very much as I have already explained. First, by making himself prominent by a store elegant, expensive and unique; second, every detail was attended to with characteristic taste, care and neatness. Does it pay? The income of the business is worth from ten to fifteen thousand dollars per year, while the little drug store across the street, which was there years before he came, may pay an income of one thousand. It never took the trade he is taking. If he were to go away again it would make little difference. It lacks the caliber and style of the other. Yet there are thousand of druggists today who claim that a plain store with modest surroundings is best suited to success. Why do they possess this belief? That is hard to explain, except that in years past some of the old-time druggists with many natural advantages and an undoubtedly great perseverance and proclivity for business, have, in the course of years, become men of more than ordinarily large means. Those are exceptions, and I can prove that hundreds of my customers are reaping a harvest they have never thought possible. This open to you if you go rightly about it. I shall be glad to hear from you when you decide to try my method.

C. H. BANGS.

The Tyer Rubber Co., have been placing a cut of their No. 16 atomizer, similar to the one shown herewith, in a number of the monthly magazines, with a short description and an offer to send their atomizer circular to anyone writing to them, also instructing would-be purchasers to ask for the Tyrian and take no other. This method is productive of a good many inquiries and druggists will do well to carry a line of these atomizers in stock. If you are not familiar with them, write to the Tyer Rubber Co., Andover, Mass., for catalogue.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Cacao Butter, Cream Tartar, Tartaric Acid, Rochelle Salts, Seidlitz Mixture, Oil Neroli, Barium Nitrate, Strontium Nitrate, Celery Seed.
Declined: Beeswax.

New York, July 2, 1895.

On the principle that rest and recreation are as essential to business progress as to good health, employers and employés alike, have recently been devoting considerable attention to the vacation question, and this week, particularly, on account of the approaching holiday, active preparations have been made for a general exodus to the various out-of-town resorts, for longer or shorter periods. Business affairs, however, are not being neglected, and a sufficient force is on hand to attend to the orders received. As remarked in previous issues, the usual summer dullness is less pronounced this year than formerly, but nothing short of an epidemic or some other extraordinary cause would bring about an unusual press of business during the heated term. It must not be supposed, therefore, that the activity of a few weeks ago is still a characteristic feature of the market, for, while the falling off in demand is less marked than in previous years, it is at least clearly discernible. Although the total volume of trade has shrunk to comparatively small proportions, the inquiry for seasonable goods has continued without abatement, and the general situation is considered satisfactory. The autumn campaign is expected to open with renewed activity, and the steady undertone of the market is indicated by the firm views entertained by holders regarding values of nearly all leading descriptions of drugs and medicinal chemicals. The principal item of interest this week is the advance in cream tartar, tartaric acid, Rochelle salts and seidlitz mixture, all in sympathy with the higher cost of the primary crude material, argols.

OPIUM.—There has been a dearth of news from primary markets concerning the position of this article, and no changes of consequence have occurred here, dealers apparently showing a disposition to await advices from abroad. Aside from a speculative parcel of 20 cases, which was secured at a private price, a fair business has been transacted in single cases and broken lots at about ruling quotations, although in one or two instances a concession of 2½c. per lb was granted for prompt cash. The current crop is variously estimated at 8,000 to 10,000 cases, and even should the minimum quantity prove to be correct, it is evident that there will be no scarcity of opium for the next year or two.

POWDERED OPIUM is moving along slowly, and only in small jobbing parcels, with values nominally unchanged.

MORPHINE.—American manufacturers adhere to former quotations, which are based on $1.75@$1.85 for eighths, according to brand; a continued fair business is reported, but the deliveries are mainly on contract orders. Foreign is quoted 10c. per ounce under the domestic article, and one importer who was holding out for the prices asked for American, has reduced quotations to correspond with those of other foreign brands.

CODEINE is dull and barely steady, with buyers holding off in anticipation of a decline.

QUININE.—The demand has been less active this week, and some effort has been made to depress values, but only with indifferent success. One or two fair sized lots of old stock were secured by pill manufacturers at a slight shading of the regular quotation, but a large number of orders from the consuming trade were filled at the full ruling figure, while agents of foreign manufacturers report a good business in fresh goods at the combination rate. There is nothing new in the situation abroad, and no intimation is made of any proposed action on the part of manufacturers.

ALCOHOL continues unsettled and irregular, with the open quotations more or less nominal.

BALSAMS.—There is no quotable change in values of any variety. Copaiba continues active in a jobbing way, and tolu is strong, but quiet, at the recent advance; Peru is also quiet, while Canada fir remains dull and easy. New crop of the latter to arrive is offering freely, but attracts very little attention from buyers.

CACAO BUTTER is firmer in sympathy with London and Amsterdam, prices have advanced, owing to the small offerings at the July sales. Values here are ½c. per lb. higher.

COCAINE.—Former quotations are yet current, but there seems to be an undercurrent of firmness developing, based on a rumor that pending negotiations were likely to result in an amicable arrangement between manufacturers.

CAMPHOR.—The activity in this article has subsided, but there is no perceptible diminution of strength. The stock in second hands seems to be exhausted, and orders have been filled by refiners direct. The position of crude continues to favor still higher prices, and there is the same indisposition on the part of manufacturers to make contracts for future delivery.

CHAMOMILE FLOWERS.—New crop German, Belgian and Hungarian are all now available on the spot, and considerable demand has been stimulated by the comparatively low prices, at which sellers are able to offer by reason of the large yield.

COD LIVER OIL.—The new crop oil has begun to arrive and is offering at about $3.50 per barrel above the price of prime old; business is very good for this season of the year, and consumers are said to be buying ahead in anticipation of higher prices.

CREAM TARTAR has been advanced by manufacturers ½c. per lb. owing to the higher cost of argols in primary markets.

TARTARIC ACID is 1½c. higher under the same influence, together with increasing scarcity and an active demand for consumption.

ROCHELLE SALTS.—Quotations are ½c. higher in sympathy with tartaric acid.

SEIDLITZ MIXTURE also shows an advance of ½c. per lb.

OIL CASSIA is in reduced supply and firmer, but quotations have not yet been changed.

OIL PEPPERMINT.—All varieties are said to be hardening, owing to reduced stocks, and holders are decidedly firm in their views.

OIL NEROLI.—The better grades have been advanced about $2.00 per lb.

NITRATE OF BARIUM is in active request, and holders of the limited spot stock have advanced prices fully 1c. per lb.

NITRATE OF STRONTIA is meeting with a brisk demand, and values are about 1½ @ 2c. higher, but business is restricted by light available stocks.

CELERY SEED is again firmer, and some holders have further advanced their prices ½c. per lb.

BEESWAX is easier, owing to lack of demand, particularly for export, and values have declined about 1c. per lb.

London Market Report.

London, June 22.

There are very few important changes to report in this week's letter. A steady week's business, free from speculative movements, has been done.

CAFFEINE can only be bought in very small parcels at 27s. per lb. Some of the manufacturers who, about two months back, contracted for August-September delivery at 19s., must be feeling very sick

CAMPHOR.—The syndicate is reported as taking a rest for a few weeks, and depreciated prices have resulted. Formosa and Japanese may now be had at 150s. to 152s. 6d. per cwt., c. i. f., June—August shipment.

CLOVES.—Easier. Zanzibar, 3¼d., Penang, 7½d., Ceylon, 6½d. Zanzibar, July—September, 3 1-32d.

COCAINE.—Very jumpy. After last week's sudden reduction, just as sudden a rise of 1s. took place, and the latest reliable quotation is 15s. Dissensions are rampant in the camp of the older manufacturers, who quote from 14s. 3d. up to 15s., the outsider, who has caused all the bother, asking the latter price.

GLYCERINE is well held. Double distilled may be bought for 50s. per cwt.

OPIUM.—Best druggists' at 9s. to 9s. 3d. is the only variety wanted. All other descriptions are easier.

PEPPERMINT OIL.—Hotchkiss is higher at 10s. per lb.

THYMOL.—Lower. 8s. per lb.

—H. B. Taylor, formerly with Druggist Robert Christy, Pittsburg, is now with Fred J. Kellenberger.

—J. G. Bissell & Co., 117 West Dominick street, Rome, N. Y., one of the oldest drug firms in Central New York, dissolved July 1. Mr. Owens retiring to enter other business. Mr. Bissell will continue, and will be assisted by W. H. Roberts, who has just returned from his studies at Philadelphia College of Pharmacy.

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NEW EDITION OF THE ERA DRUGGISTS' DIRECTORY.

In answer to many inquiries, we beg to advise the trade that we are now at work upon the revision of the names for a new edition of the Era Druggists-Directory, which will be issued in a few months, the exact date to be announced later.

Since the last edition of this Directory was issued (January, 1894) there have been an unusually large number of changes in proprietors of drug stores, many stores discontinued and many new ones opened. The names for this new edition will be compiled by a direct canvass of the entire trade, and no efforts or expense will be spared to make it the most reliable Directory of this trade as yet issued. The present classification of material will be continued, viz.:

Part 1. Wholesale Druggists only.
Part 2. Retail Druggists in United States and Canada.
Part 3. Manufacturers.

Part 2 of this Directory is used very largely by Manufacturers and Jobbers for sending out their announcements to the trade. We are particularly anxious to have the list complete and accurate in every particular, and especially desire to prevent any names of persons or firms from getting into the list who are not entitled to buy goods at retail druggists' prices. This refers particularly to physicians and dealers in other lines. We hope for the hearty co-operation of the drug trade, to enable us to make this part a reliable list of these retail drug dealers.

Manufacturers, Jobbers and others, who will require copies of this new edition, are requested to send in their orders promptly. The price will be as usual, $5.00 per copy, postage paid.

D. O. HAYNES & CO., Publishers.

Saloon Drug Stores.

When it is recognized that what is properly known as "news" in a newspaper sense is a record of extraordinary happenings, usually infractions of the laws or other misdeeds, it is not difficult to point out the source of that feeling which is responsible for many laws which impose a burden upon the drug trade. This applies particularly to liquor laws, more especially in those States where there is strong opposition to the traffic in any form. As it is only the misdeeds which are given prominence, people gain the impression by reading the newspapers that the rank and file of the drug trade are engaged in the illegitimate sale of alcoholic liquors, and a sentiment is thus created which strongly supports laws, which go so far as to hamper the druggist in the legitimate handling of such articles. Unfortunately in such matters the entire drug flock is judged by the black sheep. The indictment of a half dozen druggists for infraction of liquor laws will create more of an impression upon the public than years of correct deportment upon the part of half-a-dozen hundred.

Every State has laws, which tell the druggist just how such articles are to be sold. They should be sold in no other way. Where a violation of these laws occurs, the reputable druggist, if he is careful of public opinion, will not be slow in showing his respect for the law regardless of his sympathies in the matter. This course is absolutely necessary, if the trade desires to retain the wholesome regard of the public, and head off oppressive legislation. The saloon-druggist must be eliminated, and it will look much better if the trade as a whole takes a decided stand, and still more decided action in doing a part of the eliminating.

Of What Use are Associations?

Organize, form associations, has been the cry for years addressed to the retail drug trade when its members have complained of trade and professional evils they wished lightened or removed. The success achieved through organization in the correction of abuses has been of sufficient extent to prove the soundness and value of this advice. Organizations of pharmacists have secured pharmacy legislation, locally in numerous cases they have abated the cut-rate nuisance, and many instances might be cited to show that union of sentiment and effort has resulted in notable betterment of onerous conditions. It must be granted that organization is essential for the accomplishment of a definite and squarely presented object, past events prove it.

But, the emergency past, the result attained for which the association was created, what is its farther history, what is it doing and what may yet be expected of it?

A careful study of the history of the various State pharmaceutical associations suggests these inquiries, consequent upon some very interesting disclosures. The preamble to the constitution of one of these organizations succinctly presents its aims and purposes, thus:

Whereas, organization, concert of action, and comparison of ideas are necessary to the advancement of any cause, and believing that there is room for the elevation and extension of pharmaceutical knowledge among apothecaries and druggists throughout the state and that there exists a necessity for some supervision of the dispensing of drugs and medicine, both for our own use and the general welfare; and that such results can be best accomplished by a State pharmaceutical association, therefore, be it

Resolved.—etc.

All of these aims are laudable, but only one has been the prime impelling motive to organization, the "necessity for supervision of the dispensing of drugs and medicine." In almost every instance, if not all, these associations have been formed in response to a strong desire for a pharmacy law to keep out incompetent druggists. The other objects were but incidental, not sufficient alone to bring about organization. Pharmacy laws, which these associations have secured, are sufficient to justify their existence, and are enough reward to satisfy any one.

But, we repeat, having achieved their main purpose, what are these organizations now doing and what are the prospects for the future. By studying the proceedings of the several bodies, it is noticeable that enthusiasm was strong and maintained for two or three years after securing pharmacy legislation, the membership was large and constantly increasing, and dues were promptly and generally paid. Then, however, in the States where no other question of paramount importance and effect upon the druggist's pocketbook was brought forward, the members began to drop out, fell into arrears in the matter of dues, there were not enough new members gained to offset this loss, and to-day the older associations are steadily declining, till it has become a question whether there be any good reason for their continuance. Emergency created them, they are dying of inanition. There are a few on the upward grade, they are working for pharmacy or liquor legislation, but with the majority, the president of each in his annual address calls for some method of rejuvenation of the feeble body. Sad it is, but true, there is not enough interest among pharmacists in

the purely professional and scientific phases of their calling to keep alive a State association. There must be trade matters, and these of direct effect in dollars and cents, to keep the organization vigorous and progressive.

Notwithstanding these significant indications, however, we would be optimists. There is a use for these bodies other than to secure pharmacy laws. A question pressing for solution at this moment, and one which justifies the most strenuous efforts of all State and local associations, is the matter of uniformity of requirements by boards and uniformity of standard in the teaching institutions. Trade matters, such as free alcohol, patent medicine prices and the like, will always obtrude for discussion, but the greater matter noted should engage the purposeful and energetic attention of every one of us.

Thinking druggists are becoming more and more imbued with the belief that the salvation of pharmacy lies along the line of higher professional and educational acquirement, that if the druggist is to gain and hold the respect and confidence of the public which he demands as a professional man, he must show himself worthy, by rising above the level of a mere shopkeeper. He should by no means neglect the financial and business side, for pecuniary success rests here, but he must depend for his best and highest success on more than this. Associations can do a grand work in fostering and building up this sentiment, and in this lies their future field of usefulness.

Druggists' Tax in North Carolina.

The man who complains of taxation, unless he is a person of considerable importance, is usually accorded a scant hearing. The incident of taxation is an old one, as is also the kicking thereat, and the griefs of the man who thinks he is taxed too much excite about as much interest and sympathy as does the boil on the body of another person.

There are some exceptions, however, which call for sympathy, notably that furnished by the State of North Carolina, which seeks to compel the druggists of that commonwealth to contribute an undue share toward the maintenance of their rulers, and various other things which government is supposed to furnish for the good of the people. The plea of inability to pay taxes is one which is usually met with derision, for the possession of taxable property seems to imply the opposite. But in this case the matter hinges upon equality, and no man ought to admit that he is able to pay an unequal or otherwise unjust tax. A recent law of that state requires that

"Every person who shall buy for the purpose of selling spirituous, vinous or malt liquors, drugs and seeds shall in addition to the *ad valorem* tax on his stock pay as a license tax two per centum on the total amount of his purchase, in or out of the State, for cash or credit, whether such person shall purchase as principal or through an agent or commission merchant to be returned and collected as prescribed in the preceding section; and also all druggists dealing in spirituous, vinous or malt liquors, shall on or before the first day of June, 1895, and every year thereafter, obtain a license upon payment of $50 to the State Treasurer, and any druggist who allows liquors to be drunk within his place of business shall be subjected to all the taxes required by dealers in liquors, and any druggist violating this provision shall be deemed guilty of a misdemeanor: *Provided*, that this act shall not authorize any druggist to sell spirituous, vinous or malt liquors except upon the prescription of a practicing physician, as now allowed by law."

It will be seen that it costs two per cent. more to be a druggist or seedsman in North Carolina than it does to be anything else, and in the case of the druggist, who wishes to place himself in a position to furnish such alcoholic products as the physicians of the State direct, a $50 license is necessary. This latter must be procured before a portion of the business for which the two per cent. is paid can be carried on.

The motives which prompted such a piece of legislation are hard to imagine. It is easier to dismiss all idea of motive, and let blind chance or ignorance stand responsible for it. The law is known as a "Revenue Act," but we fail to see why the dealing in drugs and seeds creates a two per cent. obligation on the part of dealers toward the rest of their fellow citizens. The term license implies a permission to carry on a business under certain restrictions made by the State, such restrictions being intended to shape the conduct of a business more in the interest of the whole people than in the interest of the person conducting it. The license fee, as a matter of revenue, is supposed to reimburse the State for its labor in overseeing or its police supervision for the enforcement of such restrictions. Is the drug business in North Carolina one which requires such extraordinary care from the State? It may be true that the State's efforts in enforcing laws which require a certain degree of competence on the part of druggists, and certain precautions in the sale of poisons, are matters which cost the people something. But the benefit in such matters is not so entirely on the side of the druggist, that he should be taxed two per cent. on his purchases. The only relief for the druggists of North Carolina is in a fight for their rights. Perfect equity in levying taxes, or in their collection, is a rare feature in our governmental methods. Common sense and equitable taxation are widely separated. There is much virtue in kicking, as we know from our recent income tax experience, and we may acquire such wisdom as suits us from either four or five of the members of our Supreme Court.

Grocer-Druggists.

Pharmacy laws exempt from their restrictions the sale of patent medicines and certain classes of drugs and chemicals, allowing grocers and general dealers to handle them without restraint. Frequently, however, these general dealers go beyond their privileges, and deal in articles whose sale is rightly confined by law to properly qualified druggists only. Then it is the duty of the board of pharmacy to convict and punish these merchants, who in nearly every case sin through intention, not having even the excuse of ignorance. Unfortunately the board is very lax in the matter of prosecution, and it is rare to see a case brought to trial. Therefore, it is refreshing to read of the activity of the druggists of Houston, Texas, who have taken the matter into their own hands. They have for some time been collecting evidence that many retail grocers of that city are selling certain medicated bottled goods which belong properly and by law to the drug store. As the druggist pays a special tax to deal in these articles, he proposes to make a strong effort to keep their sale where it belongs, and money is being raised to push the thing through the courts. Let us hope their efforts will bring success.

Humor of Practical Jokes.

The "practical joker" is not only an egregious fool, but a dangerous menace to the community. If he be more dangerous in one place than in another, it is in the drug store. Fooling with drugs is not a very safe thing, for either the fool or the recipient of his considerate attention. A recent practical joke, which, like many other practical jokes, nearly resulted fatally to the victims, was perpetrated by a drug clerk in an Illinois village. This original individual invited a couple of young ladies to take some soda water, and very thoughtfully, impelled by his wonderful imagination and actuated by motives of highest humanity, employed instead of an ordinary flavoring syrup, some powerful drug, tartar emetic, it is thought. Physicians had a hard struggle to save the lives of the victims. Comment on the case is superfluous, but surely it would be excusable to make the punishment fit the crime. There are several which would fit well.

NEW ANTIPYRIN COMPOUNDS.—An important paper on some new antipyrin compounds has just been published in the Berichte (Br. & Col. Dr.) by Adolf Schuftan. Knorr had already shown that antipyrin combined with benzaldehyde to form a definite compound, and the author has now succeeded in preparing similar compounds with fatty aldehydes. He has described the formaldehyde and the acetaldehyde compounds, and also the salicylic aldehyde compound. The bodies are easy to prepare, as the components combine, under suitable conditions, with the elimination of water, in the proportions of two molecules of antipyrin to one of aldehyde.

NEW QUININE DERIVATIVES.—An important paper on the chemistry of several new derivatives has just been published by O. Hesse (Berichte, Br. & Col. Dr.). Crystallized quinine is digested in alcoholic solution with an equimolecular quantity of methyl iodide. After some time crystals of quinine methyl iodide separate out, and when pure correspond to the formula

$$C_{20}H_{24}N_2O_2.CH_3I, 2H_2O.$$

By digesting this iodide with water and the equivalent quantity of silver sulphate, a neutral sulphate separates out, which possesses the composition

$$C_{20}H_{24}N_2O_2.(CH_3)_2.SO_4 + 6H_2O.$$

as determined by estimation of the water and the sulphuric acid. By mixing the aqueous solution with the proper quantity of baryta water, and evaporating under a desiccator, the corresponding hydroxide is obtained, easily soluble in water and alcohol, but insoluble in ether. The aqueous solution is strongly basic, and corrodes the skin. Carbonic acid is easily absorbed, with the formation of the carbonate

$$(C_{20}H_{24}N_2O_2.CH_3)_2.CO_3 + 4H_2O.$$

The remainder of the paper deals with the action of halogen hydrides on the hydrobases and with apoquinine.

PRACTICAL HINTS.

——Leave tricks of trade to those whose education was never completed.

——Stick to your business, but devote part of your energies to getting more business to stick to.

——To preserve long friendship, keep a short credit; the way to get credit is to be punctual; the way to preserve credit is not to use it much.

——A genius may conceive an original idea, but it takes considerable executive ability and constant attention to details to make ideas productive. This means that the druggist who takes proper means to satisfy himself that the details of his business are right, is the one who, in the end, will get the trade.

——A nicely written or printed window or price card is a hundred per cent. more effective than a poor one. Many druggists, however, try to get along with the poor one. The remedy is easy—it all lies in practice and attention to the formation of the simpler styles of letters of the English alphabet.

——A hint from MacRae's Pharmacy, Raleigh, N. C., is an envelope, size No. 6, used for sending out small parcels. Space for the customer's name and address is provided at the end of the envelope as guide for a messenger or finder in case of loss of the package by the customer. The remaining space is used for advertising purposes, and in the sample sent us the attention of customers is called to the fact, that only distilled water is used in prescriptions, medical preparations and soda water at MacRae's pharmacy.

——The Winchester Drug Co., of Winchester, Ky., sent a hint in the shape of a prescription blank, which they have devised and copyrighted. The blank is of the ordinary shape, arranged for writing in duplicate, and has the following notice printed on its face: "To the Pharmacist; This prescription, although expected to remain in your possession, is the exclusive property of the prescribing physician, and all rights herein are expressly reserved by him. Do not give out a copy of it, nor refill it without his consent." On the reverse of the duplicate, to be retained by the physician, is a blank form to be used as a clinical record of the case, including such information as temperature, respiration, pulse, etc.

——Window dressing is just as important in the drug trade as in any other kind of business. Not only should the display of articles be as attractive as possible, attention being given to artistic arrangement and harmonious color combinations, but changes should be introduced very frequently. It takes brains to dress a drug store window attractively, and very often the trade does not exercise its gray matter sufficiently. Dry goods men, shoe men, and others have an advantage over druggists in that they are more constantly receiving new stock and that their stock changes with the seasons. To make a drug store window attractive, some one must work hard. Quite too often each clerk will want to shift the work to some other fellow's shoulders.

Light and Dark Pharmacies.

Frank T. Green writes in the Pacific Druggist: "How many retail stores one sees that are dark and gloomy looking, and what a contrast these are to the brilliantly lighted ones! The peculiar part is that the owners of these same dark stores pay just as heavy bills for light as the former. It is the color of the surroundings that makes the great difference. The world associates dark interiors, which lack richness, with gloom, and light surroundings with cheerfulness. What the writer aims to accent is this—that there are some colors which are difficult to illuminate. Foremost among these are those approaching black. A few years ago it was quite the fashion to have the fittings of stores ebonized and decorated with narrow tracings and lines of gold. A Japanese effect was aimed at, but the bull's-eye of gloom was struck. One of the most trying shades to properly illuminate is the one known as terra cotta. It is difficult, if not impossible, for the color seems to absorb every ray cast upon it. The shadows behind the cornices are heavy ones, and even the high lights emit but a feeble glow, reminding one of reflected fire-light. Such a color for a library, accompanied by rich draperies, might be admissible, but in a store it is a most trying one after nightfall. Creams, whites, light grays and pinks are always cheerful, and the shadows warm looking. Besides, with the Empire patterns now in vogue, the paler tints harmonize pleasantly. How many of us have noticed the glare of a white store at night. Every ray gets its full value, for it is reflected without absorption. Those especially who have dark fittings in natural wood need light floors, walls and ceilings to offset the effect. The colors should harmonize, however, and the contrasts should not be too severe. People do not like to enter a black place at night. There is enough mystery about the drug business for those wanting its wares and bent on errands for sick ones at home, without adding the factor of darkness to their gloom. In passing stores at night, if one takes the time to observe, the bright effects can often be ascribed to cleanliness and color, and not always to the number of electric light and gas burners, as would at first seem. If pharmacists would consider the importance of cheerful light and mellow shade when they repaper or tint their stores they would find not only a saving in gas bills, but they would reap the gain of an added trade."

ACHAIER.—A new medicinal wine has been recently introduced under this name. An analysis of it by Dr. Fresenius (Apoth. Zeit., Br. & Col. Dr.) gave the following results:

Specific gravity	1.0039
Alcohol	15.91%
Extractive	7.21
Ash..	0.29
Free acid (as tartaric).	0.48
Glycerin	0.86
Sugar..	4.24
P_2O_5.....	0.015
Optical activity	—1.6°

Advertising Spices.

Every druggist keeps spices, as most of them happen to be materia medica, and there is no reason why he should not sell them for any and every purpose for which they can be employed, and sell as much of them, or even more, than anybody else. We believe every druggist would like to build up a trade, or increase his present patronage in this class of goods, and it can be done if he will only make a "fuss" about it by advertising, and letting people know something about the true inwardness of the business. The public is pretty well imbued with the idea that such goods are adulterated, and it might be a good idea for the druggist to appear upon the scene with his microscope and some reliable products. If he is real earnest about it he can, with this

OUR WAY OF LOOKING AT THINGS!

A microscope furnishes the only means for determining the purity of many foods and drugs, and we use such an instrument and our knowledge of botany to test all our goods of this class.

This is the season when you want

SPICES such as

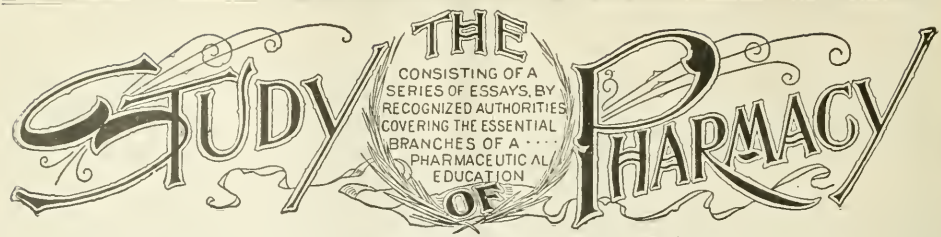
	PEPPER
CORIANDER	GINGER
CARDAMOM	MACE
CARAWAY	CLOVES
CUMIN	MUSTARD
DILL	ALLSPICE
and	NUTMEGS
CELERY SEEDS	TURMERIC

For canning purposes, curry powders, catsups, sauces, relishes, etc.

You want pure and reliable goods. We can't sell you anything else, as our microscope tells us that our goods are absolutely perfect.

KNIGHT & DAY, Druggists.

instrument, place himself and his business upon a higher plane than some of his competitors. He can show that he is the only man in his neighborhood who is really competent to determine the purity of spices, drugs and many kindred articles. If he has the respect of the community, both as regards character and professional ability, there is no reason why his trade should not increase in those articles, upon which professional judgment should be passed before they reach the consumer. Teachers, writers and journals have for years advocated an extended use of the microscope in the retail pharmacy. The profession is now pretty well agreed upon this point, and many druggists find daily use for their instruments. As the public is the supposed beneficiary of all this labor, isn't it about time to let the public know something about it? The sample advertisement presented herewith is a suggestion in that direction.



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[Continued from page 8, July 4.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XVIII. PHARMACY.

GENERAL PHARMACEUTICAL OPERATIONS.

Inorganic and Organic Pharmaceutical Chemistry,

(Pharmaceutical Assaying).

(Continued.)

By Virgil Coblentz, Ph. G., A. M., Phil. D.

Classification of Pharmaceutical Preparations.

The various classes of preparations employed in pharmacy may be classed according to their physical and pharmaceutical characteristics:

LIQUIDS.

I. SOLUTIONS.

AQUEOUS.
- Aquæ—(Injectiones Hypodermicæ).
- Liquores.
- Infusa.
- Decocta.
- Mucilagines.

ACETOUS.
- Aceta.

ALCOHOLIC, OR HYDROALCOHOLIC.
- Spiritus.
- Vina Medicata.
- Tincturæ.
- Tincturæ Herbarum Recentium.
- Succi.
- Extracta Fluida.

SACCHARINE.
- Syrupi.
- Mellita.
- Elixiria.

GLYCERIN.
- Glycerita.

OLEIC ACID.
- Oleata.

ETHEREAL.
- Oleoresinæ.
- Collodia.

II. MIXTURES.
- Linimenta.
- Misturæ.
- Emulsa (or Emulsiones).

SOLIDS.

I. FOR INTERNAL USE.
- Pulveres (P. Compositi).
- Triturationes.
- Oleosaccharа (or Elæosaccharа.
- Massæ.
- Confectiones.
- Trochisci.
- Pilulæ.
- Tablettæ.
- Extracta (also Abstracta.)
- Resinæ.

II. FOR EXTERNAL USE.
- Unguenta.
- Cerata.
- Emplastra.
- Chartæ.
- Suppositoria.

Aqueous Solutions.

Aquæ Medicatæ.

Aquæ Destillatæ; Medicated or Distilled Waters. Eaux Distillées, Hydrolats, Fr.; Destillirte Wässer, Germ.

Under the title of Aquæ is understood an aqueous solution in which distilled water is quantitatively the main constituent; the solutions being clear, free from undissolved solid matter, and, with few exceptions (Aqua Chlori, Picis, etc.), colorless.

As understood by the U. S. Pharmacopœia, Medicated Waters are simple solutions in which water has been impregnated with volatile substances. Foreign pharmacopœias recognize under this title aqueous solutions of certain non-volatile, as well as volatile substances.

Many of the aromatic waters are employed as vehicles for the administration of remedies, others are employed internally as medicines, while a third class is used in chemical operations and the arts.

According to their method of preparation, they may be divided into three classes; those made by

First—Direct Solution.
Second—Intermediate Solution.
Third—Distillation.

Direct Solution.—In those instances, where the substance is readily soluble in the given excess of cold water, solution is brought about by simple agitation, as in the official examples of Aqua Amygdalæ Amaræ, Aqua Chloroformi and Aqua Creosoti. We may prepare many of the medicated waters by simple solution through agitation of the volatile oil with hot water (at about 50° C.), in a flask, allowing to cool, and then siphoning off the clear solution, or removing the undissolved oil from the surface of the solution by means of a wad of absorbent cotton. To this class belong those medicated waters, or more properly chemical solutions, which are obtained by dissolving gases in cold water. The official examples are Aquæ Ammoniæ, Aqua Ammoniæ Fortior, Aqua Chlori and Aqua Hydrogenii Dioxidi. These solutions should be kept in glass-stoppered bottles in a cool and dark place.

Intermediate Solution.—This method of preparation consists in saturating the distilled water by bringing it in contact with the volatile substance brought to a very finely subdivided condition by means of some intermediate agent. There are various ways of accomplishing this. Among the poorest was the method of the U. S. P. of 1880, in which the volatile oil or alcoholic solution of the volatile substance was dropped on absorbent cotton; this was directed to be picked, so as to distribute the material as much as possible; then the cotton was inserted in the neck of a funnel, distilled water poured over it, and the filtrate returned to the funnel until it was saturated. The main objections to this process were that the cotton not only permitted oily particles to pass through into the finished preparation, but also that the water was not as thoroughly saturated as that obtained by other methods; since it is impossible to bring about as thorough a state of subdivision of the volatile body by means of cotton as by the method of trituration. This latter method consists in thoroughly triturating the volatile substance, or a solution of it, with some insoluble, inert powder; then adding distilled water sufficient to form a smooth paste, after which the balance of the water is slowly added under trituration. This milky or turbid solution is poured upon a plain wetted filter, and the solution returned until it passes through clear.

Various insoluble powders have been proposed, such as magnesium carbonate, kaolin, talcum, calcium phosphate, silica, powdered pumice stone, precipitated chalk, etc. The most satisfactory of these is the precipitated calcium phosphate, which, owing to its insolubility and freedom from soluble impurities, is adapted to all classes of these preparations.

Distillation.—This method, though applicable only to those waters whose aromatic properties are due to the presence of volatile oils, yields the finest quality of aromatic waters. In the preparation of these, a copper retort, tinned inside, is usually employed. The plant parts (leaves, seeds, crushed bark, etc.) are placed in a wire basket or cage, which is suspended in the upper part of the body of the still, so that only the steam arising from the boiling water may pass upward through the material and over into the condenser. The drug should not come in contact with the boiling water nor touch the heated sides of the retort. It is much better to generate the steam in a separate vessel, and to blow it through the drug contained in the retort.

Some prefer not to remove any volatile oil that may have separated in the distillate, but to transfer the entire liquid to a stock vessel and to set it aside after thorough agitation. The presence of the excess of oil tends to keep the water constantly saturated, and preserves it from fermenting. When the turbid water is to be dispensed, it should be passed through a wetted filter, which serves to retain the separated oil.

The U. S. P. recognizes two waters (concentrated) made by distillation, viz.: Aqua Aurantii Florum Fortior and Aqua Rosæ Fortior, which are known

in commerce as "triple," and are used in preparing the weaker Aqua Aurantii Florum and Aqua Rosæ, by dilution with one volume of distilled water.

It is not within the province of the pharmacist to prepare these concentrated (triple) fragrant waters; hence, they are usually imported from southern France or Italy, or other countries where the orange tree and rose are specially cultivated.

Preservation.—Medicated waters rapidly deteriorate, hence they should not be made in larger quantities than likely to be consumed before they spoil. Unless a layer of oil covers the surface of the water, they will soon deposit flocculent matter or become ropy and lose their odor entirely. This is caused by a microscopic vegetable growth, which renders the preparation unsightly and unfit to dispense. Preservative agents, such as alcohol, glycerin, boric acid, etc., have been proposed, but their use is not advisable. The presence of small amounts of alcohol gives rise to acetic fermentation; larger amounts, as well as the presence of any other agents, interfere seriously with the various uses of these waters.

Injectiones Hypodermicæ.—(Hypodermic Injections).

When remedies are to be used hypodermically, it is absolutely necessary that these solutions be neutral and sterilized. As antiseptic vehicles, for the administration of these remedies, various solutions have been proposed, such as solutions of camphor, thymol or corrosive sublimate, and chloroform water; however, when these solutions have been exposed to the air, they are not fit to be dispensed. When it is necessary to prepare such a solution, the test-tube in which it is prepared and the receiving vessel, should be first sterilized by rinsing them with boiling water, and then dried in an oven at a temperature of about 200° C. Only thoroughly boiled distilled water should be used as solvent. In Germany and Austria, these solutions are now often prepared and sealed in small, elongated glass pearls (sterilized at 200° C.) of 1 cc. capacity. Thus sealed, these solutions may be preserved indefinitely and can be readily carried about. The sterilized hypodermic tablets, in which exsiccated neutral sodium sulphate forms the inert diluent, have become very popular, because of their convenience in use, and the accuracy of their dosage. These tablets should always be dispensed in their tubes and never handled with the fingers. The hypodermic dose of a remedy is ½ or less than the dose by the mouth.

Liquores—(Liquors).—Solutiones—(Solutions).

Liquors are aqueous solutions of chemical substances. There are 24 of these official in the U. S. P., 1890.

Infusa.

Infusions (infundo, I pour in) are aqueous solutions of the soluble principles of drugs, obtained by maceration in hot or cold water. They differ from decoctions in that a lower degree of heat is employed. Infusions are usually prepared from drugs which contain volatile principles, such as chamomile, valerian, cascarilla, etc., since the process of decoction, requiring a higher degree or a longer application of heat, would not only destroy these principles, but also extract much inert starchy and extractive matter.

The drug should be in a coarsely comminuted condition for hot infusions; for cold infusions, where percolation is resorted to, the drug should be in coarse powder.

The general strength of infusions, unless otherwise specified (as should be done in the case of potent drugs), is 1 part of the drug, in coarsely comminuted condition, to 20 parts of the finished product. The 20 parts of boiling water are poured upon the drug, and the mixture allowed to macerate for half an hour. It is then strained, with little or no pressure, enough hot water being poured through the strainer to make the product up to the desired quantity.

In preparing infusions of aromatic drugs or of such as contain volatile principles, the operator should exercise some judgment and care, for in these cases prolonged contact with hot water may injure or destroy these principles, and too high a temperature may extract starch and inert matter.

Infusions are best prepared by suspending the drug contained in a porous container in the upper part of the infusion vessel, thereby securing its exhaustion by means of circulatory displacement. The water, on becoming saturated, sinks to the bottom, displacing a fresh portion, which rises so as to come into contact with the drug.

The process of percolation is employed in making infusions of those drugs, the active principles of which are readily taken up by cold water. Percolation can be successfully applied to infusions, since the proportion of water to drug is relatively very large; hence exhaustion is insured.

Infusions which contain volatile oils will keep much longer and better than those not containing them, or those in which albuminous and mucilaginous matters predominate. Preservative agents, such as alcohol, boric or salicylic salts, etc., should not be used unless specially ordered; it is often advisable to heat the infusion to the boiling point, and to transfer it, while hot, to small bottles, which should be entirely filled, corked and sealed.

Infusions should not be made from fluid extracts. An aqueous infusion of a drug will often have an entirely different therapeutic effect from an alcoholic or hydro-alcoholic preparation of the same, since the different menstrua will dissolve out different principles or different proportions of the principles. Thus, an aqueous infusion of digitalis is a powerful diuretic, while a preparation made by adding the corresponding amount of fluid extract or tincture of digitalis to water will be but feebly diuretic, but act powerfully upon the heart.

Moreover, the addition of concentrated alcoholic or fluid extracts to water is nearly always accompanied by precipitation, which renders the preparation so unsightly as to necessitate filtration, and this, if done, will often remove, practically, most of the activity, the result being a worthless preparation. Besides, the introduction of alcohol into the preparations which is caused thereby, is, in many cases, seriously objected to by the physician. It is a direct violation of the pharmacopœial instructions and of the intentions of the physician.

Infusions are incompatible with salts of the heavy metals, such as iron, mercury, silver, etc.

Decocta.

Decoctions (decoquo, I boil thoroughly) are aqueous solutions of the soluble matter of drugs, obtained by boiling with water. Decoctions are prepared from those drugs the active principles of which are not materially injured or dissipated by heat and are not readily extracted by cold or warm water. The general method for the preparation of decoctions when the strength is not specified (which should be done in the case of potent drugs) is as follows: The substance (1 part), in a coarsely comminuted condition, is placed in a suitable vessel provided with a well fitting cover, together with 20 parts of cold pure water. The vessel is then covered and the contents boiled for 15 minutes. When the temperature has fallen to about 40° C., the mixture is expressed and strained, and sufficient cold water passed through the strainer, to make the finished product measure 20 parts by volume. On standing, decoctions usually deposit a sediment, which should not be removed. What has been said about the preservation and incompatibles of infusions, may also be applied to decoctions. Decoctions should, for like reasons, not be prepared from fluid extracts.

Mucilagines.

Mucilages are aqueous, viscid and adhesive solutions. Under this term, the U. S. Pharmacopœia understands a solution of a plant gum, or substance of a mucilaginous nature. Mucilages are very prone to ferment, becoming sour and offensive; they should therefore be made in small quantities, and preserved in well closed jars in a cool place. These solutions may be prepared by suspending the substance, enclosed in a bag of cheese-cloth, in a vessel of hot or cold water. In some instances it is desirable to employ water impregnated with the soluble parts of tolu (tolu water) as solvent, the presence of the balsam tending to preserve the preparation from fermentation.

Acetous Solutions.

Aceta—(Vinegars.)

Medicated Vinegars are solutions of medicinal principles in diluted acetic acid (or vinegar). This class of preparations was formerly made by using vinegar as a solvent, but, owing to the presence in the latter of extractive matters, and its variable strength, they were prone to undergo decomposition upon standing. Hence to secure the permanency of the preparation, diluted acetic acid of definite strength has been substituted for vinegar. This has peculiar solvent powers, in that it takes up many organic principles (alkaloids, glucosides, etc.) which are not soluble in water alone. These vinegars, even when prepared with diluted acetic acid, are prone to deposit a

sediment and to undergo fermentation, for which reason some pharmacopœias direct the addition of a small amount of alcohol to the finished preparation. The U. S. Pharmacopœia has adopted the uniform drug strength of 10 per cent., employing the official diluted acetic acid, containing 6 per cent. by weight of absolute acid, as menstruum.

Alcoholic or Hydroalcoholic Solutions.

Spiritus—(Spirits).

Spirits are alcoholic solutions of volatile substances. According to the nature of the substance dissolved and the method of procedure, we may divide the 25 official spirits into three classes, viz., those prepared by

1. Solution in Alcohol. 2. Chemical Reaction and Solution. 3. Distillation.

The Spirits should be kept in well stoppered vials in a cool place.

1. Spirits Prepared by Solution in Alcohol.

These are made by dissolving or macerating the substance or substances directly in alcohol. In preparing the so-called essences, only the best quality of volatile oils should be employed; in three instances maceration is called for (Sp. Limonis, Menthæ piperitæ, and Menthæ viridis).

2. Spirits Prepared by Chemical Action and Solution.

There is but one spirit official which belongs to this class, viz., Spiritus Ætheris Nitrosi. By the reaction between nitrous acid (derived from sodium nitrite) and alcohol, ethyl nitrite is produced; and this is preserved by solution in alcohol. The solution should contain 4 per cent. of ethyl nitrite.

3. Spirits Prepared by Distillation.

Aside from the two (Spiritus Frumenti, Spiritus Vini Gallici) given under this class, some of those of Class 1 may be prepared by distillation, yielding a product of a more delicate flavor and odor than that produced by mere solution.

Vina Medicata—(Medicated Wines).

Medicated Wines are a class of preparations similar to tinctures, only differing as to menstruum, which is, according to the U. S. Pharmacopœia, either a dry, white wine (Vinum Album) or a mixture of white wine with alcohol. Since wines themselves readily undergo fermentation when exposed to the air, the medicated wines, which contain additional extractive matter, are still more prone to decomposition, undergoing acetic and mucous fermentation, becoming thereby ropy and sour. In all instances, in order to enhance the stability of the preparation, the Pharmacopœia has directed the addition of alcohol, either direct, or in the flavoring constituent. Though not as stable as the tinctures, the medicated wines present an advantage in being of a lesser alcoholic strength, hence possessing a lower stimulating effect, which, in the case of the tinctures, often interferes with the action of certain medicinal agents, such as sedatives, expectorants, etc. The greatest care should be exercised in selecting only the purest wine obtainable, and it should be subjected to the proper tests as specified in the Pharmacopœia. Medicated Wines, owing to their liability to change, should be made up in small quantities only, and kept in well-stoppered bottles, in a cool place.

Tincturæ—(Tinctures).

Tinkturen, Germ.; Teintures, Alcoolés, French; Alcoholados, Span.

Tinctures are alcoholic or partially alcoholic solutions of the useful constituents of drugs, which are usually not wholly soluble in the menstruum. (Tincture of Iodine, Tinct. of Ferric Chloride, and perhaps a few others are included in this class from long custom).

Menstruum.—The strength of the menstruum employed in different tinctures varies according to the nature of the drug. Before a suitable menstruum can be selected, the nature of the active constituents of the drug must be studied, and such a solvent selected as will take up those principles with as little inert matter as possible, and yet yield a permanent and elegant preparation. For this reason, various menstrua are directed by the Pharmacopœia, and unless for a satisfactory reason, a weaker or stronger menstruum than that directed, should not be employed. The most common menstruum employed is alcohol diluted to different degrees of strength. Such menstrua as aromatic spirit of ammonia and ethereal spirit (ether 7 p., alcohol 3 p.), are also employed, these being known as ammoniated tinctures and ethereal tinctures.

Strength.—The U. S. Pharmacopœia directs a certain quantity of the air-dried drug, expressed in grammes, to be employed to make 1,000 cubic centimeters of the finished tincture. The British Pharmacopœia directs, on an average, one part (by weight) of the drug to be represented by 8 parts by measure of the finished tincture. In the French, German and Austrian Pharmacopœias, one part of the drug (by weight) is represented by 5 or 10 parts (by weight) of the tincture. The strength of tinctures prepared from potent drugs varies considerably among different foreign Pharmacopœias. It is therefore well to bear this important point in mind in dispensing U. S. Pharmacopœia tinctures in foreign prescriptions.

Preparation.—For the preparation of tinctures only the best obtainable quality of a drug should be employed. The use of cheap and second-rate material is a culpable and reprehensible practice. The market affords an abundance of first-class drugs at a reasonable price for the quality. The various methods employed in the preparation of tinctures are:—first, Solution; second, Maceration; third, Digestion; fourth, Percolation.

First. Solution.—This is applicable in such instances as tinctures of iodine and tolu, where the material is wholly or practically soluble in alcohol.

Second. Maceration.—This process is preferred by the majority of foreign pharmacopœias. For this purpose large, strong bottles with a wide mouth are selected, the drug (in coarse powder or particles) and menstruum are introduced, and they are then well corked and set aside for a period of from 7 to 14 days. The temperature of the room should be about 20° C.; the bottles should be conveniently placed, so that they may be shaken once or twice daily. At the end of the period of maceration the fluid portion is drained off, the residue then transferred to the strainer, deprived of as much of the fluid as possible by hand pressure, then enclosed securely in the straining-cloth, and subjected to pressure in a tincture press. The tincture is allowed to settle and is then filtered. No attempt is made to bring the strained liquid to a definite volume by washing the dregs with menstruum.

Third. Digestion.—This is maceration between the temperatures of 30° and 40° C. It is employed in such cases where the drug is difficult of extraction, or where rapid exhaustion is desired. In this operation the drug and menstruum should be placed in a large glass flask, which is placed on a water- or sand-bath. The flask is closed with a perforated stopper, into which may be fitted an inverted condenser, or a long (4—5 ft.) plain glass tube (air cooler), for the purpose of condensing the volatilized solvent. The apparatus is allowed to become cold before the contents are drained off.

Fourth. Percolation.—As applied to the preparation of tinctures, although demanding care and close attention, is not fraught with the same difficulties as in the preparation of fluid extracts, since the volume of menstruum is largely in excess of that necessary to insure the exhaustion of the drug. This should not, however, lead to carelessness, for no matter how large the excess of menstruum may be, should the operator have packed the drug carelessly, and not have devoted proper attention to the operation, exhaustion cannot be expected. The U. S. Pharmacopœia directs a short period of maceration, previous to beginning percolation. This precaution should always be observed, and the time should rather be lengthened than shortened. The practice of preparing tinctures by diluting Fluid Extracts should be condemned, particularly so in the case of potent drugs.

Tincturæ Herbarum Recentium.

This class of preparations was introduced many years ago by Hahnemann, and is extensively used at present in homœopathic and eclectic practice. They were first prepared by the addition of the freshly-expressed juice to twice its weight of alcohol. The United States, as well as the French Pharmacopœia, adopted the process of Soubieran, which consisted in macerating the fresh, cut or bruised drug with alcohol in definite proportions. As a rule, these are very active preparations, for it is justly claimed that the process of drying, in order to prepare drugs for the process of grinding and powdering, injures or alters many sensitive active principles. On the other hand, uniformity in the strength of these preparations cannot be expected, for the freshly-collected drug contains a variable amount of moisture, according to the time of gathering and the length of subsequent exposure. The U. S. Pharmacopœia gives the following directions: "These tinctures, when not otherwise directed, are to be prepared by the following formula: Take of the fresh herb, bruised or crushed, 500 Gm.;

alcohol, 1000 Cc.; macerate the herb with the alcohol for fourteen days; then express the liquid and filter." Among the tinctures made by this process and in frequent use are those of Rhus Toxicodendron, Conium, Digitalis, Hyoscyamus, Pulsatilla, Gelsemium, Aconite, Belladonna, etc.

Succi—Juices.

These are a class of preparations official in the British Pharmacopœia, made by bruising and expressing fresh, succulent drugs. The juice is then mixed with a definite volume of alcohol (1 vol. alcohol to 3 vols. juice), the mixture set aside for seven days, and filtered. These preparations vary in strength for the same reasons given under Tinctures of Fresh Herbs, which latter were introduced in the U. S. Pharmacopœia in lieu of the "Succi." The British Pharmacopœia recognizes Succus Belladonnæ, Conii, Hyoscyami, Scoparii, and Taraxaci.

Extracta Fluida—(Fluid Extracts).

Fluid Extracts are concentrated fluid preparations of nearly uniform strength, representing the activity of the drug, volume for weight. When properly prepared they afford a permanent, active, concentrated liquid, representing the drug in definite proportions. As required by the U. S. Pharmacopœia, 1 cubic centimeter of the preparation represents the medicinal activity of 1 gram of the drug. Previous to 1880, the strength was represented by 1 troy-ounce of the drug to 1 fluidounce of the fluid extract. On comparison it will be seen that our present fluid extracts are about 5 per cent. weaker than those of the Pharmacopœia of 1870, thus:

100 troy-ounces of drug (3110.4 Gm.) yield 100 fluidounces (2956.4 Cc.) of fluid extract.—U. S. P., 1870.

100 grammes of drug yield 100 Cc. of fluid extract.—U. S. P., 1880 and 1890.

It will be seen that according to the U. S. Pharmacopœia of 1870, 3110.4 Gm. (100 troy ounces) of drug yielded 2956.4 Cc. (100 fluidounces) of fluid extract, instead of 3110.4 Cc., as the present Pharmacopœia requires; hence there is a difference of 154 Cc. in the proportion of volume to drug, which render our present fluid extracts about 5 per cent. weaker as compared with those based on troy weight and fluidounces, and which is certainly a point in their favor. The U. S. Pharmacopœia directs that all fluid extracts be prepared by the process of percolation, with authority to employ the method of repercolation, if this be found desirable.

Menstruum.—The U. S. Pharmacopœia directs the employment of certain menstrua, which are selected with the view of extracting all the activity of the drug, and at the same time of affording a stable preparation. The different menstrua employed consist of alcohol, various mixtures of alcohol and water, and either of these in conjunction with glycerin. In two instances (triticum and castanea) boiling water is employed to exhaust the drug, with subsequent addition of alcohol, or alcohol and glycerin, to insure the stability of the preparation. Acetic acid of a strength varying from about 60 per cent. to 20 per cent. or less, has been used as a menstruum for drugs containing ethereal oils, aromatic resins, alkaloids, etc. It is claimed to yield a very effective and palatable preparation; in experiments with nux vomica and belladonna this menstruum has proven its superiority to alcohol. Fluid Extracts are prepared by "simple" or "fractional" percolation. By "simple" percolation we understand that the entire drug is percolated at one operation; under this head we have the official process, that of vacuum percolation, and percolation combined with maceration and pressure. In "fractional" percolation the drug is divided into two or more portions, the reserved (first) percolate from each portion is set aside, while the subsequent (weaker) percolates are employed for macerating and percolating each subsequent portion. This process is known as that of repercolation.

Percolation (U. S. Pharmacopœia Process).

The U. S. Pharmacopœia of 1890 directs that all fluid extracts be prepared by the process of percolation. 1000 Gm. of the drug of the proper degree of fineness are moistened, packed, macerated and percolated until exhausted. From 700 to 900 Cc. of the first portion of the percolate are preserved, and the weaker portion is evaporated at a low temperature (50° C.), to the consistence of a soft extract, which is then dissolved in the reserved portion, to which enough menstruum is finally added to make the finished preparation measure 1000 Cc. The objections to the U. S. Pharmacopœial process of 1870 were that the weak percolate, when evaporated to an ascertained volume, sustained a loss of most or all of its alcohol, leaving a more or less aqueous residue, which, when added to the strongly alcoholic reserved portion, caused a precipitation of more or less resinous or other active matter. The operator should be careful not to employ too high a degree of temperature in evaporating the weak percolates, otherwise injury or destruction of organic principles is liable to occur.

Repercolation ("fractional" percolation) "consists in the successive application of the same percolating menstruum to fresh portions of the substance to be percolated." Its object is the preparation of a fluid extract without the use of heat. The operation may be briefly described thus: 32 parts of the drug in powder are divided into four equal portions of eight parts each, one of which is moistened, packed, macerated, then percolated until exhausted, this weaker percolate being received in several distinct portions. The first six parts of the percolate are reserved, and the remaining portions are used successively for moistening and percolating the second eight parts of the powder. Of the second percolate 8 parts are reserved, and the weaker percolate which is again received in several portions, used for the following third portion, as directed above. The third and fourth fractions of 8 parts each are then treated in the same manner, 8 parts of percolate being reserved from each fraction. Finally, the four reserved portions of 6+8+8+8 fluidounces are mixed to obtain 30 parts of fluid extract. The weak percolate remaining over from the last portion of the drug is set aside for a subsequent operation on a fresh lot of the same drug. The National Formulary gives the following directions:

Fractional Percolation.—Take of the drug, in powder of the prescribed fineness, sixteen (16) troy ounces, and divide this into three portions, of eight (8), five (5) and three (3) troy ounces, respectively. Moisten the first portion (8 troy ounces) with the menstruum and percolate in the usual manner. Set aside the first three (3) fluidounces of the percolate, and continue until twenty-four (24) fluidounces more of percolate have passed, which should be received in several portions, so that the more concentrated will be separate from the last, weak percolate. Then moisten the second portion of the drug (5 troy ounces) with the most concentrated of the percolates received during the preceding operation after the first 3 fluidounces had passed, and percolate again in the usual manner, using the several reserved percolates, successively, as menstrua. Set aside the first five (5) fluidounces, and continue the percolation until ten (10) fluidounces more have passed, which should also be received in several portions. Finally moisten the third portion of the drug (3 troy ounces) with the most concentrated of the last reserved percolates, and proceed as directed for the second portion. Collect the first eight (8) fluidounces separately, and mix them with the two portions previously set aside so as to make sixteen (16) fluidounces of Fluid Extract. This process yields a perfect fluid extract without the use of heat, thereby adapting it to the most sensitive drug. It recommends itself to the apothecary, in that it avoids the loss and expense caused by subsequent concentration; it nearly always insures a perfect preparation, because, though it be indifferently applied, the inaccuracies of one operation are likely to be made up and compensated in others, so that, when the results of the different percolations are mixed together, the general result will be practically uniform. The only disadvantage the process offers, is that it necessitates the keeping of a series of weak percolates which must be stored away, to be used for the same drug in a subsequent operation.

Percolation and Maceration with Expression.—These methods are employed principally by manufacturers on the large scale. The first method consists of a combination of percolation with expression. The second method is simply that of maceration and expression. For description see Handbook of Pharmacy.

Maceration and Percolation in Vacuo.—The principle underlying this process is this: that, by exhausting the air from the drug, the menstruum is rapidly brought into intimate contact with the cells of the drug, whereby the maceration and exhaustion are expedited.

No class of pharmaceutical preparations has met with so much favor as the fluid extracts. They certainly deserve their popularity, for (if properly prepared) they fully represent all of the active properties of the respective drugs, in a compact form. Aside from this,

they present another advantage over the tinctures, namely, that owing to their concentrated form, they contain a proportionally much smaller amount of alcohol, the presence of which is a serious objection in such preparations as tincture of conium or of digitalis, for the medicinal action of these drugs is considerably counteracted by the antidotal effects of the excess of the alcohol present.

Preservation.—Fluid Extracts should be kept from the direct rays of the sunlight, and in a room where there is but little variation of temperature. These precautions should be observed so as to avoid changes that may arise from possible precipitation, which, however, cannot be altogether avoided.

The quality, that is, strength of a fluid extract or of any liquid pharmaceutical preparation should never be judged by its color. The amount of solid residue left upon evaporation, or the specific gravity, gives also no reliable criterion; the only sure method of ascertaining the medicinal value of such a preparation is to test its activity physiologically, or where it is possible, to make an assay of its active constituents.

Syrupi—(Syrups—Sirops—Sirupi).

Syrups are dense saccharine solutions, generally medicated or flavored. A dense solution of sugar in water is called simple syrup. When this is impregnated with one or more medicinal substances, it is called a medicated syrup. Simple syrup is employed as a vehicle for the administration of medicinal substances. In order to render it more pleasant and better able to disguise the taste, syrup flavored with aromatic substances is also employed. The presence of sugar exerts a strong preservative influence upon aqueous extracts of plants, which, without this, would ferment quickly. The preservative action of concentrated solutions of sugar is such, that they do not afford nourishment for micro-organisms, since the sugar withdraws water from these, which is essential to their cell-growth. For this reason, the amount of sugar in the syrup must be adjusted with a view to its preservation. Should the syrup be too concentrated, upon standing, a portion of the sugar is liable to crystallize out, causing thereby a diminution in saccharine strength, giving rise to the same difficulty of fermentation that would take place were the syrup made too weak. For the preparation of simple syrup, the U. S. Pharmacopœia employs about 18.6 parts of sugar to 10 parts of water.* If the solution contains alcohol or much extractive, then a correspondingly smaller amount of sugar must be taken. Only the best refined white sugar should be employed, and this should conform to the U. S. Pharmacopœia requirements of purity.

Preparation.—The method of preparation depends largely upon the nature of the substances employed.

First—The sugar is dissolved in the medicated liquid by a moderate degree of heat (for instance, a water-bath).

Second—The sugar is dissolved in the fluid by a moderate degree of heat, and the solution then raised to the boiling point.

Third—The sugar is dissolved by agitation or by percolation with the cold, medicated solution.

Fourth—The sugar is added in the form of ready-prepared syrup to the concentrated medicated liquid.

The hot process (first and second) is employed in preparing syrups from solutions of drugs which are not injured by heat. The first method is adapted for preparing such syrups as those of orange or lemon, as the degree of heat is not sufficient to cause any injury to the preparation. The main objection to this process, however, is that it does not yield as clear and bright a syrup as process No. 2. In the preparation of syrups from drugs which are not injured by heat, the second process is preferable. In this the syrup is raised to the boiling point, whereby albuminous matters are coagulated, which are afterwards removed by straining. Syrups which require concentration should be boiled briskly, until they have become sufficiently dense; this may be ascertained by dipping a rod or spatula into the liquid, and noting the viscosity on cooling. The syrup, on cooling, should not form a pellicle or crust upon the surface, which would show that it has been concentrated too far. The object of rapid concentration is to avoid the browning of the syrup, which is caused by the prolonged application of heat.

The cold process is best adapted for the preparation of such syrups as those of garlic, almond, orange flowers, etc., as these depend on the presence of sensitive volatile principles for their activity. The sugar is dissolved either by simple agitation or by percolation as directed in the U. S. Pharmacopœia. Syrups prepared according to this method from aqueous extracts of drugs, are very liable to ferment, owing to the presence of albuminous and certain extractive matters. These can be removed only by boiling, which causes their coagulation and precipitation. With this end in view, the Pharmacopœia employs an alcoholic menstruum to exhaust the drug, thus avoiding the extraction of inert matter, while the active principles are retained in solution. In the concentration of these alcoholic solutions, care should be taken that the evaporation be carried on at as low a temperature as possible.

The method of preparing syrups by the addition of fluid extracts to simple syrup, is not under all circumstances advisable. Syrups made in this way usually deposit a sediment in time. The presence of a small amount of alcohol thus added is liable to bring about acetic fermentation of the syrup.

Clarification.—Before the sugar is added, the medicated fluid should be perfectly clear and transparent. Many syrups after being prepared contain particles of finely divided matter in suspension, which interfere with their transparency, hence it is necessary that they be clarified. This may be accomplished by adding paper pulp (prepared from white filter paper) to the syrup, and agitating, or better, by adding it and heating it with the syrup during the process of solution, then filtering through paper of loose texture. The white of eggs (albumen) is also employed for this purpose; it should be beaten with a little water to form a froth, then mixed with the syrup, and the mixture boiled for a short time. The albumen coagulates, forming a scum which rises to the surface, which must be removed by skimming. The syrup is then filtered through paper or flannel.

Preservation.—The fermentation (souring) of syrup is brought about by a variety of causes. One is the pouring of a syrup into an unclean or carelessly rinsed bottle. The presence of but a very small amount of old, partly soured syrup, or rinse-water, is sufficient to ruin the most carefully made preparation in a very short time. Syrups which contain too little sugar are very prone to ferment, since, according to reasons already given, weak saccharine liquids afford excellent media for the growth of various microscopic organisms. Prolonged boiling of syrups, particularly when they contain acids, causes a partial inversion of the cane sugar into invert, or grape sugar. This latter is deposited in the bottle as a white, granular mass, thereby weakening the syrup, which rapidly ferments, owing to the favoring influence of the grape sugar present. Again, pouring hot syrups into bottles and not entirely filling them, favors fermentation, since the ascending aqueous vapors condense above and flow back to the surface, thereby diluting the upper layer of syrup; fermentation once having started, it rapidly extends throughout the entire mass. Syrups when bottled for preservation, the bottles should be filled up to the neck with the hot syrup, securely corked and sealed.

The commencement of vinous, or of acetic fermentation is readily noticed by the fluidity and frothiness of the syrup, as well as by the odor; the fluidity is caused by the loss of sugar, which has decomposed into carbonic acid (causing the frothing), and alcohol or acetic acid, which are distinguished by their odor.

Mellita—(Honeys).

The official Honeys are a class of thick or semi-liquid, sweet, medicated preparations, differing from syrups in that honey is employed as the base instead of simple syrup. This class of preparations was formerly quite popular, but their number has been gradually lessened by the various pharmacopœias, until at present Mel Despumatum and Mel Rosæ constitute the only ones remaining. These two are employed simply as bases, or vehicles, for the administration of other remedies. Great caution should be observed in the selection of honey for pharmaceutical purposes; for, because of its peculiar viscidity, it is easily adulterated with glucose.

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* Bulk of syrup, resulting from the solution of sugar in water:

Sugar.	Water.	Bulk.	Sp. Gr
32 ozs Av.	24 fld. ozs.	45 fld. ozs.	1.273
32 "	20 "	41 "	1 298
32 "	16 "	37 "	1.330
28 "	14 "	30 "	1.317
28 "	16 "	34½ "	1.311
24 "	16 "	32 "	1.290
20 "	16 "	29 "	1 264
16 "	16 "	26½ "	1.231

Oxymellita.

These consist of simple or medicated honey mixed with acetic acid. Oxymel of the British Pharmacopœia consists of a mixture of clarified honey (40 oz.), acetic acid, and water (each 5 fl. oz.). Other pharmacopœias direct that the honey be mixed with dilute acetic acid and evaporated. The simplest process is that of the Ph. Ger. I. which consists in mixing 40 parts of clarified honey with 1 part of acetic acid (sp. gr. 1.040).

Elixiria—(Elixirs).

Elixirs are sweetened, aromatic, hydro-alcoholic, medicated preparations. This class of preparations is characterized by their pleasant aromatic taste and containing from 20 to 25 per cent. of alcohol. The objection to these preparations is that, owing to the small percentage of medicinal agent present, the dose is necessarily large, the alcohol present often seriously interfering with the medicinal action of the drug. The U. S. Pharmacopœia recognizes Elixir Aromaticum, which is employed simply as an aromatic flavoring agent, and Elixir Phosphori, each cubic centimeter of which represents 0.00025 Gm. of phosphorus, corresponding to about 1-65th of a grain in each teaspoonful.

Solutions (Glycerin as Solvent).

Glycerita—(Glycerites, Glycerins).

Glycerites are solutions of medicinal agents in glycerin. Glycerin, because of its valuable solvent properties and freedom from rancidity, forms an excellent vehicle for the external application of many organic and inorganic substances. Glycerin not only effectually protects sensitive compounds from oxidation and change, but also affords permanent elegant solutions which form emollient and soothing applications. Such concentrated solutions as those of carbolic, tannic, and gallic acids, etc., are very convenient, because they readily yield clear solutions on dilution with water. The U. S. Pharmacopœia recognizes 6 glycerites.

Solutions (Oleic Acid as Solvent).

Oleata—(Oleates).

Oleates are solutions of bases (metallic or alkaloidal) in oleic acid. These preparations as recognized by the Pharmacopœia are not definite chemical compounds; they are simply solutions obtained by triturating the medicating substances with a large excess of oleic acid. In the preparation of the oleates, wherever possible, the application of heat should be avoided, since, owing to the reducing properties of the oleic acid, the metallic oxides may be reduced to their metals, which precipitate from solution. As an example of this, the official oleate of mercury, even when prepared in the cold, will on standing deposit more or less metallic mercury. This decomposition will take place more rapidly if heat has been employed in its preparation.

In preparing the oleates of any of the metals, only the freshly precipitated, well-dried metallic oxide should be used, on account of the comparatively greater solubility of the freshly prepared oxide. When preparing the oleates of the alkaloids, it must be remembered that only the free alkaloids, and not their salts, are soluble in oleic acid. When the free alkaloid is not at hand, it can be readily prepared from any of its salts by dissolving the necessary quantity in water, by aid of a little dilute acid if necessary, then adding slowly, with constant stirring, diluted ammonia water, or another suitable alkali, until it is in slight excess. The precipitated alkaloid is then collected on a plain filter, washed with cold water to remove most of the ammonium or alkali salt present, and dried at 100° C., when it is ready for solution in the oleic acid. In preparing these oleates, only porcelain or glass utensils should be used, and either glass rods or horn spatulas should be used for stirring.

Dry Oleates.—These dry oleates, or more properly, oleopalmitates, are not official; they are definite chemical compounds obtained by interaction between solutions of sodium oleate and metallic salts.

Oleates are employed in dermal medication, their medicinal properties depending upon the base present, and their action being influenced by the readiness with which oleic acid is absorbed by the skin. The Pharmacopœia recognizes two oleates made from a metallic base, viz., Oleatum Hydrargyri and Zinci, and one made from an alkaloid, viz., Oleatum Veratrinæ.

Ethereal Solutions.

Oleoresinæ—(Oleoresins).

Oleoresins are ethereal extracts of an oleoresinous nature, obtained from vegetable drugs by percolation with ether. The drug selected for this class of preparations are those whose activity resides chiefly in their fixed oil and resin. These constituents are readily extracted from the drug by means of such solvents as ether, chloroform, acetone, benzin, etc. Among these the Pharmacopœia selects ether as the most suitable. Fluid extracts are also prepared from some of these drugs, but they do not represent the same medicinal properties, since alcohol extracts a different class of principles.

The Pharmacopœia directs that the drug be firmly packed in a suitable percolator for volatile liquids, and that this be provided with a glass stopcock. In the absence of such an apparatus, any small percolator may be used, and loss through volatization of menstruum be guarded against by closing the top of the percolator securely by means of a large jar-cork, through which air is admitted by means of a small tube. The perforated cork inserted in the outlet of the percolator should carry a long glass tube which extends into a securely covered receiving bottle, allowance being, of course, made for the escape of air. Rubber should not be used. Another form of percolator adapted to this purpose is shown in Fig. 70. The powdered drug is packed in the percolator, A, and the solvent poured over it. After sufficient maceration, the stopcock, C, is opened sufficiently to allow the proper rate of percolation. The connecting tube is to prevent any loss of volatile solvent, also for the purpose of equalizing the air pressure. It will be seen that the process of percolation demands the handling and use of comparatively large quantities of ether, which, with the subsequent distillation necessary, renders the process more or less dangerous as well as wasteful. These difficulties are readily overcome, when only small quantities of the drug are to be operated upon, by the use of the Soxhlet's Extraction Apparatus, which permits the complete extraction of the powdered drug with a very small amount of ether.*

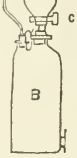

Fig. 70.

Commercial oleoresins vary considerably in quality; it therefore behooves the apothecary to prepare his own. The Pharmacopœia recognizes six oleoresins; specifying in the instance of oleoresin of male fern, that the granular-like deposit (filicic acid), to which the activity is mainly due, should be thoroughly mixed with the liquid portion before use. In oleoresin of cubeb a waxy and crystalline deposit (cubebin) also occurs on standing, but as this has no medicinal value, it should be discarded. The oleoresin should be administered in diluted form, either in emulsion or pill. Malefern is best administered in gelatin capsules.

Collodia. (Medicated Collodions.)

The medicated Collodions consist of collodion impregnated with medicinal substances. They are only employed externally. Collodion, the base of this class of preparations, is prepared by dissolving pyroxylin (soluble gun cotton) in a mixture of 3 parts of ether and 1 part of alcohol. The Pyroxylin is obtained by the action of nitric acid (with assistance of sulphuric acid) upon cotton (cellulose). When nitric acid is caused to react on cellulose ($C_6H_{10}O_5$), various substitution products are formed, according to the strength of the acids employed, being designated as mono-, di-, and tri-nitrocellulose, etc. Only one of these, the di-nitrocellulose, is completely soluble in the ether-alcohol mixture; this should not be confounded with the explosive hexa- (or tri-) nitrocellulose. When collodion is applied to a dry surface, the ether and alcohol rapidly evaporate and leave a transparent, adhesive, and contractile film behind. For this reason it forms a valuable application for keeping together the edges of small wounds, or for covering ulcers or abraded surfaces. When it is simply desired to protect the surface, a flexible (non-contracting) film is desirable; for this purpose the official Collodium Flexile should be used. Collodion is made the vehicle for the application of various remedies, such as iodine, cantharides, corrosive sublimate, etc. Because of the volatile nature of the ether, the collodions should be kept in well-stoppered vials in a cool place, and because of the extremely inflammable nature of both the pyroxylin and the ether-alcohol, it

* See Coblentz's Handbook of Pharmacy p. 291.

should not be dispensed or applied in proximity to a light or fire.

Linimenta.

Liniments, according to the Pharmacopœia, are solutions or mixtures of various medicinal substances with alcohol or oleaginous fluids, intended for external application. When dispensed, they should always be properly labeled as Liniments, or for "External Use." The U. S. Pharmacopœia recognizes 9 Liniments.

Mislurae—(Mixtures).

Mixtures, as here understood, are a class of aqueous preparations which contain solid, insoluble substances, in such a condition of subdivision, that, upon agitation, the particles remain for some time in a state of suspension. In three instances the Pharmacopœia directs the intervention of gum arabic or sugar for the purpose of assisting suspension. As exception to the above definition, due to the indiscriminate use of the term, we have two solutions included under this class, viz., Mistura Glycyrrhizæ Composita and Mistura Rhei et Sodæ. This class of preparations should not be kept on hand any great length of time, since they are prone to ferment. The U. S. Pharmacopœia recognizes 4 Mixtures.

(To be continued.)

DISPENSING GLYCEROPHOSPHATES.—The following formula is strongly recommended by Dr. Robin (Bull. Gén. de Thérap., Ph. Jr. & Trs.). Glycerophosphate of calcium, 6 grams; glycerophosphates of sodium, potassium and magnesium, of each, 2 grams; glycerophosphate of iron, 1 gram; tincture of Ignatia amara, 30 minims; pepsin, 3 grams; maltine, 1 gram; tincture of kola, 10 grams; syrup of cherry, up to 200 grams. A tablespoonful to be taken in the middle of luncheon or dinner. This syrup requires skillful preparation; it should be of a bright cherry red color, and free from deposit. For it may be substituted the following cachets: Glycerophosphate of lime, 30 centigrams; glycerophosphates of sodium, potassium and magnesium, each, 10 centigrams; glycerophosphate of iron, 5 centigrams; powdered Ignatia amara, 3 centigrams; pepsin, 15 centigrams; maltine, 5 centigrams, for one cachet, to be taken in the middle of luncheon or dinner. Sometimes these cachets are less readily tolerated than the syrup; they sometimes give rise to a feeling of heaviness or even pain, which has never been met with when the syrup is used. Glycerophosphate of iron is best given in pilular form, thus: Glycerophosphate of iron, from 5 to 10 centigrams; powdered rhubarb, 5 centigrams; extract of cinchona, 15 centigrams. One such pill to be taken at each meal time.

Sulphuric and nitric acids were known to Geber, the alchemist, in the eighth century.

Glycerine was discovered by Scheele in 1789. He considered it the soothing principle of every kind of oil.

AN ADVERTISING DRUGGIST.

By Chas. Weschcke, Springfield, Minn.

I am an ardent admirer of your advertising column and believe in the exchange of ideas regarding advertising. I write this article in the hope that some reader will criticise it; what I want is pointers on advertising, and to that end I shall present to you my way of advertising.

I advertise in the local paper, change my ads. every two weeks and always live up to what I advertise. Occupying the same space the year 'round, and that too at the head of the local page, necessitates quite an expense, but I can assure you that I never grumble when my publisher makes his monthly appearance at my office. My show windows change with the ads. I always show the goods I advertise. Here are some of my ads.:

SATURDAY, April 27, 1895.

We want every man, woman and child to taste of our delicious Soda; that's why we serve it free on that day, well knowing that we will please you.

Is the date of our 4th Annual

FREE SODA DAY.

We are prepared for the rush. Last year we gave away some 500 glasses of soda; will you help us to make it 1,000 this year?

We will treat you right at

C. WESCHCKE'S CORNER DRUG STORE.

Well, we had a rush that day, as you may well imagine, and few of the hundreds that came went out without buying at least some little thing; in fact, we had a splendid business outside of giving away soda.

The following ad. took well in connection with flyers, which had the following imprint:

For that Tired Feeling

Take BEEF, IRON and WINE, a most remarkable combination; it gives you new energy, purifies the blood and increases the appetite. We have opened a few bottles for your benefit; you can tell more about it by tasting it; let us have your opinion.

CALL AT

Weschcke's Corner Drug Store.

Have you tasted our Beef, Iron and Wine. Try it at C. Weschcke's Corner Drug Store.

They tasted and bought, and many even bought a second and third bottle.

For a tooth brush ad. I had this:

WHEELS

YES, Wheels of TOOTH BRUSHES in our windows comprising so many different styles that you cannot fail to get just what you want. We have decided to make the following cut, good for two weeks.

50 cent brushes at 40 cents,	35 cent brushes at 25 cents,
25 cent brushes at 20 cents,	20 cent brushes at 15 cents,
15 cent brushes at 10 cents,	10 cent brushes at 5 cents.

The largest assortment of Tooth Brushes in town at

C. WESCHCKE'S CORNER DRUG STORE

Our two plate windows being side by side, I had suspended in each a yellow-painted wheel covered with tooth brushes on one side, and red, white and blue tissue paper on the other. The latter presented a novel effect in the evening. These were some of the window signs: "At reduced prices," "Five cents buys one," "Not a luxury but a necessity," etc. Of course, we sold tooth brushes.

The following ad. may seem odd to some, but I meant just what I said:

An explanation is now in order, and here it is: In 1893 I sold dozens of packages of root beer at the regular 25 cent price (the 10 cent kind was not known here then), while in 1894 I sold but very little, and why? Because every grocer in town sold 10 cent root beer and lots of it. So this year I went to work and sold the regular 10 cent package at 6 cents, the exact cost of it when buying in gross lots; the result is that I sell more root beer than all the rest of the

THERE IS MONEY IN IT.

I advertise for your benefit; perhaps you don't understand! To be brief, it will pay you to read my advertisements I always occupy the same space and change my ads continually. If on reading MY **NEXT AD** you don't see the point, look at my show windows, where I prove it. Always busy, always changing, always pleasant at

C. WESCHCKE'S CORNER DRUG STORE.

dealers put together. I do not believe in cutting prices, but think that I was justified in doing so in this particular case. I did this cutting for no other purpose than to discourage the groceryman from keeping what rightfully belongs to the druggist. Fully half the people that came in to buy 6 cent root beer, bought something else, and I feel well satisfied that I made a move in the right direction.

A thorough interest taken in advertising will do more financial good to the average druggist in one year, than the perusal and study of all scientific articles that are published in the drug journals for three years. I do not mean by this that we should neglect the scientific part of our profession, for it is well understood that the successful druggist must keep abreast of the times in regard to all things pertaining to his business; but what I do mean is that nearly every druggist is more in need of practical business pointers than of theory and synthetical formulas.

5 GALLONS FOR 6 CENTS.

5 gallons for 6c

We are selling BRYANT'S ROOT BEER enough to make 5 gallons, for 6 cents a bottle. You once paid 25 cents for it, last year 10 cents, and this year we cut it down to 6 cents. Just think of it, there are 640 ounces in 5 gallons; now an average tumbler holds 8 oz., thus you get 80 glasses of Root Beer for 6 cents; can you afford to be without it? Our windows tell the story. We will treat you right at—

C. WESCHCKE'S CORNER DRUG STORE.

The Adulteration of Powdered Elm Bark.

By Henry B. Foote, Cincinnati, O.

The adulteration of powdered elm bark is at present a subject of some interest to those of us engaged in the drug business in Ohio, on account of the action of our Dairy and Food Commission, which has recently caused the arrest of a number of druggists for selling an article said to be impure.

In the early part of March I received a sample of powdered elm, with a note stating that the writer had been arrested for selling the powder, and requesting me to examine it. After making a careful chemical and microscopical examination, I reported that in my opinion the powder was a perfectly pure article, and was informed that I was the third chemist who had made the same report. A little later I received two other samples of the powder from two druggists, both of whom had been arrested, and in neither case could I find any foreign matter in the samples sent.

It seemed very singular that these three powders from widely different sources should all have been pronounced impure by the commissioner, and I was curious to find out what they had found in them. I was unsuccessful in getting any official information, but have been given to understand that the claim is made that the powders contained starch. While it was true that all the powders gave a slight starch reaction with iodine, the color produced was such a light blue as to preclude the presence of over ½ of one per cent. of starch, and my experience had always been that pure elm contained almost as much as that. However, I concluded to re-examine the literature on the subject, and found that in the article on slippery elm in the United States Dispensatory, edition of 1894, the following sentence had been added: "Pure slippery elm bark should have no starch in it." In this the book differs from the National Dispensatory, which says, in speaking of the bark, "Starch is present in small grains," and also from Messrs. Hanbury and Flückiger, who make the following statement in the Pharmacographia: "Crystals of calcium oxalate, as well as small starch grains, are very plentiful throughout the surrounding parenchyme, but not in the mucilage ducts."

Finding this discrepancy in the leading authorities on the subject, I made an attempt to determine whether the bark really contained starch or not.

I first took a five pound bundle of the bark, as it is found in commerce, and examined a large number of the slabs separately. A portion of each slab was powdered, or rather rasped, as I found that the easiest way to obtain a sample of the bark was to rasp it with a fine clean file. The filings were then tested in the following manner: 1 gm. of the powder was placed in a small flask and 100 cc. of water added. The mixture was boiled to gelatinize the starch, cooled, acidulated, and a portion tested with iodine test solution in the usual way. The various slabs showed a great difference in reaction with iodine. Some gave a distinct blue, others a purplish black, while some gave no reaction whatever. In order to ascertain how delicate the reaction was with iodine in the presence of the fibrous matter of the bark, I made up samples containing varying amounts of pure starch, and elm containing no starch, and found that 2-10 of one per cent. could be detected with ease.

I then tried to find out why some of the slabs seemed to contain starch, while in others it was entirely absent, and to this end collected a number of pieces of bark from trees in the vicinity of Cincinnati. In the bark collected from old trees I found no evidence of starch, while that from young trees contained it in every case. I have not examined a sufficient number of barks to be able to state positively that starch is always present in the bark of the young trees, but it can be safely asserted that elm bark often contains starch in sufficient quantities to give a deep blue color with iodine, and any test for adulteration depending on the iodine test alone is utterly unreliable. In barks containing starch, the cells nearest the wood seem to be the starch-bearing cells, although after the under layer of the cells had been removed, the bark still contained starch. The scrapings from the side of the bark nearest the true cortical layer gave no reaction with iodine, and from various experiments I concluded that the starch-bearing cells extend about half way through the bark. A piece of whole bark immersed in a weak solution of iodine did not at once change color, the mucilage probably protecting the starch granules, but after standing for some time, the whole inner surface of the heart turned dark-blue, while the outer surface did not change.

I made a number of attempts to estimate the amount of starch in pure elm bark, but have so far been unsuccessful in obtaining accurate results. On account of the large amount of mucilage and cellulose present, the diastase method seems to be the only one which can be applied, and the starch is present in such small quantities that all the results obtained were unsatisfactory. However, by using this method in conjunction with the microscopical method described by Mr. Henry Kraemer (Proceedings American Pharmaceutical Association, 1894, p. 159), and by carefully comparing the depth of blue color produced by adding a drop of iodine solution to equal quantities of the bark containing starch, and to that to which known quantities of pure starch had been added, I came to the conclusion that the bark rarely contains over one-half of one per cent., and usually about three-tenths of one per cent. of starch.

When starch has been added as an adulterant, the following method gives fair results in determining the amount present. About 1 gram of adulterated elm is taken, boiled with about 100 cc.

of water, cooled to 60° C., and 5 or 10 cc. of infusion of malt added, the temperature kept at 60° to 70° C. until all the starch is converted, basic acetate of lead added to precipitate the mucilage, the solution filtered, the residue carefully washed, and the filtrate, to which the washings have been added, made up to 250 cc. A portion of the filtrate is taken and the excess of lead removed by means of hydrogen sulfid, boiled with a little hydrochloric acid, and the starch calculated in the usual manner by means of Fehling's solution. The results are only approximate, but are better than those given by any other method that I have tried.

While flour seems to be the principal adulterant of the bark when in powdered form, and is in fact the only one that I have ever found, still an examination of the powder must include a search for both mineral substances and foreign organic matter. Foreign mineral matter can be easily found by igniting a portion of the powder in a crucible and testing the ash. The ash of elm bark consists almost entirely of calcium carbonate with a little potassium, magnesium and phosphoric acid. All foreign substances may be easily recognized by using the microscope, and the results obtained from microscopical examination are very satisfactory, it being in fact the only examination necessary when examining the powders for commercial purposes. All foreign matter, whether mineral or vegetable, can be seen at a glance, and a very good idea obtained of the amount of adulteration present. Pieces of the bark were imbedded in paraffin and longitudinal sections cut with a microtome. The sections show a series of yellowish bundles of liber fibre, between which run small bands of parenchyme loaded with crystals of calcium oxalate, and running through the bundles of liber fibre and the parenchyme, can be seen the large cells full of mucilage. The powder shows fragments of all these tissues, and must be examined in either alcohol or benzol, aqueous liquids causing great change in the tissues. I prefer to mount in balsam, using polarized light and a mica and selenite film, giving a dark blue background. On this ground the bast fibres stand out in bright yellow bundles, the crystals of calcium oxalate polarize brightly in the background, and all the structures can be clearly made out, the mucilage cells showing a combination of blue and red, and any foreign matter can be easily recognized.

The sections of the starch-bearing and non-starch-bearing barks show no difference in structure, the cells containing the starch being very hard to find, they are so imbedded in the tissue. The starch grains vary greatly in both shape and size, some of the granules being almost round, others are very angular, having five, almost equal sides, and all have a distinct hilum, very irregular in shape.

In order to ascertain how little starch could be found by the aid of the microscope, samples of powdered elm, containing 10 per cent., 1 per cent. and one-tenth of 1 per cent. of corn starch, were made up, and in slides made from the powder containing only one-tenth of 1 per cent., a few granules were found on every slide.

The amount of foreign matter present can be easily estimated by the method of Henry Kraemer, to which I have already alluded. The results are very satisfactory, and a very fair idea of the amount of adulteration can be had by using very little time. Added mineral matter can be easily distinguished from the crystals of calcium oxalate, and in my experience the best results were obtained from the microscopical examination. The bark contains no active principle by which it can be valued, nothing can be extracted from it to reduce its value, and the only question involved is, has anything been added to it? and this question the microscope answers at once.

Medicated Soaps, Disinfectants and Antiseptics.*

The manufacturing of medicated soaps will soon enter a new era. Like other branches of the applied chemistry of fats and oils, the manufacture of both laundry and toilet soaps has been influenced in a high degree by the immense development of organic chemistry. The modern soapmaker has learned to appreciate the advantages which chemistry advances; he is well aware that, in order to make a success of his business, he needs the services of a chemist. The soaps are manufactured according to scientific principles, and are made so that they suffice all the demands asked of them; care is taken, for instance, that a good white toilet soap never contains more than 0.10 per cent. of free alkali, and that a first-class soap be absolutely free of it. This attempt shows itself in the steadily increasing amount of really good soaps, while we still find a most deplorable state of affairs in the line of medicated soaps.

Thomas Evans, Ph. D., in a recent paper about "The Manufacturing of Toilet Soaps," fully illustrates the facts. He writes as follows: "According to Allen, one of the best known English analysts, medicated soaps frequently contain little, if any, of the drugs for which they are named. Besides these intentional frauds there are those caused by the ignorance of the soap boiler, as when two incompatible substances are added to the same soap, etc.," and, after enumerating some of the points worth special attention to the soap maker, he continues: "Unfortunately, many of the recipes given for these soaps lay but little stress upon these points, and the chances are that the manufacturer will continue to be careless until the day comes when the pharmacist will analyze each sample of soap."

This illustrates that most of the so-called medicated soaps are impositions, or soaps which are without any particular value, perhaps even impure, and therefore apt to do more harm than good if applied in skin diseases. In view of such facts, it affords us pleasure to acknowledge that some German firms undertook to present to the public a line of medicated soaps which do not necessitate a previous analysis by the pharmacists, but which can conscientiously be recommended to the suffering public. These forms have the different medicinal constituents, and the soaps are examined upon their therapeutic value before they are brought into the trade. Of such products several sulphurous compounds, the action of which is based upon the generation of sulphuretted hydrogen, attract our attention, viz., thiolin, thilanin, tumenol, losophan and some salts of thiophensulphonic acid.

Thiolin is made by boiling linseed oil with sulphur, treating the product with sulphuric acid and saponifying the sulphonic acid with caustic soda. The sodium salt of thiophensulphonic acid forms white crystals, containing 33 per cent. of sulphur. It is recommended against prurigo. Thiosinamin is recommended against Lupus vulgaris. Another product which is very effective in the treatment of certain skin diseases, is losophan; it is manufactured by Fried. Bayer & Co., in Elberfeld, and contains 80 per cent. of iodine. The same firm introduced the thiorets and their salts for therapeutic purposes, especially as disinfectants. Thiosapol—sulphuretted soap—is made by J. D. Riedel, in Berlin, by heating unsaturated fatty or resinous acids or neutral fats with sulphur to 120° to 160° C., and saponifying these products with alkalies. Although not a regular soap, vasogen, or oxygenized vaselin, may be placed with the above articles. It is a mineral oil, impregnated with oxygen, and forms a yellowish brown liquid with slightly alkaline reaction. Shaken with water it forms a permanent white emulsion, and, as it readily mixes with all kinds of chemicals and is easily absorbed by the skin, it is successfully applied as a dermaticum.

As to the disinfectants, we shall principally speak of those, the manufacture of which is based upon a saponification process, and which, therefore, are very nearly allied to the medicated soaps. The number of those disinfectants whose therapeutic value is due to the cresols, is a very large one. They differ only in the different means which were applied to render the cresols soluble in water. The oldest of these preparations, to which for some incomprehensible reason due credit was never paid, is Schenkel's sapocarbol, which very soon was followed by creolin and lysol. Two other specimens of this class are solveol (the preparation of which is based upon the fact that cresolsodium dissolves large quantities of cresol, and that such a solution mixes clearly with water) and soluto1, which also presents such a solution of cresol in the sodium salt of cresotinic acid. Among the newer products we mention tricresol, or cresolum purum liquidum (of the Chemische Fabrik auf Actien); it is a mixture of three isomeric cresols, boiling from 182° to 202° C., and soluble in water to about 2.5 per cent. Its antiseptic power is three times as high as that of carbolic acid, and for its application solutions containing 1 per cent. are used. Equal parts of a mixture of the crude cresols—cresolum crudum—and soft soap give the Liquor cresoli saponatus, which, when diluted

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*H. C. F. in the American Soap Journal.

with water in the proportion of 1:10, gives the Aqua cresolata. Another highly recommended antiseptic, an analogue of benzosol, is benzo-paracresol, which is obtained by the action of sodium-borate upon paracresol in the presence of phosphor-oxy-chloride. Alumnol, sozal, asaprol, zinc borate and a number of bismuth compounds also deserve attention. Pyroboracic mercury, HgB_4O_7, obtained from chloride of mercury and borax, and resorcinol, obtained by heating iodoform and resorcin, may conclude the list of the most important antiseptics and dermatica of newer date.

Some well known German firms make a specialty of manufacturing medicated soap and disinfectants; their goods are highly appreciated by most physicians, and the sale thereof is enormous and constantly increasing; but almost all the soaps which Mr. Allen refers to are not capable of retaining their position in the pharmacy. They may, on account of heavy advertisements, take well for the time being, but their inconsistency will soon be detected, and finally they must disappear from the market.

In view of such facts, it is strange that our large firms pay so little attention to the progress made in Germany in this respect. If some firm would make it a point to manufacture medicated soaps and disinfectants, upon the composition or percentage of medication of which the physicians and druggists could always rely, it would soon gain the confidence of the medical profession and of the public in general, and secure a decided and lasting success.

A Pharmacy in China.

The premises occupied by the Chinese pharmacist, says a writer in Apoth. Zeitung (Ph. Jr. & Trs.), usually consist of a shop on the ground floor, a store room at the back, and a gallery which is reached by a winding staircase leading upwards to the roof, which is flat and forms a terrace; the back room also serves as a laboratory. Both the gallery and the shop, which are connected, are filled with all possible articles relating to pharmacy and surgery. By the side of the gallery are built two smaller rooms, which seem to be equally used as store rooms, and at the same time as sleeping rooms for the assistants. On the terrace itself various herbs and roots are laid out to dry in the sun.

The proprietor of the business does not live on the premises, but spends his leisure time at his house outside the town, while the assistants are left in charge of the shop. The streets in China are very narrow, so that the shop is almost always cool throughout the day. The doorway is remarkably high. On the right and left of this a counter extends along the whole length of the shop, terminating at right angles, so that it is impossible for the public to see what the assistants are doing. A row of seats is placed in the body of the shop for the convenience of customers, and the walls are decorated with advertisements and mottoes relating to pharmacy. Of these maxims only a few deserve special record, for instance, a favorite motto is, "Two eyes are needful to the druggist when buying drugs; the doctor needs only one eye, and the patient should be blind." Special attention is paid to the furthest end of the shop immediately opposite the entrance. Here the pharmacist places neat rows of porcelain jars, while in between carefully labelled drawers are fitted, and on the top of the whole is an eight-sided urn of tin or some other bright metal, usually surmounted with a board bearing the owner's name. In a corner of the shop stands an altar dedicated to the memory of the owner's ancestors. On it perfumed candles are burnt and a number of the favorite dishes of the departed are spread out. At certain times of the year bits of colored paper are burnt on the altar, which are supposed to represent different utensils and articles of apparel needful to the deceased in his after life. This tender thoughtfulness for the comfort of the departed comprises nearly the whole of the Chinaman's idea of religion.

The proprietor is generally seated at the entrance of the shop, from whence he directs the management of his business. All prescriptions are brought to him. He examines them and hands them to his assistants to be made up subsequently. At the entrance, too, all consultations take place, and prices are agreed upon. A Chinese laboratory is not by any means overstocked with apparatus. The whole plant consists merely of a few big marble or granite mortars, a set of sieves and a couple of fire bricks; in fact, the Chinese make no distinction between the sciences of chemistry, physics and natural history. A certain number of chemical preparations are certainly concocted by the native pharmacists, but their manufacture is not based on the slightest scientific principle. Thus, methods of employing specific weights are entirely unknown to the average Chinese operator. A few exceptions may be found among those who have come frequently in contact with Europeans, and may have thus learned to place some value on apparatus and appliances which they have previously despised.

The following recipe for the manufacture of a sublimate was given by Dr. Ivan, a member of the Franco-Chinese mission to the authorities in Paris: Sulphate of iron, 940 grammes; sulphate of alumina, 920 grammes; potashes, 900 grammes; sulphate of mercury, 120 grammes; an unknown sulphate, 600 grammes; ordinary table salt, 600 grammes; borax, 930 grammes. These ingredients are mixed in a certain order, and are then exposed to fire heat. Of course, from a European standpoint, such a concoction would be condemned as useless. In fact, most of the Chinese prescriptions are only put on paper with a view to calculating the cost of the ingredients. No notice whatever is taken of the proportion or effect of the drugs. Naturally, this method saves our Chinese friend from many of the difficulties with which the European pharmacist has to cope, and his whole method of doing business is on a par with this process. The Chinese classify natural products in the most irregular manner, without the least regard for appropriateness. Of course, in a country where the science of pharmacy in all its branches is so imperfectly understood, it cannot be expected that much good can result from its practice, still we must give our Chinese colleagues credit for being very shrewd observers, and for possessing a thorough knowledge of the qualities of all the products which are dealt with in their drug markets. The Pen-tsao, or Chinese Pharmacopœia, is almost daily consulted by the Chinese druggist, and is very highly esteemed.

Great care is exercised by the native druggist in collecting and preparing plants and other natural objects. Buds, flowers, roots and leaves of the same plant are supposed to produce totally different results. The various parts of the plant have, according to the Chinese method, to be collected during certain periods, and at a certain stage of development, so that collecting goes on all the year round. The middle and southern provinces of China are very bare of woods, a circumstance which is probably due to the dense population, which causes all the suitable ground to be used for agriculture. From reports of travelers we gather, however, that the southwestern provinces of China are, on the contrary, densely wooded. The mountainous islands of Formosa and Heinan are doubtless well wooded, the former possessing a great number of camphor trees, which furnish, next to Japan, one of the richest sources for the supply of camphor to our markets.

The careful manner in which the Chinese preserve their plants or herbs is evident from the fact that the dried flowers and leaves retain their natural colors in a remarkable degree. The reason of this exactitude may be due to the Chinese belief that the precise effect of various substances is mainly influenced by the manner of their application. For instance, a doctor would usually order medicine to be given either in powder or in pills, or dissolved, because he feels convinced that the effect produced would vary according to the state in which the medicine is exhibited.

In China a chemist will commence his career as an apprentice, and after having served for three years in shop and laboratory will begin his theoretical studies. This training seems to answer in a country where the pharmacist carries on his business more on a trading than on a scientific basis. The Chinese pharmacists form a very influential caste and much respect and deference is shown to them by the people. For instance, the quarter at Canton where they chiefly reside, has been named after them, "Physic Street." This name would appear, however, to be only partially appropriate, as only wholesale dealers live there, and they have nothing to do with the dispensing of drugs to the public. The dress of the pharmacist is that of the well-to-do classes, consisting of a long cloak reaching down to the ankles, and a large cone-shaped straw hat, covered in summer with horsehair and with black velvet in winter.

The pharmacists, knowing that their profession is usually associated with the thoughtful and grave physiognomy of the learned, imitate those characteristics,

and are found affecting a stoic calmness and adopting a patronizing demeanor when talking to the public. Comical are the gestures with which they seek to impress the uneducated with a sense of their mental superiority. The Pen-tsao, or Chinese Pharmacopœia, is divided into fifty-two volumes, which are again sub-divided into numerous parts and chapters; the work seems to treat with the whole creation, and thus affords the student a wide scope for work. The first and second volumes describe the origin and growth of pharmacy; the third volume deals with the effects of certain remedies. The twelfth to twenty-eighth volumes contain a history of the vegetable world, these volumes being classified under eleven heads, which does not speak favorably for the work. The thirty-eighth volume is of special interest; in this nothing is discussed but antique furniture, apparatus, and clothes worn by druggists in both past and present times. In the fifty-second volume anatomy is dealt with, especially those parts which are most likely to require medical treatment.

In Pekin, where hawkers and itinerant peddlers are numerous, we find in the streets the medicine cheap-jack and the quack doctor. These people are always surrounded by a crowd, and it is very comical to notice how a quack doctor puts some ointment on his finger and then daubs it under the noses of his audience who are squatting around him, and who, without moving a muscle, allow the wonderful medicine to have its effect upon them. The effect of rat poison is represented in a very realistic way by its venders; they spread out on a piece of blue cloth on the floor their bottles, etc., and in front of these they place a number of dead rats.

Iodine Alleged to Be a Compound.

The Chemist and Druggist is inclined to be skeptical and facetious as well, regarding the discoveries of Auguste Strindberg, a Swede, residing in Paris, who, we are told, writes plays as a business and adopts chemistry as an amusement. He has lately followed up a speculation in regard to the compound nature of sulphur by announcing in the Temps his discovery that iodine has also been unjustifiably posing as an element. He claims to have established that it is identical with a derivative of tar—an oxyhydroquinone.

"Five years ago," he says, "while engaged in the practice of photography, I constantly noticed the odor of iodine whenever I used pyrogallol or hydroquinone as developers; at the same time the brown coloration of these products struck me by its resemblance with certain iodates. Some time after I read in Roux's Chemistry that hydroquinone smells like iodine. This was a corroboration of my observation. One leisure day, taking up my Roscoe, I carried out some calculations. Assuming that hydroquinone as a developer has to be oxidized before it smelt like iodine, I reckoned the molecular weight of oxyhydroquinone $C_6H_3(OH)_3 = C_6H_6O_3$. Judge of my happy surprise when I found that this totalled to 126, exactly the atomic weight of iodine. Lately I have made further experiments. I heated hydroquinone in a crucible. The cooled substance was triturated with alcohol, which I again warmed and put into a glass funnel, the neck of which was stopped with white bread. When I placed the funnel on a starched cuff a blue ring of iodine was formed; moreover, the gluten of the bread had become colored yellow, as albumens do in the presence of iodine. The room smelt of iodine, and its physiological effect, a nervous irritability, was also experienced. I have repeated this experiment in various forms, always with the same result. Therefore, I do not hesitate to formulate iodine provisionally as $C_6H_6O_3$, classing it among the benzoloides trihydroxylates, and it is because of these hydroxyls, $(OH)_3$, that it possesses its reducing powers—a heritage of chlorine which I formulate $(OH)_2 = 34$, which associates it with oxygenated water, H_2O_2, without making it identical therewith. Have you never been astonished that no trace of iodine can be found either in sea water or in the marine algæ before they are burnt? If iodine were a simple body this fact would remain inexplicable. It is now admitted that combustion constitutes a synthesis, and it is clear that iodine is produced by combustion. Similarly, sulphur and phosphorus, which are not to be found in animal albumen, always exist in albuminoid ashes.

Let us examine the way nature produces iodine. Saffron flowers produce iodine, and an extract from them called saffranine can be produced, the formula of which is $C_{56}H_{84}O_{30}$. This may be reduced to $C_8H_6O_2 + H_2O$; the formula corresponds to that of iodine after eliminating H_2. That is precisely the effect of the oxidation which takes place in a flower, and in the saffron flower you may see the reaction of the disengaged iodine. The white petals have blue streaks where the vessels contain starch; the stamens and pistils are yellow because they contain albumen. That saffron possesses the reducing properties of iodine was proved by me lately by chance. A box containing vanilla and saffron had remained forgotten for about a year. When opened, the smell of eugenol—the odorous matter of the clove, and which gives vanilline by oxidation—was very distinct. In the near future we shall be able to extract iodine from the coal tar products, commencing with benzene, which is oxidized with chloride of chromium into quinone, or we may form quinone by the action of sulphuric acid and bichromate of potash on aniline. The other day I transmuted vaseline direct into iodine by permanganate of potash with hydrochloric acid and a little nitric acid."

Mr. Strindberg will hardly expect chemists to adopt his theory, ingenious though it is in some respects, on the slender proof which he adduces. The calculation goes for very little. We could prove wood to be platinum by a little manipulation of molecular numbers. The allegation that iodine is not to be found in its natural state in the sea was disestablished last year by Mr. Stanford, the President of the Society of Chemical Industry, who, in the course of his inaugural address showed some which he had extracted from the ocean, and estimated that it existed therein in the proportion of 1 in 291,000,000. Mr. Strindberg's suggestion is, however, one of much interest, and may be fruitful.

PHARMACY.

AN IMPROVED MATERIAL FOR LACQUERING SURFACES.—An English patent has been granted to D. Marcus for a lacquer for leather, paper, wood, fabrics or metals, which shall be more pliant and less liable to crack than the ordinary material. It is made by mixing 70 parts of the sap of the Rhus Vernicifera (Japanese lac) with a solution of 16 parts of shellac in 14 parts of spirits of camphor or methylated spirit.

AN IMPROVED DISINFECTANT OR ANTISEPTIC PREPARATION.—Thymol is dissolved in a 5 to 10 per cent aqueous solution of glycerin, in which it is three or more times more soluble than in pure water; or thymol may be liquefied by mixing it with 5 or 10 per cent. of pure glycerol without any water Both these liquids are powerful germicides. They may either be used alone, or mixed with a solid base, such as carbonate or sulphate of lime. This is the subject of an English patent granted to J. T. A. Walker.—(Jr. Soc. Ch. Ind.)

A NEW PRODUCT FROM BLOOD. O. Finsen has patented the following process (Jr. Soc. Chem. Ind.): Fresh blood of oxen or other animals is defibrinated by whipping, and then mixed with six times its bulk of water, to which is added citric acid, 5 grms., for every litre of blood. The mixture is then heated to 90°, and so kept for a quarter of an hour. The coagulated albumin is strained and very carefully washed with water. After removing the superfluous moisture, the remaining mass is dried at 45° in vacuo, when it constitutes a brittle chocolate colored substance, which must then be reduced to a very fine powder. The inventor claims that this preparation, designated hæmo-albumin, possesses valuable nutritious properties, and has no objectionable taste.

COLORING MATTER IN THE CALIFORNIA RED WINES.—W. D. Bigelow gives in the Jr. Amer. Chem. Soc. a record of the reactions afforded by a number of Californian red wines with various reagents, which, for convenience, were divided into three classes. The reagents in class 1 were: Lead acetate, sodium carbonate and bicarbonate, ammonia, ammonium sulphide, alum and potassium carbonate, alum and lead acetate, borax, copper sulphate and tartar emetic. These reagents give a red, blue or violet color with wines containing foreign coloring matters, and a green or greyish-green coloration when the wines are pure. In most of the samples examined, the latter tints were obtained. Class 2 comprises certain metallic oxides, such as mercuric oxide, manganese dioxide, and lead peroxide, which decolorized most of the samples under investigation. Sodium peroxide does not entirely destroy the color of California wines, even when acidified and used in much larger quantity than that usually employed. In class 3 small rectangular pieces of chalk are used,

having one face carefully smoothed. After soaking for two hours in a 10 per cent. solution of egg albumen, they are dried at 45° C., and divided into five pieces, one of which is untreated, and each of the other four is soaked for forty minutes in a 1 per cent. solution of tartar emetic, lead acetate, copper acetate and zinc acetate, and dried at 50° C. Three drops of each wine are dropped on to the five blocks, dried at 100° C. for one hour, or at the temperature of the laboratory for twenty-four hours, and the color noted. The colors obtained were brown, greyish-brown and slate, no violet, blue or green being produced in any case. The author concludes that the coloring matter of Californian wines appears to be much more uniform than that of European wines. The colors produced frequently differ from those said to be obtained with French wines, but none of the reagents gave reactions said to be characteristic of wines colored with vegetable pigments.

Note on the Detection of Cotton-Seed Oil in Lard.

E. B. Kendrick (in Analyst) says that various conflicting statements have been made regarding the absorption spectrum of cottonseed oil, some writers affirming that the oil gives a banded spectrum, others asserting the contrary. Some years ago, when much attention was being paid by analysts to the detection of cottonseed oil in lard, I examined spectroscopically a number of samples of the oil. The samples included specimens obtained from American and Canadian lard manufacturers, as well as the pale yellow varieties sold as cheap salad oil. Marked differences were observed, even among samples resembling each other in outward appearance; all the samples, with one exception, showed, when first obtained, in layers of an inch or less in thickness a banded spectrum. In most instances the bands gradually disappeared on keeping. A sample of crude oil, however, still showed the chlorophyll band in the red at the end of six years. The sample referred to as giving no banded spectrum was a sample of "white" oil from a Chicago lard manufacturer. It appears to be the kind commonly employed in lard compounds. When examined in thicknesses of two feet, the oil had a yellow color, and cut off all light more refrangible than the green, but no traces of bands appeared. During the last six years I have frequently examined the absorption spectrum of compound lards, in the hope of detecting vegetable oils by this method, but until recently I have always obtained negative results. I have now come across samples which give the chief chlorophyll band in the red, when examined in thicknesses of two or three inches.

The delicacy of the spectroscopic test will depend, of course, on the nature of the cottonseed oil used, and the test is quite worthless for quantitative purposes. Though no conclusion as to the presence of cottonseed oil can be drawn from negative results, on the other hand, in cases where the less highly refined oil has been employed, a few per cent. of the oil may be detected by passing the light through a sufficiently long column of the melted fat.

Experiments with Egg Albumin.*

By E. J. Evans.

The following experiments were conducted in the laboratory of the University College of Wales, Aberystwyth, and were undertaken with the view of comparing the relative merits of the various tests for the detection of albumin.

Six tests were employed in each case, viz.: (1) heat test; (2) acetic acid; (3) nitric acid; (4) picric acid; (5) ammonium nitromolybdate; (6) uranium oxide dissolved in acetic acid.

(a) The strength of the first albumin solution was 1 in 40. Eight cc. of this solution was dropped into each of six test tubes from a 50 cc. burette. The results were as follows:

1. Heated to boiling: Coagulation and slight opalescence was observed.
2. Heated with the addition of a few drops of acetic acid: Coagulation and more opalescence.
3. Heated with a few drops of nitric acid added: Formation of a cloudy precipitate, which became denser on heating.
4. Addition of picric acid solution: Bulky yellow precipitate soluble in ammonia, added in excess.
5. Addition of solution of nitro-ammonium molybdate: White precipitate, separating in flocks when heated. Soluble in ammonia, but not when heated.
6. Addition of uranium acetate test: Yellowish white precipitate, curdy when heated.

(b) A second solution was then prepared, containing 1 in 200:

1. Heated to boiling: Formation of a white froth on the top of the solution.
2. Heated with a few drops of acetic acid: As above, with slight coagulation.
3. Nitric acid test: A white, cloudy precipitate in the line of the drops of nitric acid, and on shaking, a white opalescence.
4. Picric acid test: Yellow opalescence more distinct than in No. 3. On heating after standing some time, a yellowish precipitate separates out.
5. Molybdic test: White, cloudy opalescence in the cold. On heating, a white, curdy precipitate separates out in flocks, opalescence. Yellowish-white precipitate separates out on heating.

(c) The third solution contained 1 in 1,000:

1. Heat test: Slight froth; no opalescence.
2. Acetic acid test: Same.
3. Nitric acid test: Same.
4. Picric acid test: Slightly yellow opalescence, increased by heating.
5. Molybdic test: White opalescence. On standing some time a precipitate separates out in white flocks.
6. Uranium test: Yellowish opalescence, becoming curdy on standing and settling down as a white precipitate at the bottom of the test tube.

(d) A fourth solution was made one-half the strength of the third solution.

The same reactions were obtained with 4, 5 and 6, but less definite.

The limits of these tests seem to lie between 1-2500 and 1-5000, and it is hard to decide which of the three is the most delicate.

My own opinion is in favor of the molybdic, next comes the uranium, and then the picric.

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* From the Pharmaceutical Journal.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(K. C. E.), Buffalo, writes anonymously which is the reason his query receives no further attention.

Solvents for Rubber.

(R. S.) See page 656, May 23, 1895, Era.

Brown Harness Composition.

(G. L. B.) The sample you send made after formula No. 4283, Era Formulary, appears to be too soft. Add enough more of the yellow wax to make it of the proper consistency. The quantity needed you will have to determine by experiment.

Texas Fly Oil.

(J. W. F.) We have never published a formula under this title. In the June 27, 1895, Era, page 814, was given a formula for "Texas Sheep Dip," which may be made into an excellent "fly oil" by the addition of a suitable quantity of oil of tar, say 1 gallon to 50 gallons of the "dip."

Remedy for Stiff Joints.

(J. G. P.) Stiff joints are the result of a variety of causes, and unless these are known, no satisfactory treatment can be outlined. Among the causes which may be named are undue muscular exertion or straining, articular rheumatism, gout, etc. Friction or rubbing of the affected parts without or with oil, as olive or cocoanut, liniments, etc., has been recommended, while with stiff joints arising from rheumatism or gout, internal medication as prescribed by a competent physician, is necessary.

Extract of Birch.

(S. H. G.) A so-called "extract" for the soda fountain is the following:

Sassafras	1 ounce
Wild cherry bark	½ ounce
Pimento	1 ounce
Wintergreen	1 ounce
Hops	¼ ounce
Coriander seed	½ ounce

Percolate with diluted alcohol until 10 ounces of tincture are obtained. The "extract" is added to plain mineral water when drawn, in the proportion of a half a teaspoonful more or less to an ordinary glass.

Keeping Flies off Stock.

(B. R. W.) Infusions of bitter substances like quassia, gentian, smartweed, etc., have been used, it is claimed, with satisfactory results. They are applied with a sponge or brush. The following has also been recommended:

Pine tar	1 part
Fish oil	2 parts

The oil is used to keep the tar from sticking; if fish oil cannot be obtained, lard oil may be used. An addition of 2 ounces of crude carbolic acid to the gallon of paste will improve it. Paint the mixture on when necessary. See also

formulas for similar mixtures in the June 27, 1895, Era, page 812.

Mimeograph Ink.

(S. C.) The ink used for mimeograph copying process is of a pasty character, and almost any good stencil ink will answer the purpose. Try one of the following: Take of shellac, 2 ounces; borax, 2 ounces; water, 25 ounces; gum arabic, 2 ounces and of Venetian red, lampblack, Prussian blue, or any desired coloring substance, a sufficiency. Boil the shellac, borax and some water until they are dissolved; add the gum arabic and withdraw from the fire. When the solution has become cold, complete to 25 ounces with water, and more of the coloring substance to bring the ink to a suitable consistency.

2.) Aniline colors ground with dextrine mucilage or some other adhesive substance have also been suggested.

Removal of Birthmarks and Scars.

(J. G. P.) No treatment of this character should be undertaken without the advice of a competent physician. Most of the remedies used for the purpose are caustics and they cannot be used indiscriminately. On the authority of a foreign medical journal we give the following, but we cannot vouch for its safety: Apply over the mark a paste made of one part of tartar emetic with four parts of soap plaster. The paste is applied to the depth of about 1-12 inch and covered with a slip of gum paper or court plaster. On the fourth or fifth day, suppuration sets in, and in a few days later scarcely a sign of a mark can be seen. Hager gives this one: Mix together, with frequent agitation, 1 part pure carbonate of potassium, 4 parts rose water, 2 parts Hoffmann's Balsam of Life and 2 parts distilled water. Apply to the mark twice a day, shaking the bottle well before using.

Insoluble Pyrophosphate of Iron.

(H. S.) has three samples of pyrophosphate of iron, two of which are easily soluble in a mixture of alcohol and water, but the third gives an abundant white precipitate, which requires the addition of a little ammonia to effect its solution. He wishes to know the trouble with this sample. The manufacture of pyrophosphate of iron is a very delicate operation and the proportion of ingredients must be very carefully adjusted in order that an easily soluble scale may result. The official salt is insoluble in alcohol, and very probably the proportion of alcohol present in the solvent materially affected the solubility of the third sample. Manufacturers, however, do not implicitly follow the U. S. P. process, but in order to get a good scale and with the least difficulty, they employ ammonium citrate in making the solution to be scaled. We are inclined to think your trouble is occasioned by too little ammonium citrate present in the product.

Joining the A. Ph. A.

(H. E. P.) wants to know if a licensed drug clerk can join the American Pharmaceutical Association, and what are the requirements?

The by-laws of the association state that every pharmacist and druggist of good moral and professional standing, whether in business on his own account, retired from business, or employed by another, and those teachers of pharmacy, chemistry and botany, who may be especially interested in pharmacy and materia medica, who, after duly considering the objects of the association and the obligation of the constitution and by-laws, are willing to subscribe to them, are eligible to membership. The fee is $5.00, which must be paid annually. You can make application for membership through the member of the Special Auxiliary Committee on Membership for your state, Chas. A. Rapelye, Hartford. He will doubtless be glad to furnish you the necessary blanks, etc., if you address him upon the subject.

Sea Salt.

(S. H. G.) The Era Formulary gives the following, though it must be stated that neither of the formulas actually represents sea salt in containing all the saline ingredients or exact quantities:

Sodium chloride	800 parts	500 parts
Magnesium chloride	110 parts	100 parts
Calcium chloride	20 parts	10 parts
Magnesium sulphate	65 parts	30 parts
Potassium iodide	2 parts	1 part
Potassium bromide	3 parts	1 part

Hager gives this formula for "sea water" for bath:

Common salt	4000.0
Magnesium sulphate	1000.0
Calcium chloride	100.0
Potassium sulphate	25.0
Potassium bromide	
Potassium iodide, of each	1.0
Water	300 to 400 litres

Fig Laxative.

(D. F. S.) wants to know how to obtain a clear and efficient syrup from the formula given in the May 9, 1895, Era, page 592, for "Fig Laxative."

The working directions are pretty fully given in the formula cited. The efficiency of this preparation cannot be questioned, if good drugs are used in its manufacture, but from the very nature of them it is almost impossible to obtain a clear and transparent syrup. The sweet viscid pulp and mucilaginous substance of figs and prunes are apt to interfere to some extent with the transparency of the resulting syrup. A clear syrup may be made by filtering the liquid portion after straining and before adding the sugar, but such a procedure is questionable, as it tends to remove from the solution a portion of the figs and prunes, which should remain. We think a few experiments along the lines indicated will enable you to turn out a satisfactory preparation. Of course, the laxative action depends almost entirely upon the cascara sagrada and senna, which the preparation contains. These may be increased in quantity, if necessary, though as a whole, the preparation does not appear to possess any advantages over the very efficient aromatic syrup of senna of the National Formulary.

Emulsion Castor Oil.

(X. Y. Z.) Two very satisfactory processes are given in the National Formulary. Here are two others from the Era Formulary:

Castor oil	4	troy ounces
Powdered gum arabic	1	troy ounce
Distilled water	1½	troy ounces
Cinnamon water	3	fl. ounces
Syrup	3	fl. ounces
Spirit of cinnamon	12	minims

Emulsify the oil with the gum and distilled water, then add the other ingredients with constant trituration. This emulsion contains 33 per cent of Castor oil.

2.) Castor oil ..... 1 fl. ounce
Powdered acacia .... 3 drams
Oil bitter almonds .. 2 minims
Oil cloves ..... 1 minim
Saccharin ..... 1 grain
Water to make ..... 4 fl. ounces

Mix the oil with the gum in a dry mortar, add ½ fl. ounce of water at once, stirring until emulsion is formed. Then add the saccharin, previously dissolved in water by the aid of ½ grain sodium bicarbonate, and finally the remainder of the water.

Neutralizing Cordial.

(C. M.) This preparation is of eclectic origin, and the most commonly accepted formula for it is this: Digest at a gentle heat for six hours in ½ gallon of brandy 20 ozs. of rhubarb and 1 oz. each of golden seal and cinnamon. Then transfer to a percolator, pass through ½ gallon of brandy and sufficient water to make the percolate measure 1 gallon. To the percolate add 2 ozs. potassium carbonate, 4 pounds sugar, and 20 minims of oil of peppermint, previously rubbed up with a little sugar. When dissolved, filter.

2.) Some dispense compound syrup of rhubarb and potassa. From several sources the following are obtained:

3.) Take 4 ozs. of a powder consisting of equal parts of rhubarb, potassium bicarbonate and peppermint herb. Steep in 1 pint water, strain and press, and to the liquid add four ozs. alcohol, ½ dram each of oils of wintergreen and cinnamon, and sugar 1 pound. Shake till dissolved.

4.) Davis' Neutralizing Cordial.

Take 8 ozs. rhubarb, 2 ozs each saffron, cardamoms, nutmegs and carbonate of sodium, 2 lbs. sugar, 2 ozs. essence of peppermint and enough brandy and water to make 2 pints.

5.) The following formula is given by Dr. Truscott:

Essence peppermint .... 2 drams
Potassium bicarbonate .. 4 drams
Fluid extract rhubarb .. 4 ounces
Granulated sugar ..... 8 ounces
Soft water ..... 2 pints

PRESERVING LIQUIDS WITH HYDROGEN PEROXIDE. — Burbi (Bollet. Chim. Pharm., Ph. Jr. & Trs.) recommends hydrogen peroxide for preserving wine, beer, cider, vinegar and other liquids. Ten parts of the commercial article is mixed with 1,000 parts of the liquid. Peroxide of hydrogen is recommended by the author as one of the best, handiest and most harmless substances for preserving.

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ASSOCIATION ADVERTISING.

The more the matter of association advertising is stirred up the worse it appears. The publication of some interesting facts in connection with this class of advertising in last week's Era struck a responsive chord in the trade, and opinions were freely given to the Era reporter this week. The head of one of the largest houses in its line in this city turned over to the reporter the circulars he had received from Denver and said:

"I am glad the Era has taken this matter up. This business ought to be kept within bounds. Look at these circulars and you will see the point I am going to make. There are the letter-heads of the A. P. A., reading "Forty-third annual meeting of the American Pharmaceutical Association, at Denver," and so on. That looks as if these communications came officially from that organization and that we were being asked to do something for the A. P. A. But you will see that the circulars are so worded that the only inference is that the A. P. A. is not really getting out the Bulletin but only stands as a sponsor for it. For instance circular No. 5 reads: "The publishers of the official bulletin. . . .have just submitted the details of their plans," and down below: "From the plans which they have submitted and our personal knowledge of the class of work they turn out we confidently predict a very satisfactory bulletin. We send you this information believing that the object is worthy of your attention, and to show you that we are maintaining a close supervision of the work." That is printed over the name of the chairman of the local executive committee. Now why this attempt to make one believe that the local committee is really getting out the bulletin? Simply to make us send in our advertising. And yet it is probable that the people who are doing the work are in no way connected with the A. P. A. and have simply bought the right to get out the bulletin, paying something for it of course. We are willing to aid the A. P. A., but are not willing to put our money into the pockets of people we don't know and don't care anything about."

"Look at circular No. 8. It says: 'The publishers of the official bulletin of the American Pharmaceutical Association have informed us that you have not as yet responded to our invitation to advertise in the Bulletin. We hope that you will kindly give this matter careful consideration and at least inform them of your conclusions.' That is an impertinent circular. We have never been under obligation to answer circulars calling for advertising and we shall not begin the practice. I think that circular put the last nail in the coffin of association advertising of the present style."

Another manufacturer said: "The Era has my thanks for opening my eyes to a class of advertising which I have been doing. I have for years bought space in the report of the State association of which you spoke in last week's Era, and I shall do so no more. I thought my money went into the treasury of the association but from all I have heard I am of the opinion that I have been helping to swell the pocketbook of one of its officials. I have always regarded the placing of ads in such papers as a sort of half-charity. I received some return in this way, that I kept friends I had by it and made new ones, but not one cent's worth of money return have I ever been able to trace to it. The tradespeople of New York who put their money into these reports do so principally to help the organization which gets out the paper. When they learn that the association is not helped to the full extent of that sum they will stop giving their cash.

"But I am now against association advertising altogether. The expense of publishing a report is now so small that the organization could afford to do it with only local aid, thus saving itself the expense of hiring solicitors and of collecting the money. It costs to collect the cash as well as to get the advertisements. And, too, the firms it solicits would be saved a great deal of bother. Let them think of that."

Freight Rates for Chicago.

Chicago, July 6.—A rearrangement of freight rates from points within Illinois to other points within the State has been consummated, which will very materially affect the wholesale trade of Chicago merchants in all lines. The new arrangement does away with the discrimination which has heretofore existed against Chicago shippers. As the new arrangement very materially affects the wholesale drug trade, a brief account of the facts leading up to the change may not be amiss.

Chicago wholesale shippers have been working hard for three years to secure as low freight rates from Chicago to other Illinois points as are made from Detroit, Indianapolis, Cleveland, and other eastern cities to the same points. For years Chicago shippers have been obliged to pay heavier freight rates to Illinois points than merchants in eastern cities, even though the goods from the eastern cities were shipped through Chicago, and reached their destination over the same roads as Chicago shippers were bound to use. In other words, Cincinnati merchants could ship goods through Chicago to Joliet, Ill., at a less rate per 100 than the Chicago merchant must pay for shipping them to the same point. This was because the Chicago merchant was compelled to pay the local State rate, while his eastern competitor came in under the interstate rate, which was much lower.

For the purpose of adjusting these rates the Chicago Freight Bureau was organized some two or three years ago by Chicago shippers, with Major Elliott Durand as president, and N. G. Inglehart in immediate charge as commissioner. These two men and many others have been untiring in their efforts to secure a settlement. They first tried to compromise with the railroads, beginning with the Illinois Central, but when nothing could be accomplished in this way, the Illinois Freight and Warehouse Commission, a body having statutory power to act, was called upon. The commission suggested that the merchants and the railroad freight agents get together again in committee and try to patch matters up. The suggestion was acted upon and numerous joint meetings were held, with the result that several points were agreed upon. The railroads and the merchants each made out a schedule of rates and these were submitted to the commission, which after careful deliberation has compiled a satisfactory schedule. This new schedule went into effect July 1, and Chicago wholesalers are much pleased with its operation. They have asked only an equal chance with the dealers from other points, and this much they have received.

Mr. Fitzgerald, of Morrisson, Plummer & Co., was the representative of the wholesale drug trade in the struggle for revised rates. Mr. Fitzgerald is well satisfied with the results and thinks that the new schedule will place Chicago shippers in a much better position than heretofore. He has compiled an exhaustive classification of rates from the new schedule affecting druggists' supplies.

Revival of the Pure Drug Crusade.

Cincinnati, July 8.—(Special.)—The case of the food commission vs. Druggist Martindale, at Hamilton, Ohio, will probably be called for hearing next Thursday morning. Martindale's case will be defended by the Hamilton Druggists' Association, which was recently organized. About three weeks ago the food commission officials attempted to convict Martindale, but the jury disagreed. Public sentiment is decidedly in favor of the druggist in Hamilton, and it is asserted that a jury can not be secured which will convict the merchants of that city. During the recent sojourn of the State officials in Hamilton, the local newspapers scored them unmercifully, and when they journeyed along the thoroughfares they were hooted by passers-by. It is reported that the result of the Martindale trial will have considerable weight, favorably or otherwise, on the threatened crusade against dealers and druggists in the smaller towns throughout Ohio. If the food commission triumph in the prosecution of Martindale, it is very probable that they will push matters in the country districts. The druggists at Lima and Dayton, are organized and quietly awaiting the advent of the commission.

Shaved by "Shaving Stone."

An uptown retail drug firm has called the Era's attention to a little transaction which will interest all retailers in this city. Chapter No. 1 in the story begins with the receipt of the following letter:

European Specialty Co

Bridgeport, Conn., June 20, 1895.

Dear Sirs: We enclose you herewith a circular describing our "Adams' Shaving Stone." It has proved the FASTEST SELLER placed upon the American market during the 19th century. It is a French discovery, which has met with a wonderful sale in London, Paris and the Continent for the past few months, and is now being introduced by us in this country. Prior to putting it before the trade generally, we decided to test it in order to determine with what alacrity the American public would take to it; to that end we placed a sign bearing the inscription:

"ADAMS' SHAVING STONE."
No Razor, No Soap, No Water,
100 Shaves, 25 Cents,

in the window of the leading druggists of this city. We enclose a fac-simile letter received from them showing their sales for 11 days. It is unnecessary, we think, to comment upon it; it certainly speaks for itself. An article that will increase your profits from $10 to $100 per week needs no urging upon you. Our representative will be in your city this week, and we would particularly appreciate your courtesy in allowing him to demonstrate to you the virtue of Adam's Shaving Stone. Yours very truly,

EUROPEAN SPECIALTY CO.
By J. W. A.

Dictated by J. W. Adams.

With the above communication this fac-simile letter was enclosed:

IMPERIAL PHARMACY,
I. A. MEEKER & Co., Proprietors,
SURGICAL APPLIANCES. Agent for FRAZER'S TABLET TRITURATES and SPECIALTIES.
PRESCRIPTION DRUGGIST.
238 STATE STREET,
Bridgeport, Conn., June 6, 1895.

European Specialty Co.

Dear Sirs: In reply to your request for a letter from us stating what our sales of "Adams' Shaving Stone" have been, we take pleasure in saying, on May 25 we ordered one gross, and to our astonishment sold the entire gross before your sign had been in our window one week. We have sold in all (in 11 days) 20 dozen, and do not hesitate to state that we consider it the fastest seller of any article we ever handled. Very truly,

I. A. MEEKER & CO.

In a few days a drummer entered the store and producing the "shaving stones" in boxes asked one of the firm to buy a dozen. He showed on his hand how the "stone" took the hair off and was anxious that the druggist should at least take a number of the articles on trial. He was told that he might leave a dozen and if two or three were sold in a reasonable time the druggist would buy the lot. That was agreeable, and the deal was made. Within a short time a man entered the store and seeing the "shaving stones" on the counter, said: "Here, I guess this is a pretty good article. I'll take one." Later on another man came and bought one, and a third followed. The druggist thought he had a good thing indeed, so when the salesman returned he paid for the dozen by giving a check, receiving 5 per cent. off.

The next two purchasers of the "stones" had not had them long before one came into the store with a very red face and demanded his money back, saying that the "thing" wasn't what it was cracked up to be. He had rubbed and rubbed his face but every hair was there still as big as life, and he blamed the druggist for selling him the "stone." The druggist gave him back his money and thought awhile, until the second purchaser returned with the same story. Then the druggist concluded he would be out of pocket if he sold any more "stones," and hurried a note to his bank asking that payment on the check be stopped. Since that time he has not heard from the salesman but he is perfectly willing to see him again for a short time.

Well-known Ink Manufacturer Drowned.

Boston, July 6.—John W. Carter, of the house of Carter, Dinsmore & Co., manufacturers of mucilage and writing fluids, was drowned yesterday at Harwich. He had been in swimming, and his prolonged absence at last alarmed the family. On looking for him they were horrified to discover his body in the shoal water. For hours an effort was made to resuscitate him, but he gave no sign of life. As he had no heart trouble, the exact cause of his death is a mystery. Mr. Carter was 52 years old. When a boy he left Harvard College to enlist for the Civil War, and eventually he won a commission in the regular army. Mr. Carter was a prominent and valued citizen of Newton, having filled responsible positions under the city government. He was an ardent advocate of tariff reform, and for 10 years was the secretary and one of the most active and influential members of the Massachusetts Reform Club, with whom originated the use of the word "Mugwump" in a political sense. The house with which he was identified carries on a large establishment on Columbus avenue, and supplies the Commonwealth with the ink used for the keeping of all public records.

Druggist Shot by a Policeman.

Boston, July 2.—In the town of Framingham, a short distance away, a very interesting case came up in court today. While a policeman was trying to arrest, yesterday, a druggist named Chas. Rand on complaint for illegally keeping liquor, Rand started to run away. This appeared to the country policeman so heinous an offense that he shot the fugitive in the leg. Surrender followed. There was only a preliminary hearing to-day. Rand pleaded "not guilty," and will have a chance to tell why he thinks he is innocent, and incidentally learn just how freely a policeman may amuse himself with shooting at human targets.

Northwestern Trade.

St. Paul, Minn., July 5.—There is no backward step in the progress of the drug trade improvement in this section, and indeed clear through to the Pacific coast. Stock orders are increasing and so are prices, which is of course one of the infallible indications of commercial revival. The advance in the prices of commodities in nearly all other lines of trade besides drugs is having its inevitable effect upon the pharmaceutical industry, and not for three years has the general prospect been so cheering.

NEW YORK AND VICINITY.

——Wm. D. Halpine has started a pharmacy at Roslyn, L. I.

——J. W. King, Jr., has opened a new store on Broadway, Nyack.

——Greenville, N. J., has a new pharmacy, opened by J. A. McIntosh.

——W. S. Mersereau, of Schieffelin & Co., has gone to Saranac Lake for a month.

——Mr. Emil Levi, of Boehringer & Soehne, returned from Europe last Friday. He was away four weeks.

——William M. Kerr, N. Y. C. P. '95, is now manager of the Long Beach Pharmacy, at Long Beach, L. I.

——Charles A. Woolsey, of the C. A. Woolsey Paint and Color Co., of Jersey City, died of heart disease last Thursday.

——George H. Steinheuer, N. Y. C. P., '95, has accepted a position with Henry Ascher, No. 48 Putnam avenue, Brooklyn.

——John Woell, of the class of '95, N. Y. C. P., has resigned his position with Karl Aschinbrandt, No. 3021 Third avenue.

——Mackey & Co.'s new store at No. 362 Crescent avenue, Brooklyn, is a very attractive one, and is well located for prescription business.

——William Townley Case, representative for C. F. Boehringer & Soehne, sailed yesterday for a two weeks' stay in London.

——Albert Koehler, N. Y. C. P. '95, has resigned his position at the store of Robert Kopp, 49th street and Second Avenue, New York city.

——H. S. Courson, formerly with C. A. Osmun, at No. 13 Seventh Avenue, is now with the Falkiner Pharmacy at Eighth Avenue and 52d street.

——The assignee of Fassett & Messaros, whose store was at the corner of 132d street and Fifth avenue, bought in the store at the auction sale last week.

——John B. Brown, one of the largest sponge dealers of Nassau, N. P., died on June 21. He was formerly in business in this city, leaving here about 1882.

——Robert S. Wenzley, in charge of the package department at McKesson & Robbins, sailed for Europe on Saturday last. He will be away five or six weeks.

——J. Edward Thornton, for 45 years with McKesson & Robbins, has resigned as foreman of the dry counter. Ill health and advanced age compel him to take this action.

——C. L. Peterson and A. J. McGrath, of the New York office of the Low Art Tile Co., are away on their vacations. Mr. Peterson has gone to New England and Mr. McGrath to Niagara.

——Frederick Cassebeer, N. Y. C. P. '79, sailed for Europe on the Fourth. He will remain abroad until Sept. 1. Mr. Cassebeer is managing partner of the H. A. Cassebeer uptown store, 72d street and Columbus Avenue.

——W. Banker, formerly with J. T. Tinglesen, at No. 129 Hamilton Avenue, Brooklyn, has accepted a relief position for two months at the New York Dispensary, corner of White and Centre streets, New York city.

——The authorities at sanitary headquarters, this city, are investigating the nature of the root beer which is sold to children, and particularly on Sunday. It is claimed that this drink contains sufficient alcohol to cause intoxication.

——Leo Davis, N. Y. C. P. '92, was a member of the graduating class of Yale Law School '95, and has now been admitted to practice as a member of the Connecticut bar. He is in the office of Hurlburt & Gregory, Norwalk, Conn.

——John Bice, a drug clerk and medical student employed at Marcy and Mecray's pharmacy at Capt May, N. J., was drowned on July 1. He was an expert swimmer, and went out beyond the breakers at that place. Bice was 20 years of age, and lived at Wilmington, Del.

——Druggist Jas. A. Hetherington, 4 Vanderbilt Ave., recently caused the arrest of a customer whom he detected stealing three bottles of wine. The thief claimed to be a "drunk." In the police court he was fined $10 for disorderly conduct.

——A. Major, of Major's Cement, and his family are at Staten Island for the summer. Mr. Major recently attended the railroad men's convention at the Thousand Islands, he being the owner of a valuable railroad patent. He will go to Denver to attend the N. W. D. A. convention.

——The trade is in receipt of formal notice announcing the death of Wm. H. Schieffelin, on June 21st, and stating that the firm of W. H. Schieffelin & Co. has been dissolved, its business will be settled and continued by the surviving partners, under the name of Schieffelin & Co.

——Willis O. Davis, N. Y. C. P., '89, for four years apothecary and for two years superintendent and clerk of the faculty at the New York Polyclinic, has just taken the degree of M. D. at the University of Louisville. He expects to begin the practice of medicine in the fall.

——G. H. Macon, of Asbury Park, has gone to Paul Smith's, in the Adirondacks, for the benefit of his health. He has not been well lately, and spent last winter in Florida without securing his old-time vigor. While he is away Mr. Campbell, formerly the manager of Kent's Pharmacy, in Paterson, will manage the Asbury Park store.

——Manager Sangston, of the New York office of the Low Art Tile Co., speaking of business in his line, says: "I can hardly imagine that druggists realize what hard times are, if they call the business done during the past season poor. The amount of our business transactions with druggists this season was far beyond our most sanguine expectations, and that shows that the druggists' business was good. Things have undoubtedly picked up to a large degree. We could not have done so much if the druggists were doing a business below the average." Mr. Sangston has sold fountains to Mackey & Co., 362 Crescent Avenue, Brooklyn, P. B. Knapp & Sons, 362 Hudson street, New York, J. W. King, Jr., Broadway, Nyack, and William D. Halpine, Roslyn, L. I.

——S. V. Lothrop, of Tarrant & Co.'s sundries department, has returned from a trip to the East and West. He found business in Chicago and Cleveland to be very good. Among others he saw was Louis Hopp, at Cleveland, who expects to attend the Denver convention. Mr. Lothrop says the interest in that meeting is very great throughout the West.

——"Doc" Archie Wilson's cheerful "good evening" is heard again at Perry's Sun Pharmacy. He has almost recovered from his recent illness, though still showing signs of his confinement to the house. Mr. Wilson numbers his friends by the thousands, and Perry's seems lacking in something when he is away. Everybody hopes he will recover good health and keep it.

——Geo. E. Evans, manager of the big sundries department of Tarrant & Co., is back from an enjoyable trip to the Rangeley Lakes in Maine. He and the agent of the Atlas Steamship line, of this city, spent 10 days there catching trout and salmon, having fair luck. Mr. Evans brought back with him some good stories and pleasant recollections of the Maine woods and streams.

——Louis A. Elliott, who said he is a druggist living at No. 105 Sherman avenue, New Haven, was found unconscious on the sidewalk in front of No. 57 West 50th street last Thursday morning. He had apparently been dosed with knockout drops and then robbed. When taken to the Flower Hospital, he was so much under the influence of the drug that physicians could not revive him until the effects had worn off. Mr. Elliott said he had met a stranger who invited him to a supper, after which he knew nothing. He could not describe his companion. The police are looking for the knockout drops man and for Mr. Elliott's valuable watch and chain.

Ann Priestly, of No. 218 Chrystie street, has sued Frederick N. Stochman and Lawrence A. Behn, druggists, at the corner of Second avenue and Third street, for $250 for an alleged mistake in giving her something for a cold. She says that she was suffering greatly from a cold and went to the druggists, receiving a capsule. She was told, she says, to put it in a tumbler of water and to take it before going to bed. She followed the directions, and the next day became so sick she thought she was going to die. A doctor found her suffering from mercurial salivation. Druggist Behn thought he may have given her the medicine, which he claimed to be only a compound quinine wafer. Justice Roesch, before whom the case was heard, reserved his decision.

——Among the thousands who sailed for Europe last week was John McGarigle, one of Dr. Perry's efficient clerks at the Sun Pharmacy. Mr. McGarigle makes it a rule to go to London and Paris every two or three years for his vacation, and he is now revisiting the scenes already made familiar by previous trips. He is well known to drug clerks in New York and vicinity, as well as in New England, and has a wide acquaintance in the theatrical profession, which he used to follow. A number of friends wished him bon voyage at the steamship pier.

——Mervin Annis, a graduate of the Ontario College of Pharmacy, has resigned his position at W. H. Tyler's pharmacy, corner of 34th street and Third Avenue, to accept a place with the Flower Drug Co., No. 463 Hudson street.

——The rigid enforcement of the excise laws on Sunday in New York City has proven a boon to soda water dispensing druggists. Almost without any exception they found their business increased greatly on the last Sunday in June and the first Sunday in July. One druggist in Harlem says men came into his store for legitimate "sarsaparilla" that had lived in the vicinity for years and yet never before purchased a glass of soda. Druggists have had many calls for liquor to be dispensed over the soda counter, but it is believed they have in 99 cases out of 100 refused to violate the law. Police spotters in citizens' dress have been visiting the East Side drug stores on Sunday expecting to catch a clerk selling brandy without a prescription, but not a single arrest has been reported, which speaks well for the druggists. In some stores there are to be found physicians who will, if necessary, give a caller a prescription calling for liquor. Attention was called to this means of defeating the law, but it is not believed that the volume of business of that kind would amount to much.

Recent Incorporations.

The Premier White Lead Company—To manufacture machinery, devices and appliances in New York city. Capital, $100,000, and directors, John Boardman, Jr., and C. H. Hatheway, of New York, Elbert W. Dahl, of Brooklyn.

The Toppan-Smith Company, of New York city—To purchase and develop inventions and discoveries of the late Charles Toppan relating to improvements in chemical compounds. Capital, $25,000, and directors, Arthur L. Toppan, Wellan Smith and Rudolph Damm, of New York city.

The Paddock Cork Company, a consolidation of the Acme Cork Company and the Paddock Manufacturing Company, to manufacture cork and cork goods in Brooklyn; capital, $30,000; and directors, George Gudewill, John Robinson and C. W. Meinecke, of New York city, and Smith A. Paddock and J. T. Dingee, Jr., of Brooklyn.

——J. A. W. Fernow, the well-known druggist at Broadway and Market streets, St. Louis, caused the arrest of one of his clerks, Charles Rilliet, July 5, on a charge of theft. The latter is well connected and has been with Mr. Fernow for four years. It was only recently that Mr. Fernow suspected anything wrong. In order to test matters, he had a friend, unknown to Rilliet, purchase two bottles of patent medicine, and pay for them with silver dollars that had been marked. An examination later showed that no entry of the sale had been made and that the money had not been put in the drawer. When confronted with the evidence Rilliet broke down and confessed and added that he had been pilfering about a dollar a day for some time past. He claimed that he was not getting enough salary.

HERE AND THERE.

—The drug store of Mrs. Alvina Jones, of Wilson, N. Y., was recently entered by burglars, who carried away nearly $500 worth of goods.

—Edward Geoya, a clerk of W. Bodemann, 43d and Lake St., Chicago, held on to a giant firecracker too long on July 4, and lost three fingers thereby.

—A clerk in the employ of the Economical Drug company, of Chicago, has been arrested for systematic pilfering of high-priced perfumes.

—Mr. O. T. Eastman, sec'y and treas. of the Searle and Hereth Co., manufacturing chemists, Chicago, is spending his vacation in the White Mountains.

—Wm. Kahre, of Thirteenth and Geyer streets, St. Louis, has returned from a hunting and fishing trip to Illinois. Mr. Kahre relates several exciting experiences.

—Mrs. Sarah J. Wellesley, of Hyde Park, Mass., wife of a druggist, tried to commit suicide the other day. She has not lived with her husband for some time.

—Dr. Daniel F. Owens, a druggist of Rockville, Md., died suddenly on July 5 from heart failure. He was 51 years of age, and originally came from Altoona, Pa.

—M. Eugene Sherman, senior member of the drug firm of Sherman & Blakeslee, Oskaloosa, Ia., was married last month to Miss Annie E. Spencer, of the same city.

—The liquor question is in great evidence in Iowa. Numerous arrests of druggists have been made, and indictments have been found against fifteen druggists of Des Moines.

—Druggist Frank M. Clute, of Albany, N. Y., has brought an action against W. H. Gynn for $300, the value of a diamond stud which, it is alleged, Gynn recently stole from Mr. Clute.

—A druggist at Frostburg, Md., was arrested for beating his wife. He was too drunk for a hearing, so was locked up. The woman is in a very serious condition as the result of her injuries.

—At Beverly, N. J., on June 28th, occurred the marriage of Druggist Arthur J. Durand, of Mount Holly, to Miss Clara Louise Thomas, of Beverly, Rev. Charles Betticher officiating.

—By the explosion of a boiler in the roller mills at Howard, South Dakota, Druggist W. A Clark was injured in both legs, one arm was broken and his head badly cut, but he will survive.

—A clerk in the employ of Plimpton, Cowan & Co., wholesale druggists at Buffalo, N. Y., was arrested July 3d, charged with appropriating to his own uses $25, which he had collected for the firm.

—The drug firm of Schultz & Young, formerly at Tenth and Pine streets, St. Louis, has been changed to Schultz & Kohlenbach and changed the location of their store to Eleventh and Pine streets.

—Druggist John G. Hovekamp, of Cincinnati, was seriously injured a few weeks ago by the explosion of a bomb during a local celebration. He is now able to be out, however, walking with the use of crutches.

—Charles Schroeder, the druggist who formerly kept at Fourteenth and Market streets, St. Louis, has sold his store to Dr. B. Steinmetz, who has taken charge and is remodeling the place.

—Edward S. Maguire, connected as a pharmacist with the United States Marine Hospital Service, and who was transferred recently from Detroit to Baltimore, has assumed charge of active duties at his new post.

—H. M. Whelpley, secretary of the Missouri State Pharmaceutical Association, and his brother, F. L. Whelpley, of Prof. Hemm's Pharmacy, St. Louis, have returned from a Fourth of July vacation, to Cabden, Ill., their old home.

—On Friday, June 28th, at Brookfield, Mo., occurred the death of druggist E. F. Eaton, aged 56 years and 11 months. He had been a resident of Brookfield for over 20 years, nearly all of which time he had followed the drug business.

—The Milwaukee druggists who are charged with infringing on the rights of the American owners of the phenacetine patent, have filed their answer in the United States Court, denying the right of the plaintiffs to ownership of the product.

—Frederick Childs has joined the firm of Hall Brothers, the Kalamazoo, Mich., druggists. He was formerly connected with Colman, Brothers & Co., and Sargent & Co., pharmacists of Chicago. Mr. Childs will cover Michigan and Indiana for his new firm, which will be known as Hall Brothers & Company.

—On June 1st, J. E. Kennelly retired from the firm of I. N. Irwin & Co., druggists at Decatur, Ill., and will engage again in the drug business at Lincoln, Ill., under the name of Kennelly & Walte. I. N. & C. H. Irwin are now the sole owners of the Irwin Pharmacy at Decatur, which was established by their brother, S. N. Irwin, in 1877.

—Dr. Emerson, president of the Emerson Drug Co., of Baltimore, which manufactures bromo-seltzer, has become an enthusiastic yachtsman and is now at work on the plans of a 100-foot steam yacht, to be completed by next season. The boat will be handsomely furnished and will contain elegant apartments for Mrs. Emerson. The doctor is commander of the Naval Reserve, and has contributed much to the success of that organization.

—Alfred C. Smith, a druggist in Everett, has received from Gonaives, Hayti, a message that was thrown overboard by his brother, who was a passenger on board the barque Hesperia, bound from Cape Town, Africa, to Port Antonio, Jam. On Jan. 11, 1895, when the vessel was 38 days out, the bottle containing the message was tossed into the sea. After a drift of 5 months it was picked up at Hayti, and the message was forwarded to Massachusetts.

—The Allen-Pfeiffer Manufacturing Company, of St. Louis, has not yet presented a defense in the suits brought by Charles I. Hood and the Wells-Richardson Company, to restrain them from offering for sale articles known as "Hodd's Sarsaparilla" and "Haine's Compound Extract of Celery," and the temporary injunction will stand until final judgment in the case is had. The general belief prevails that the defendants will let the suits go by default.

—The Solvay Soda Ash Co., of Detroit, will establish, in connection with their works, the same system that prevails in Syracuse. The employees pay 30 cents a month. In case of sickness a member is entitled to a physician's care, free medicine the first week, and $6 per week in addition every week thereafter. A theater will be run, dancing lessons given, singing and other forms of entertainment. Teachers of these classes are paid by the company, and in the mornings devote their time to the education of the children of the men.

—A number of the druggists of the Philadelphia Drug Exchange have adjourned for the summer, hence, while the usual sextette shows up every day, very little drug business is done. Most of the meetings now are nothing more than mere discussions on religious and other technical subjects, with Mr. Good, the moderator, and Mr. Jones, the prosecuting attorney. Since Mr. Rittenhouse has entered into business again he is not found at the Drug Exchange as frequently as before, as most of his time is taken up with his new business.

—A few weeks ago some of the large retail dry goods houses in Philadelphia entered into competition with the druggists in the manner of dispensing soda water. At first they gave this beverage away free, but later they concluded they would give ice cream for 5 cents a glass. While this competition was started in the shopping districts of the city it soon spread, and it was thought that the retail druggists' soda water and ice cream business would be hurt. The druggists have awakened to the fact that competition is the spice of trade, and instead of doing, as they have done before, when these dry goods houses undertake to undersell them, they have entered into the fight, reduced their prices, and have offered other inducements to their customers. Now nearly all the drug stores sell ice cream soda at 5 cents a glass, besides giving a cracker to each customer. It is thought if the competition continues that drug stores will be offering a free lunch.

—The officers of the Anti-Cigarette League, of Philadelphia, among whom there are a number of prominent druggists, are making vigorous efforts to kill the cigarette evil among the young classes. On July 4 the society kept a watch over young America, and in this way secured such information as will enable them to bring charges against a number of dealers in tobacco. While this league has not made much of a hurrah, the members are earnest workers and they are doing considerable good. They have got a number of druggists who formerly handled cigarettes to cease the sale, and these converts are rendering considerable assistance to the older members of the association. While the plan of campaign as mapped out by the league is not definitely known, it is understood, however, that they will secure all the testimony possible against any dealer, druggist or otherwise, who continues to sell cigarettes to any boy or girl below the age prescribed by law.

——T. J. Hartnett, a druggist in Malden, Mass., has been fined $100 for keeping liquor.

——The druggists of Philadelphia during the past week awakened to the fact that patriotism counts, and some of their stores were leaders in the matter of decoration. The stores in the central portion of the city, specially, had all the patriotic colors, as well as wares arranged in such shape as to attract considerable attention. The decorations were not confined to any one leading house, as many of the retail druggists entered into voluntary competition to outdo all previous efforts. The displays were so noticeable that even the newspapers made comments on them, and it is hoped that the druggists will not stop with just Fourth of July decorations.

——In all probability the Lapp Drug Co., of Philadelphia, will pass out of existence this week, as on Monday the assignee's sale of the goods was begun, and the sale will be continued until all the goods are sold. This is one of the old drug stores in the city, and Mr. Lapp, the president, is well known throughout the trade in general. When he first started in the business Philadelphia was noted for its wholesale houses, there being very nearly half a hundred. But, owing to the competition and the consolidation of capital, the smaller houses have been driven out of the business and only a few now remain. While there is as much drugs sold here as heretofore, the business is done by a smaller number. Even the drug broker who once played an important part in the drug trade, is almost a thing of the past, as those who were once in the business have sought out other lines or have taken up with other schemes, as there is not enough in the drug business alone to warrant the trouble and expense.

Colorado Notes.

——F. C. Ewing, of Glenwood Springs, was in the city for a few days last week.

——L. J. Parsons, a leading Durango druggist, is something of a politician; he is now county treasurer of La Plata county.

——J. J. Smythe, of Durango, is one of the wide-awake druggists of the San Juan and takes a great interest in association work and reads the Era regularly and with profit.

——Dr. W. W. Rowan, druggist at Ouray, has been advanced to the highest honors the Masonic Order of this State can confer upon him. He has earned and will wear these laurels with credit to himself and honor to the order.

——F. Weiss, of The Weiss Chapman Drug Co., Del Norte and Monte Vista, has been confined to his room for the past three weeks with a severe attack of rheumatism. He is rapidly improving and will soon be out again.

——Several Denver druggists attended the Missouri meeting at Excelsior Springs and report having had a most delightful time. The Missouri druggists are coming to the A. Ph. A. meeting Aug. 14th in full force, as are those from the surrounding states. In fact anyone missing this meeting will miss the event of a lifetime.

ASSOCIATIONS,
CLUBS, SOCIETIES.

JULY.

15, Michigan—Detroit.
16, Virginia—Blue Ridge Springs.
17, South Dakota—Lake Madison.
17, Tennessee—Monteagle.
24 to 26, Illinois—Peoria.

AUGUST.

6, North Dakota—Fargo.
14, A Ph. A.—Denver, Colo.

SEPTEMBER.

2, N. W. D. A.—Denver, Colo.

——The Utah Pharmaceutical Association met at Salt Lake City, June 25th, about sixty-five members being present. Officers for the new year are, Dr. Fennemore, of Beaver, president; W. Bill, Salt Lake City, and W. L. Eddy, Brigham City, vice-presidents; C. H. McCoy, Salt Lake City, secretary; J. J. Driver, Ogden, treasurer.

——The Society of Chemical Industry of Great Britain meets at Leeds in annual session July 17–19. A most complete and attractive program for the scientific work and for the entertainment of attending members has been arranged. Visits to the great manufacturing works in the near neighborhood constitute an attractive and valuable feature of the program. A significant request of the committee of arrangements is that no members will apply for cards of permission to visit works in whose respective manufactures they are personally interested.

——At the meeting of the Executive Board of the Chicago Retail Druggists Association, the Board drew up the following recommendations to the general meeting of the Association to be held July 9: 1. That a committee be appointed to confer with the city authorities to enforce the liquor ordinance and stop persecutions of the druggists. 2. That committees be appointed to attend the meetings of the Illinois and American Pharmaceutical Associations. The Board appointed a committee of three to wait upon the telephone companies with a view to securing better service.

——The first meeting of the New Council of the Pharmaceutical Association of the province of Quebec, was held June 25, when the following officers were elected for the current year, namely: President, R. W. Williams, Three Rivers; first vice-president, W. H. Chapman, Montreal; second vice-president, S. Lachance, Montreal; treasurer, Alexander Manson, Montreal. Board of examiners for the major and minor examinations: S. Lachance, W. H. Chapman, J. R. Parkin, Montreal; R. W. Williams, Three Rivers; A. E. DuBerger, Waterloo. Preliminary board of examiners: Prof. A. Leblond de Brumath and Prof. Isaac Gammellwitt. J. Emile Roy, Quebec, supervisor of examinations for the city and district of Quebec. Auditors, L. A. Bernard and R. H. Bryson, Montreal. E. Muir, secretary-registrar, was delegated to represent the association at the coming meeting of the American Pharmaceutical Association. A resolution was adopted endorsing the recommendation of the annual meeting, that this association invite the American Pharmaceutical Association to hold its annual meeting of 1896 in the city of Montreal.

New York Branch of the League.

The regular monthly meeting of the N. Y. branch of the Interstate Retail Druggists' League was held at its rooms, 64 Madison avenue, July 5. President Rontey was in the chair and he began the meeting by introducing the new officers of the branch who were elected June 7. After reading the minutes the President introduced the subject of legislation, and recommended that the proposed fire department bill be presented to the legislature early in January of the coming year. This bill was prepared for the action of the last legislature, but the assemblyman in whose hands it was placed, did not present it as he thought there was no possible chance of getting it passed. Attorney Leo emphasized the necessity of getting the bill before the legislature at the earliest possible moment, for, said he, "all bills which are presented early in the deliberations of the legislature stand a better chance of being passed than those introduced during the hurry and bustle of that body's closing days." Mr. Rontey announced that it was the purpose of the branch to present a perfected poison law. He thought the Poison Law of 1882 was all right, but it should be somewhat amended, and to be made to stand for the present conflicting sections of the laws governing the sales of poison in the Consolidation act and those of the Penal Code. Mr. Breen thought that the College of Pharmacy should become interested and assist in getting such a law passed. The College of Pharmacy has been extremely successful in getting measures it had indorsed through the legislature, and its influence was worth considerable. Mr. Molwitz said that the branch should secure the support of the physicians, the Medico-Legal Society and other medical associations. With such "backing," he thought the bill would be sure to be passed. The proposed bills were referred to the committee on Legislation, with instructions to present a draft of the amendments to the branch for discussion. President Rontey read a communication from the Chicago Retail Druggists' Association, asking the branch to indorse the position of that body upon the "free" alcohol question and the revision of the laws concerning trademarks, copyrights and patents, and to appoint a committee of three as members of a "Committee on National Legislation" to act in the matter. The resolutions were not indorsed by the branch, some of the members seemingly favoring the resolutions sent out by the Philadelphia Druggists' Association. L. F. Stevens, of Brooklyn, told what the Kings County Pharmaceutical Association had done, and the resolutions were disposed of by the appointment of Messrs. Stevens, Molwitz and Breen as a committee to confer with the committee appointed by the Brooklyn Association before the branch would take any action upon the resolutions. The "co-operative purchasing agency" question next came up, and while it was the cause of considerable discussion, nothing of a tangible character resulted from it except that Secretary Morrison was directed to write to the manufacturers of several well known proprietaries for a statement of terms upon which they would sell their goods to the branch. The meeting then adjourned.

CATHEDRAL PEAKS.
"On Lindvale Short Line. South Park Ry."

THE A. PH. A. MEETING.

——All druggists and their friends in northern and Central Ohio, who expect to attend the meeting of the A. Ph. A., are requested to communicate with Lewis C. Hopp, 198 Euclid Ave., Cleveland, O.

——The Missouri Pacific and Union Pacific Railways have been selected as the route for the American Pharmaceutical Association party from St. Louis to Denver, for the annual meeting of our association. The party will leave St. Louis Union Station in special cars (or special train, if the number of applicants is sufficient) at 9:00 A. M., Monday, August 12, and arrive at Kansas City 6:00 P. M., where we will join parties from Chicago in a special train leaving Kansas City via the Union Pacific Railway at 10:30 P. M., arriving in Denver 5:00 P. M., Tuesday. The rate for the round trip, St. Louis to Denver and return, is $24.50. In order to make adequate arrangements for sleeper accommodations and other comforts, all desiring to join the St. Louis party are requested to communicate with Dr. H. M. Whelpley, 425 Clark avenue, St. Louis.

——The Entertainment Committee of the Colorado Division of the A. Ph. A. in conjunction with the Local Executive Committee have decided upon a trip to Silver Plume by special train from Denver, as the leading feature of their entertainment given to the visiting brothers and their friends. This is by no means all the entertainment, but is an event in the varied programme now nearly completed, of such importance as to be deemed worthy of more than passing notice. It is a trip of 60 miles through the most varied and certainly the most romantic mountain scenery one can possibly find. Taking the traveler from the heart of a large commercial metropolis through a beautiful belt of agricultural lands to the mouth of the world renowned Clear Creek Canon, and on up this Canon of panoramic grandeur to the little valley where Idaho Springs is located, a most pleasant little city with ample accommodations for all who desire to spend a few days enjoying the delightful and invigorating Hot Baths and drinking the waters from the numerous medicinal springs that dot the surrounding valley. From here to Georgetown the scene is an ever changing one of mountain gorge, open valley and suspension bridges. At Georgetown we start over the wonderful Loop, after which we reach the town of Silver Plume, where everybody is invited to inspect the longest and largest tunnel connected with any mine in this part of the mountain region. Besides this trip, which is to be entirely free to all the guests of the A. Ph. A., there are numerous side trips that are inexpensive and yet give one a correct impression of mountain scenery. The best of these is over the South Park R. R., as on this road one enters the mountains at a distance of only 18 miles from Denver at Platte Canon, and from there on the scene is one never to be forgotten. Platte Canon, Crystal Lake, Kenosha Summit, South Park, Buena Vista (Beautiful View), Leadville (the city among the clouds), the famous Alpine tunnel, where the waters from one side flow into the Atlantic and from the other into the Pacific, are a few of the many points of interest to be seen on this wonderful trip. All who visit Colorado at this time and take this trip will have none but the most pleasant recollections of the journey they have made.

——Lorenz Seitz, Secretary of the Alumni Association of St. Louis College of Pharmacy, has gone to Boston on a pleasure trip.

——Prof. J. O. Schlotterbeck, of the School of Pharmacy, University of Michigan, sailed for Europe, July 6th. He takes his bicycle with him, and with a couple of friends from Michigan University, will make a six weeks' tour through Germany. Later, he will settle down for a year's study, for which he has received leave of absence from the university authorities.

Chicago College of Pharmacy.

A laboratory for chemical research will be fitted up before the opening of the next course.

Laboratory work in pharmacognosy will hereafter be given in the senior, as well as in the junior course.

Prof. N. Gray Bartlett, lecturer on Pharmaceutical Chemistry, has resigned, and Prof. W. A. Puckner, Professor of General Chemistry, will take charge of the entire department, with A. D. Thorbuku, Ph. G., as his assistant.

Hereafter the degree of Pharmaceutical Chemist will be conferred upon such students as successfully finish the two years' course, but have not the practical experience required for the degree of Graduate in Pharmacy. The requirements for the latter degree will remain the same as heretofore, viz., four years practical experience, attainment of the candidate's majority, and completion of two terms of 28 weeks each.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parenthesis the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Pine Bluff, July 12.
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Oct. 9.
Colorado (C. H. Wells, Pueblo)—Denver, Sept. 7.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Sept. 3.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Oct. 7.
Florida (Thomas Clarke, Jacksonville)—.
Georgia (H R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—Springfield, July 23.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Aug. 6.
Kansas (H. W. Mehl, Leavenworth)—Wichita, Sept. 11.
Kentucky (Wiley Rogers, Louisville)—
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Aug. 14.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Oct. 8.
Massachusetts Freeman H. Butler, Lowell)—Boston, Oct. 1.
Michigan (F. W. R. Perry, Detroit)—.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, July 16.
Mississippi (J. C. Means, Natchez)—Jackson, Oct. 1.
Missouri (F. W. Sennewald, St. Louis)—St. Louis, Oct. 14.
Montana (G. W. Shoemaker, Billings)—.
Nebraska (M. E. Shultz, Beatrice—Lincoln, Aug. 14.
New Hampshire (George F. Underhill, Concord)—Manchester, July 24.
New Jersey (Albert S. Elwell, Bridgeton)—Trenton, July 18.
New Mexico (W. C. Porterfield, Silver City)—Albuquerque, Sept. —.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburgh, Rochester, Syracuse and Yonkers.
North Carolina (Wm. Simpson, Raleigh)—
North Dakota (W. S. Parker, Lispon)—Fargo, Aug. —.
Ohio (W. R. Ogler, Columbus)—Toledo, July 16.
Oklahoma (C. P. Wickmiller, Kingfisher)—Perry, Oct. 1.
Oregon (Dan J. Fry, Salem)—Albany, Oct. —.
Pennsylvania (Charles T. George Harrisburg)—Williamsport, July —.
Rhode Island (Wm. E. Cates, Providence)—Providence, Oct. 7.
South Carolina (H. W. Hummel, Charleston)—Columbia, July 17 and 18.
South Dakota (I. A. Keith, Lake Preston)
Tennessee (J. O. Burge, Nashville)—Mont Eagle, July 17.
Vermont (J. G. Bellrose, Burlington)—Brattleboro, Sept. 25.
Virginia (E. R. Beckwith, Petersburg)—Richmond, Oct. 15.
Washington (W. H. T. Barnes, Seattle)—.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Heimstreet, Janesville) Sheboygan, Aug. 16.
Erie County, N. Y. (C. O. Rano, Buffalo)—Buffalo, Aug. 3.
Kings County, N. Y. (L. T. Perkins, 19 Greene ave., Brooklyn)—Brooklyn, Sept. 17.
New York City (Wm. Balser, M. D., 218 East 13th street)—College of Pharmacy building, Sept. 9.

——Pennsylvania has a Homœopathic State Pharmaceutical Board, and a meeting of it was held June 27th at Philadelphia, called on account of the failure of the Governor to appoint a homœopath on the State Board to fill the vacancy caused by the death of A. J. Tafel. The board consists of F. J. Slough, of Allentown, president; A. L. Tafel, vice-president; A. F. Boericke, treasurer, and A. P. Aushutz, secretary.

——The Oklahoma Board of Pharmacy met at Norman on the 2d day of July. The new appointee, E. E. Howendobler, of Perry, was present and duly elected as president of the board. Also present were W. T. Mayfield, treas., Norman; C. P. Wickmiller, sec., Kingfisher. The following passed a successful examination: James Hutchinson, Chickasah; W. B. Armour, Oklahoma City; W. F. Hooper, Yukon; Fred C. Wittstein, Purcell, I. T. The next meeting of the board will be held at Perry on the 1st day of October. The Pharmaceutical Association will meet at the same place on the day following.

——Illinois board of pharmacy, at a meeting held in Chicago for examination from June 18 to 21, one hundred and five applicants were examined for registration, out of this number nineteen passed the examination for registered pharmacists, as follows: A. Aisenstadt, W. T. Braun, Daglon Flavin, J. J. Germer, J. H. Greves, K. B. Hare, E. O. Haschenberger, A. Heiberg, J. C. Hermanek, H. Hollander, J. S. Mattas, D. T. Powers, J. H. Serr, and J. A. Stewart, all of Chicago. C. W. Bailey, Hebron; T. O. Misser, Joliet; H. D. Oldham, Urbana; Emil Raquet, Aurora, and A. G. Volz, Arlington Heights. The next meeting of the board for examination will be held in room 3, State House, Springfield. There will be a meeting for examination held in Chicago Sept. 10, No. 173 39th street. All applications for examination must be filed in the secretary's office, Springfield, at least three days before the day of examination. Applications will not be received the day of examination, as the board must know at least three days in advance, how many will be present, so as to provide suitable accommodations for the class. Address all communications to Springfield.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

Shorter Hours.

Greensboro, N. C., June 26, 1895.

To The Editor:

I noticed in your elegant Era something in regard to drug clerks. I think myself that the young men generally are overworked, more so than in any other business. I have been in the drug business over 50 years. I am now 78 years old and as active as a cat. I have taught eight poor boys the drug business, and they are all in business on their own account and are doing well; I have also taught three of my own sons the business. I did a large prescription business. Some of the best physicians here were my patrons. I never kept open doors on Sunday in my life; I never saw any necessity for it. I gave the boys that day for recreation and church going. I did not care to have men sitting around buying cigars and tobacco.

If a prescription was needed to be filled, everybody knew where we could be found on Sabbath day, either at church or at home with our families. We generally filled the prescription, closed the door and went home. There is no more use for keeping a drug store open on the Lord's day than there is for a confectioner or grocer. But if some so-called professor high up in the church wants it done, he ought not compel his overworked clerk to do it, but do it himself. Yours faithfully,

I. R. CALLUM.

Pittsburg, June 28, 1895.

To the Editor:

More power to the drug clerks, and the drug clerk who made a move for shorter hours if you can not get more pay. I believe in a reasonable salary, provided your employer does not impose upon you and make you work from 6 A. M. to 11 and sometimes 12 P. M., and then get up and do some night work on different occasions. One night a week and every other Sunday is not enough for a drug clerk's liberty, he should get more and will get more. To obtain both shorter hours and more salary is impossible, as I don't believe in imposing upon any employer and asking two favors at once. Let it be one or the other. If your employer has been rubbing it into you, show him that you are man enough and not do it on him, and you will find a change in him in a very short time. A motto in the drug as well as any other trade is "Work for the Interests of Your Employer," and he will work for you. A drug clerk who is sleepy and lazy and just waits patiently for Saturday night to come, so that he gets his salary, will never make a success in this shorter hour business. We should have an adopted salary for beginners in the drug business, qualified assistants, pharmaceutical graduates, and registered pharmacists, and let it be the standard all over the country.

Hoping this will take effect and prove a success to both employers and employees, I am, Yours very truly,

PITTSBURG "HUSTLER."

The Drug Clerk.

Who works from early morn till late;
And makes the pills that others take?
The drug clerk.

Who works for eighteen hours or less;
And never gets a good night's rest?
The drug clerk.

Who works from first till seventh night;
To read prescriptions doctors write?
The drug clerk.

Who goes to bed with prospects bright,
Of being called up in the night?
The drug clerk.

Who tired and weary should make mistake,
Is sent to jail, a worthless rake?
The drug clerk.

Who gets for this no word of thanks;
Has no account in any banks?
The drug clerk.

E. C. W.

——Druggist E. Bryson, of Newport, Ky., is a candidate on the Republican side for the position of city assessor.

——Otto Brede, druggist of Newport, Ky., was bitten by a dog recently, and suffered severely before recovering from the injury.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ARKANSAS.

Jonesboro.—J. T. Stoddard, discontinued.

CALIFORNIA.

Oakland.—Henderson & Graham, dissolved.
San Diego.—Kring & Berkebile, sold out.

COLORADO.

Denver.—John O'Leary, attached.
Leadville.—E. Luedeke, attached.

CONNECTICUT.

East Hartford.—Wm. B. Noble, damaged by fire; insured.
Mystic.—G. F. Chapin, closed.
New Haven.—G. H. Butricks, sold to T. E. Eggleston.

FLORIDA.

Daytonia.—Thompson & Jones, dissolved; J. M. Jones continues.

ILLINOIS.

Chicago.—C. M. Archer, 2081 Lake st., sold to E. J. Davis.
Elston Drug Store, 280 State st., damaged by fire.
Oscar F. Schmidt, 56th st. and Jeff. ave. sold to C. L. Howe.
F. G. Stewart & Co., druggists' sundries, receiver appointed.
S. Wiezdicki, 181 Armitage ave., burned out; loss, $2,000.
Decatur.—Battles & Eichinger, dissolved.
Lincoln.—Kennelly & Walte, new store.
Rankin.—Finney & Westbury, sold to Andrew B. Westbury.

INDIANA.

Anderson.—Anderson Drug Co., sold out.
Connersville.—M. M. Erb, sold to Erb & McKennon.
Delphi.—F. H. Robinson, sold to Robinson & Thompson.
Elkhart.—E. A. Carpenter, sold to T. G. Bull.
C. H. Leonard, bought Whittaker stock at receiver's sale.
Garrett.—C. W. Camp, sold to L. M. Stoner & Co.
Grand View.—J. E. Chisler, sold to Herbert & Nuteville.
Kendallville.—H. Krueger, will discontinue.
Richmond.—T. E. Hirst, 116 Richmond ave., sold to E. A. Kirkey.
Taswell.—J. W. Lankford, assigned.
Waynesville.—Whiteman & Graham, dissolved.
Whiting.—T. P. Stiles, sold to L. A. Dyer.

IOWA.

Churdan.—H. M. Curtis, sold to Tigner & Miller.
Lansing.—Thornton Drug Co., assigned.
Marion.—Dr. G. E. Fullerton, sold to Schminke & Sargent.
Moville.—Smale & Wilson, sold to E. E. Rowe.
New Hampton.—L. L. Briggs, sold to Wilkins Bros.

KANSAS.

Winfield.—E. G. Cole, sold to W. F. Farringer.

KENTUCKY.

Aberdeen.—S. P. Campbell, sold to C. C. White.
Munfordville.—W. B. Brown, deceased.

MAINE.

Bangor.—Dr. W. H. H. Briggs, new store.
Machias.—Dr. E. B. Sibley, new store.
Old Orchard.—Jno. J. Dooley, new store.

MARYLAND.

Baltimore.—R. T. Petzold, Charles and Huntingdon, sold to Petzold & Hayes.

MASSACHUSETTS.

Fall River.—G. E. Arcand, deceased.
Magnolia.—A. M. Lycett, new store.
Nantasket.—"Ocean Pharmacy," new store.
Somerville.—F. M. Frost, sold to G. E. Grover.

MICHIGAN.

Addison.—S. A. Power & Son, dissolved.
Albion.—Jas. B. Gary, sold out.
Bellaire.—Spicher & Close, now O. E. Close.
Bradley.—M. A. Ross, sold to E. H. Morse.
Milan.—J. C. Harper, sold to Heath Bros.
Sunfield.—W. E. Vanade, sold out.

MINNESOTA.

Amboy.—W. L. Perrin, sold to F. Vroman.
Madison Lake.—Knapp & Saxton, dissolved.
South St. Paul.—J. F. Munn, new store.

MISSISSIPPI.

Macon.—J. F. Jones, burned out; loss, $6,000; ins., $2,500.
Oxford.—G. M. Knight, attached.

MISSOURI.

Fayette.—McGraw Bros., assigned.
Licking.—S. L. Mitchell, damaged by fire. Nichols & Co., damaged by fire.
Mexico.—Woolridge & McArthur, sold to Woolridge & Purdy.
Salisbury.—Wilhite & Baker, now A. G. Baker.
Springfield.—T. A. Day, sold to McQuerry & Headley.

NEBRASKA.

Battle Creek.—O. H. Maas, sold to Maas & Haman.

NEW HAMPSHIRE.

Warren Summit.—Russell Clifford, Jackson Bldg., new store.

NEW YORK.

Binghamton.—Jno. G. West's store sold to Beardsley & Parker.
E. Albany.—D. Donnelly, removed to Johnstown.
Ozone Park.—E. H. McArthur, deceased.

NORTH CAROLINA.

Charlotte.—Murphy & Atkinson, sold to Blair Bros. & Co.
Monroe.—McLarty & Co., sold out.

OHIO.

Cincinnati.—E. H. Burdsall, assigned. H. Gradey, Highland and Fosdeck aves., assigned.
McConnellsville.—Dr. John Ewing, died, June 29.

OKLAHOMA.

Oklahoma City.—W. B. Wheeler & Co., sold to C. B. Haley, who adds stock to his present store.

PENNSYLVANIA.

Fredonia.—H. M. Urey, damaged by fire.
McKean.—E. B. Potter, sold to W. B. Ritter & Co.

RHODE ISLAND

Providence.—C. J. Hackett, attached.

SOUTH DAKOTA.

Garretson.—Dr. J. Steenson, new store.

TENNESSEE.

Nashville.—P. M. Moskovitz & Co., have resumed business.

TEXAS.

Bryan.—James & Wipprecht, now M. H. James.
Dallas.—J. D. Kerfoot, sold out.
Fort Worth.—Dashwood & Thompson, now Dashwood & Weaver.
Galveston.—J. T. McLanahan, deceased.
Renner.—J. R. Wooten, sold to R. W. Bounds.
Sulphur Springs.—B. W. Smith, damaged by fire.

VERMONT.

Bethel.—J. F. Sisco & Son, sold to K. Stockwell.

WISCONSIN.

Appleton.—H. Wendelborn, new store.
Augusta.—J. R. Rundlett, sold to G. W. Paul.
Hayward.—Chas. Peterson, new store.
La Crosse.—T. H. Spence, sold Retail Dept. to J. A. Erhart & Son. Style remains "Spence's Pharmacy."

BRITISH COLUMBIA.

Victoria.—R. J. W. Atwood & Co., discontinued.

NEW BRUNSWICK.

Port Elgin.—F. A. Shappe, new store.

——The drug store of W. J. Kehoe, Oswego, N. Y., was destroyed during a large fire which occurred July 6th.

——Charles M. Smith, of T. H. Hinchman & Sons, Detroit, was called to Clarkson, Mich., by the death of his father.

——The manufacture of pepsin brandy and pepsin wine has been undertaken by the Hygienic Beverage Company, at San Jose, Cal.

——Isaac Shapira, druggist of Shenandoah, Pa., was married to Miss Hilda Hirschmann, of Boston, Mass., at Philadelphia, on July 4th.

——George W. Ireland, of Boston, who, with his brother, was for many years engaged in the soda water business in that city, is dead, aged 79.

——Frank Smith, clerk in his father's drug store at Dyersville, Ia., committed suicide July 2d, because his father would not send him to a medical college.

A SPONGE FISHERY.

HOW THE BUSINESS IS CONDUCTED AMONG THE BAHAMAS.

In a syndicate letter, published in the Oregonian, Fannie B. Ward writes from Nassau, New Providence, thus:

There is no single interest of so much financial importance to the Bahamas as sponge-fishing, and Nassau is the great importing point for the sponges of the Western hemisphere, furnishing both Europe and America with their principal supplies of coarse sponges. It gives employment to more than 6,000 men, including not only the fishers themselves, and the sloop-owners, brokers and shippers, but to those engaged in handling the sponges in their various stages and preparing them for market. And the exports of this one commodity from Nassau range from $100,000 to half a million dollars a year. The sponge fleet is composed of perhaps 500 regularly licensed vessels, all schooners are sloop-rigged, of from 10 to 50 tons burden. They are of uniform pattern, if not of size, with framework of native Madeira wood, hard and durable as iron, and plankings and trimmings of yellow pine, brought from our Southern states; and as they are all made in the Nassau shipyard, and the average "life" of such a ship is only 16 years, their construction and frequent repairs form another important branch of local business. Each vessel has a small cabin atop for sleeping purposes, and the cooking is done on deck, oddly enough, in a small wooden box, the fire being built on a bottom of earth. Everybody connected with the trade, until it gets up into the hands of the brokers and shippers, is "colored"—any shade between jet black and the hue of West Indian molasses. The hands employed in washing, clipping, packing and preparing for shipment abroad, are generally paid 50 cents a day for 10 hours work. As for the men who do the dangerous part of it—those who go down to the sea in ships and wrest the sponges from the bottom—they are never hired by the day or month, or promised a definite sum, but their earnings depend entirely upon luck and circumstances. The owner of a ship fits her out at his own expense, and the profits of the voyage are divided up in shares, between himself, the sailing-master and the men. Each ship carries a crew of from eight to twelve men, and while the owners, as a rule, find considerable profit in the business, it is rare indeed that a sponge-fisherman does more than make a tolerable living. It is darkly hinted that on favorable occasions, when the "sponge catch" has not been good, these men turn wreckers, an occupation verging closely upon piracy; and sometimes, when no profitable wreck has turned up for months, they are even tempted to decoy a ship from her proper course and lead her upon the rocks by a display of false lights. The intricate navigation of these waters, dotted by thousands of small reefs and islets, which can be traversed with comparative safety only by three channels, has always furnished a demoralizing lot of flotsam and jetsam in the way of shipwrecked merchandise to Nassau.

Hereabouts sponges are so plentiful and cheap that they are used for all sorts of unheard-of purposes. They serve every purpose to which a person puts a mop, rag or scrub-brush; glasses and silver are polished with sponges, the maids use them for dish-cloths, windows and floors are washed with them; you see them doing duty as chair cushions and footstools, and many a boat has a sponge in each end, as big as a half-barrel, which answers for a seat. You see lying about the wharves and kicking about the streets fine, beautiful sponges that in New York would cost from 50 cents to $1 each. Here you may buy a bath sponge, big as your head, for a nickel, or a string of 15 or 20 just like it, or of assorted sizes, for "one and six"—37½ cents. Hardly any American visitors leave Nassau without taking away a quantity of them, they make such beautiful presents to give to one's friends and acquire additional value when accompanied by the statement, "I got them at the fisheries, you know." The servants about the hotels have learned the knack of packing sponges, and for a trifling consideration will take a bushel of sponges and compress them into a cigar box. And the best of it is that this packing does the sponge more good than harm, making it firm and solid, and the instant it is released and moistened it will swell up again to double its original size. Such large proportions and importance has the sponge business in Nassau that years ago it was found necessary to establish a sponge exchange, on the same plan as the stock exchange in our large cities, and governed by the same rules; and every sponge-shipping firm in Nassau, to be successful, must be represented in it. The sponge market is a large, open building, long and narrow, without any side walls. When the sponge vessels reach this port their cargoes are all sorted out and various qualities of sponges put into separate piles, three or four feet high, along the side of the market shed. The owner of each pile is known by its position in the row, or from the label attached. The sponge-boats usually get in on a Saturday, and therefore the early part of the week is the best time to visit the market. Perhaps the cargoes of a hundred vessels have been deposited and sorted out over Sunday. When the place is opened at 9 A. M., on Monday, all the sponge-dealers in Nassau, or their representatives, are assembled. The auction begins at once, bidding being done by written tenders, only members of the sponge guild, or those making genuine offers, being allowed to bid. Each is provided with little slips of paper, bearing the numbers of the different lots of sponges. A member goes up to one of the little heaps, looks it over, makes mental estimates of the quantity and quality of the sponges in it, decides how much he will pay for it, and puts the figures on the paper corresponding with that particular lot, with his initials at the bottom. When he has visited all the piles and made estimates on their value, and the other dealers have done the same, the papers containing the estimates are handed to the clerk of the exchange. He

looks them over, ascertains who is the highest bidder on each lot, then reads off the purchaser's name and the price, and that day's business is over. Of course, in each case, the highest bidder is declared the purchaser. Nassau dealers have come to know at a glance what a heap of sponges is worth, and often the estimates are remarkably close—perhaps only a few cents' difference on a pile worth $50. A novice going into the market would not have the remotest idea of the local value of the lot, and a year's practice would hardly enable the "tenderfoot" to compete with dealers brought up in the business, who know sponges as well as a Wall street man knows stocks—frequently better. The sponge market stands on one of the wharves with the blue sea for a delightful boundary of one end of the big building. Being always quiet, clean and orderly, with cool breezes sweeping through, you could not find a pleasanter place in Nassau in which to spend a hot morning. Here you may pick up many kinds of sponges never heard of before. As everybody knows, those of the Bahamas are generally inferior to the Turkey or Levant sponge, the Zamacci, or those of the Mediterranean. Most of these belong to one of the four kinds, known in trade as "sheep's wool," "reef," "finger," and "velvet."

Some of them can hardly be told from the best in the world—such as the "sheep's wool," which are soft as milk and as fine in texture as any brought from the Levant, while others, though large and strong, are comparatively worthless. There are also "bouquet" sponges, "wire," "glove," "silk," and dozens of other varieties. The "grass" sponges, yellow and coarse, take on the queerest shapes and look prettier than many more valuable kinds, when resting in piles on a broad bed of Palmetto leaves spread on the market floor. The "reef" sponges are soft, light-colored, and generally of uniform size, about as big as your two fists; and these are the kind usually hawked about the streets, strung together on strings—six or eight feet of them for a quarter of a dollar. The dainty little "wire" sponge is a beautiful amber color, the size of your smallest finger, and perhaps a foot long, fit only for surgeon's purposes. How shall one describe the beauty of the so-called "bouquet" sponge and its many curious forms, delicate as the finest lace—a mass of cups growing from a common base, like a compound flower stand in a China store? How make plain to eyes that never saw them the wonderful "pineapple" sponge, or "Neptune's cup," or the "coral" sponge, or the ugly-looking "snake" sponge—perhaps six yards long and the size and color of a good-sized rattler, all coiled and knotted together in a hideous tangle? The dealers look with contempt at the sponges picked up on the beach and consider worthy of notice only those captured deep down in the sea-gardens where they grew and at once properly cured; but the specimens that most delight our uncommercial fancy are generally found among the refuse. From among a heap of gulf-weed, shells and sand, about to be swept off into the sea, we rescue a "glove" sponge, with all its fingers sticking straight up, as if just "tried on" by the shopkady, but which happened to grow so loosely as to be unsalable; or a great round "grass" sponge, with pinkish base and purple sea-feathers waving over—its center like the softest of downy cushions.

Here the method of gathering sponges is by means of iron hooks attached to long poles, for in these clear waters it is not necessary for the men to dive for them, as in the Mediterranean. They do not "go it blind," however, and probe in the mud like oyster-men, for, by the aid of a glass, they can see every inch of bottom through these clear waters, and deliberately select their prey. Each schooner of the fleet carries along several sculls or rowboats. Arrived at a favorable locality, the vessels anchor, and the men go out in the boats with their tongs and water-glasses. The latter are simple wooden boxes a foot square, open at one end, and with a pane of glass set in the other. Holding this perpendicularly over the water, or slightly submerged, everything on the ocean floor, no matter how many fathoms below, can be seen as clearly as in the aquarium—sponges, coral, shells, fish and all. Having determined what sponges to take, the fishers reach down with their long, oyster-shell-like tongs and seize hold of each one, carefully detach it from the rock or coral to which it clings, and lift it into the boat. Some sponges adhere firmly to the bottom, while others, known as "rollers," are not attached at all.

A few years ago an attempt was made to introduce dredges, but it was found that their use was likely to ruin the beds, because in passing over the bottom they not only dislodged and brought up the good sponges, but the young and unsalable ones, killing the spawn and working great mischief. The fishermen, too, raised an outcry against them, declaring that the dredges took the honest bread from their mouths, by interfering with their old-time rights and privileges. Finally an act was passed by the Bahama Legislature prohibiting the use of dredges, and now only the hook-poles are ever seen in these waters.

When a boat-load of sponges has been secured they are brought to the vessel, spread out upon the deck and left exposed to the sun for several days, during which time the animal matter which covers them gradually dies. When first taken from the water you would never suspect that all the black, ugly, ill-smelling things, which look more like raw liver than anything else, are really fine, beautiful sponges. The fishermen have many funny yarns to spin about tourists, who believed that sponges grew from seed and were picked on bushes, or expected to see plenty of nice, delicate, light-colored sponge-animals swimming about in Nassau harbor. It does take some time to realize that the part of a sponge we use is only the many-roomed residence in which the animal shelters himself when at sea, and that he must die and disappear entirely before we can have anything to do with the house which he built with such skill and architectural precision.

During the process of decay the black, gelatinous substance of a very low order of marine life emits an odor which renders the ship a thing to be given as wide a berth as possible. When the sponges are sufficiently "dead" and dried out, the vessel proceeds to the kraal, as it is called, which is merely an open pen of poles set along together in some shallow and sheltered cove on one of the adjoining bays, in which the sponges are placed and left to soak and be washed by the action of the water sweeping through. After several days they are taken out and beaten with sticks to remove all remaining remnants of decayed matter; then, when quite clean, they are again put aboard the vessel, packed away in the hold, conveyed to Nassau and sold as described in the market. The average "catch" per trip cannot be accurately stated, as the cargo varies greatly in size and value. Of the larger sponges, a catch of 5,000, and of the smaller size, 7,500, would be considered a fair reward for an expedition. Occasionally from 12,000 to 15,000 good, large sponges have been secured on one trip, but such success is exceptional. The vessels are generally provisioned and fitted out for a voyage of about six weeks, and seven or eight voyages are made in a year. There is no particular season for sponge-gathering, as it goes on equally as well at any time. Many vessels, however, "lay up" during August and September, the men being more afraid of hurricanes during that time. Of course, the quieter the weather and smoother the sea, the better the chances for making good catches. Much also depends upon the industry and temperate habits of the crew; and there is luck also in finding a locality where the sponges are of good quality and abundant. As for the length of time required for the sponges to grow to marketable size, none of the fishermen is able to definitely tell, although opinions (that widely differ) have been volunteered by those who know less about it. Under ordinary conditions of growth, a healthy sponge reaches the smallest marketable size in about two years. Sponge farming has never been practiced here to any great extent, as off the Dalmatian coast, but there is no doubt that it might be with profit, and the finest Mediterranean specimens transplanted to these coral reefs, as the only requisite to their subsistence seems to be a coralline shore and limestone surroundings. The details of sponge-farming, as carried on under the auspices of the Italian government, are as follows: Selected specimens of the best varieties are obtained, in as nearly an uninjured state as possible. These are placed on a board moistened with sea water, and cut with a knife, or a fine saw, into inch-square pieces, care being taken to preserve intact the outer skin. The operation is best performed in winter, as exposure to the air is far less fatal than in summer time. The sponge cuttings are then trepanned and skewered on bamboo rods; the rods, each bearing three cuttings, are secured in an upright position between two parallel boards, which are then sunk to the bottom of the sea and weighted with stones.

In choosing a spot for a sponge farm, the mouths of rivers and the proximity

of submarine springs must be avoided, for in this case, as with reef-building coral, mud is fatal, and the salter the water the better. The most favorable situation is a sheltered bay with a rocky bottom overgrown with seaweed and freshened by gentle waves and currents. When so favored, the cuttings grow to a sponge two or three times their original size in about one year, and at the end of seven or eight years are large enough for the market—a long time to wait, it would seem, for a crop which sells for so little after all!

What Position Should the Retail Drug Trade Assume Regarding the Question of Tax-Free Alcohol?*

At the annual meeting of the Trade Association of Philadelphia Druggists, held on April 10, 1895, resolutions were unanimously adopted expressing the sense of this association, "that alcohol, which is an ingredient of medicine, or which is used in the preparation and manufacture of the components of the same ought to be wholly free from tax."

Under the date of May 21, 1895, a circular letter has been issued by a committee of the Chicago Retail Druggists' Association, in which the co-operation of pharmaceutical associations is solicited and the adoption of resolutions similar to the following is suggested:

"Resolved, That this association favors the repeal of the clause in the present tariff law exempting alcohol used in manufactures from internal revenue taxation, on the ground, primarily, that the law in its present form would inevitably be attended with great discrimination against the retail druggist, and great resulting loss to his business and profession, and with no material advantage to the people to compensate for the serious loss to the National revenue from the remission of the said tax."

The positions assumed by these two organizations, representing similar interests, are so diametrically opposed, that we are led to inquire which truthfully represents the view of a majority of retail druggists on this important question?

Our western friends, with their type resolutions, remind us forcibly of the resolves of Hosea Bigelow's Springfield convention:

"Thet we're the original friends o' the nation,
All the rest air a paltry an' base fabrication."

They might possibly learn another useful lesson from Lowell:

"Resolves air a thing we most gen'ally keep ill,
They're a cheap kind o' dust fer the eyes o' the people.

The letter requests consideration of a reprinted article accompanying the same. This contains several statements unaccompanied by arguments or proofs, to which we must take exceptions, as not in accordance with the information obtained by the committee of the Philadelphia College of Pharmacy, who have carefully considered the subject.

While on a subject of such importance, we must expect differences of opinion, which, if honestly held, merit our respect. It is a matter of regret that there should be introduced into this discussion an anarchistic yell against the patent medicine manufacturers. They are fancifully pictured as villains swinging their battle-axe and plotting the capture and destruction of the most important part of the business of the apothecary. This sounds very pretty, but there is here no need of Fourth of July or political campaign oratory. It is belittling and under-estimating the intelligence of the pharmacist to appeal to him by this style of demagogical argument, or lack of argument. The patent medicine manufacturer is able to take care of himself and fight his own battles without our aid, and we, as pharmacists, should be able to do likewise. The desirability of tax-free alcohol for the retail pharmacists should be considered by us as a distinct proposition, independent of the patent medicine question.

It is stated that "the merits of tax-free alcohol in the arts under certain conditions is not now under discussion. Certain industries may properly be given such relief, provided always that the benefits be undiscriminating." We presume that the merits of the claim for tax-free alcohol in the arts and certain industries is admitted—why not in medicinal manufactures also?

The radical error pervading the entire article is the assumption that the law was passed in the interest of one class of manufacturers only, and that it would be administered in such a way as to discriminate against against the retail druggist. Upon this assumption likewise appears to be based the action of the Chicago druggists. Is this conclusion warranted?

Reference is made to the draft of proposed regulations submitted in the early part of September, 1894, by the Commissioner of the Internal Revenue to the Secretary of the Treasury. It is admitted that these suggestions as to regulations were framed primarily with the idea that a manufacturer was one who manufactures for wholesale only (see report of Secretary of Treasury, 1895, page 976). These regulations contained a number of suggestions which were not acceptable to this class of manufacturers.

To what extent the hasty and ill-considered action of the American Pharmaceutical Association, at the Asheville meeting, held just prior, influenced the Commissioner in his opinion that the retail pharmacists and others who manufacture on a small scale only did not desire to avail themselves of the benefits resulting from this act, and therefore need not be considered, must remain a matter for conjecture. The Secretary of the Treasury, it is stated, from the earliest interviews on this subject, declared that if the act was enforced it must be without discrimination against the smaller manufacturers.

We have reason to believe that the first decided stand on the part of retail druggists and the first intimation that they expected to be considered, was at a meeting held at the Philadelphia College of Pharmacy on October 16, 1894. The committee appointed on this occasion has insisted that the evident intent of the act was to be general, and that the regulations must be framed so as to protect the interests of all manufacturers to the extent to which they are legitimate users of alcohol.

The Chicago pharmacists appear to have deliberately closed their eyes to the efforts of their eastern brethren to establish the claims of the retail pharmacists to share in whatever benefits that might result from the act. They acknowledge defeat and rout in advance, and then, like the fabled dog, who could not eat the hay himself, refused to allow the oxen to eat, who could. Is it not a better position for the druggist to assume, that if luxurious hay is to be offered to the well-fed, let us poor-fed cattle likewise have our just proportion?

But the efforts of pharmacists to secure recognition as manufacturers within the meaning of this act has had some effect on the officials of the government, and we do not believe that to-day the regulations first suggested would be seriously considered as applicable. The very first suggestion defining manufacturer as one who manufactures for wholesale only, is effectually eradicated by a later letter of the Commissioner under date of January 9, 1895, in which he assumes virtually the same position as taken by the committee of the Philadelphia College of Pharmacy. To quote: "In fact it is not clearly seen how any discrimination could be made against any druggist who makes medicinal or other like compounds in which (as happens in the business of all or nearly all druggists) alcohol is a necessary component part."

"How can it be said that a manufacturer is not a manufacturer because the amount of business done is small? There being no special statutory definition in this instance, no such discrimination could be made by the Treasury Department." (See report of Secretary of Treasury, 1895, page 992.)

Why is reference to this change of opinion of the Commissioner of Internal Revenue avoided by the author of the circular? But thereby falls the statement of discrimination contained in their type resolution.

The assertion that, with free alcohol, the retailer would be forced into buying all his preparations, is contradicted by the numerous correspondents of the Philadelphia Committee, who almost unanimously assured us that they desired tax-free alcohol in order to greatly extend the manufacture of their own preparations. Tax-free alcohol is hailed as the medium by which the pharmacist will become the manufacturer of nearly all the products he dispenses.

Those in favor of tax-free alcohol are accused of "hypocrisy" in pleading for cheaper medicines, yet the strongest argument that has been advanced for the retention of the tax is that high prices may be maintained. Which is the more sordid motive? Let us frankly admit that if the druggist was granted tax-free alcohol, he would not reduce the price of his products the entire amount

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* Read by George M Beringer at a Pharmaceutical meeting of the Philadelphia College of Pharmacy.

of such reduction. It must be borne in mind, that with each advance in the price of alcohol, due to the increase in the tax, he has been enabled to make but a portion of the advance in the price of his products, and each time he has been compelled to content himself with a smaller percentage of profit. For example, the tariff act of 1894 advanced the price of alcohol thirty-eight cents per gallon, yet we as pharmacists have not been able to charge more for our products made therefrom, but have individually sustained this loss. Let each pharmacist calculate how much of such increased taxation he has been compelled to bear during the nine months that this act has been in operation. With this tax removed, or even reduced, there would necessarily follow a readjustment by which the consumer would receive his share of the reduction, and our capital, skill and special knowledge would receive a more just recompense.

The justness of the claim of the manufacturers, who necessarily use alcohol, for relief from this burden of discriminating taxation is generally admitted. In an enlightened and progressive nation, such as ours, we cannot doubt that this portion of a revenue measure of the war will eventually be doomed. While spirituous liquids intended for beverages will, perhaps, for moral reasons, always be taxed, the plea for the remission of the tax on alcohol used in medicine and in the arts is surely gaining strength. That the problem of a proper means of protecting the government from fraud while granting a rebate of the tax on legitimate manufactures will shortly be solved is probable.

A government which can, without any serious inconvenience, pay in a single year to producers of sugar a bounty of $12,100,208.89, exclusive of the cost of the clerical work entailed, cannot claim that any revenue exigency requires longer delay in granting relief from a similar amount of taxation properly due to another class of manufacturers.

Now is the time for pharmacists to place themselves on record as favoring tax-free alcohol for all legitimate manufacturers, be they large or small producers, so that the Treasury Department and the legislative branches of the government may no longer be in doubt that we are manufacturers and entitled to the same consideration and privileges as others.

——Atlanta, Ga., now has a real Chinese drug store.

——Salt inspected in Michigan for June, 389,172 barrels. Total for year to date, 1,496,175 barrels.

——A $100 burglary was committed in the drug store of E. E. Russell, Jackson, Mich., a few nights since.

——Druggist Henry Gradel, of Cincinnati, has made an assignment, assets $8,000, liabilities $5,000.

——S. T. Lyman, a popular druggist at Pelhamville, N. Y., was married to Miss D. Birch, of Carrollton, Ohio, last month.

The Olive in California.

AN IMPORTANT AND RAPIDLY GROWING INDUSTRY.

When the present season of orchard planting in California shall have closed, some time during the latter part of this month, there will be over 700,000 more olive trees in this State than there were at the beginning of the year. The rapid growth of the olive industry in California, indeed throughout the Southwest, is one of the marvels of horticulture on the West Coast. There is good reason to believe that in another decade the growing of olives in the Golden State will rank well along with that of oranges in the matter of the production of wealth and the capital invested. Never has any agricultural or horticultural pursuit made such giant strides, even in this land of big enterprises and new and radical ideas, as that of planting and cultivating olive orchards. Six years ago there were less than 700 acres of these groves in all California, and three-fourths of these were in Southern California. The next year, that is in 1890, the acreage was increased by some 9,000 acres. The rare financial success that the bottlers of olive oil and the sellers of the fruit in its pickled form had that year started the boom in olives that has gathered momentum as it has rolled along each season since. In 1893 there were over 400,000 olive trees planted in California on 4,000 acres. Last year the sales ran to over half a million of trees, and this year the area of olive orchards will be increased by fully 7,000 acres. There are in California to-day about 21,000 acres of olive orchards, and of these about 5,000 are in bearing. The nurserymen who make a specialty of growing olive cuttings into small trees for orchard purposes say that the demand for trees of this variety of fruit in this State next year will be over one million, and they are proving their faith by their wholesale preparations for meeting the demand.

As in growing oranges, lemons and prunes in this State, there are certain localities where olives thrive extraordinarily well, and where the planters have greater faith in that branch of horticulture than in any other. Thus, for instance, in the northwestern part of Santa Barbara County there is little or no attempt to grow any variety of fruit but olives, while in Ventura County, which adjoins, there are few and small olive orchards, but immense tracts are devoted to growing prunes and lemons. Pomona Valley is the acknowledged home of the olive industry in Southern California, and the fact that from 300,000 to 350,000 trees for planting olive orchards have been grown there and shipped away annually makes it the most important olive nursery depot on this continent. There are in California but three mills for the production of olive oil from the olive. The largest is the Howland mill at Pomona. It was built two years ago on plans from Italy, and much of the machinery and apparatus came from Leghorn, Italy. The Cooper olive mill at Santa Barbara, and the Kimball mill at National City, near the Mexican border line in San Diego County, have each cost many thousands of dollars, and have been sources of large profit. So large has been the call for California olive oil since 1889, that the whole product has frequently been sold in less than 90 days after its extraction from the berries. It was formerly contended for years that the oil, adulterated with cottonseed and peanut oils and other ingredients, was so popular and cheap in the United States that the average person did not know the difference, and, therefore, did not care for the pure oil of the olive.

The age of the oldest olive trees in California runs back over 90 years. They are six in number and stand about the San Gabriel Mission, still bearing fruit, living monuments to the wisdom of the Franciscan friars. The very oldest olive tree in the country is that at the Capistrano Mission, 30 miles south of Los Angeles. Its seed came from Barcelona, Spain, in 1769, and the purpose was to provide food from the trees for the monks, who came from olive-growing regions in the same latitudes as Southern California, in Spain and the south of France. The old monarch has been photographed hundreds of times by tourists from the East. It is 50 feet high and has a trunk 5 feet in diameter.

The first manufacture of olive oil in California, outside of the Franciscan monasteries, was that at Comulus ranch in San Buenaventura County in 1871. The product was sold at a good profit to druggists and others in Los Angeles and Santa Barbara. In 1892 the production of olive oil had grown to 34,000 gallons, in 1893 it was about 50,000 gallons, and this year close estimates put the yield at about 75,000 gallons. The extent of the American market open to the California olive oil makers can be realized in the fact that the Department of Agriculture reports there are over 850,000 gallons of olive oil annually imported into the United States from Italy, Spain and France, and tens of thousands of gallons of olive oil, adulterated with peanut, cottonseed and poppy oil, are sold every year in this country.

The Eastern people here often express wonder that olive growing in California has been so backward, considering that the adaptability of the fruit to this climate and soil were demonstrated by the Franciscan monks many decades ago. The principal reason is because of the former slow processes of propagating olive trees, and the many years that had to be spent in bringing the young trees to their bearing. People in the West, indeed all over the Union, do not care to give long years in preparing for a crop of fruit of any kind. The present method of growing olive trees for orchard planting was not known until about 1883. The method of producing olive trees now in vogue among European olive growers, and once common in California, is to cut limbs as large in diameter as a man's arm from trees, and from each of these start a new tree. An old olive tree will not furnish more than three or four such limbs for propagating purposes. It will be seen that the process is expensive, and limits the starting of new orchards to a few each year. Another method is the old-fashioned planting of olive seeds.

This is the slowest manner of making an orchard, and by such a method bearing olive trees cannot be produced in less than 18 or 20 years, and then only by extreme care and watchfulness. In California the method of growing olive trees from small cuttings has for 10 years been made a great success. Olive trees for orchard-planting purposes used to cost $7 and $8 each. They can now be had by the thousands for 10 and 15 cents each. A poor Pomona nurseryman found by experimenting that olive trees could be propagated from cuttings by starting them in the winter months in boxes of sand in hot greenhouses. That discovery has been worth millions of dollars to California and the Southwest, but the discoverer is still working in a Pomona nursery for $1.50 a day. The cuttings that come by the hundreds from a full-sized tree are about the size of toothpicks. The new method of propagating requires the most constant attention and much experience, but the plants are grown on such an enormous scale that the cost of each is very low. When the cuttings are rooted, they are transferred, in the warmer months of spring, to the out-of-door nursery, where they become trees of 3 and 4 feet in height in 12 or 18 months.

The practical California fruitgrower plants the trees in his olive orchard forty feet apart, so that there will be ample room for the roots to spread over a large area and to get all the sustenance possible from the soil. The olive has almost human gift of adaptation to environment. It flourishes in a temperature that falls to 14 degrees above zero, and in the inland valleys of California, where the thermometer reaches 120 degrees, it grows, irrigated only by natural rainfall. It finds in the California foothills just such homelike surroundings as at its 4,000 feet level in Algeria and its Italian elevation of 3,200 feet. It will prosper in any friable soil rich in lime and potash, as are all the virgin lands of the crest. It also does well where its roots can penetrate easily a rocky, clay, sand, granite or volcanic formation, seeming to prefer an arid mountain soil, but not disdaining life in the black adobe near the coast.

The most popular olive in this region is the Mission. It is much smaller than the olive of commerce that has long been known in the Eastern States, and there are many objections to it by the most recent olive growers, because the eastern public, where the Californians are making their market, do not take to it. The Mission is that brought here by the mission fathers. It has shown a ready adaptability to any soil in California, and is a prolific and steady producer of fruit. The olive nurserymen, however, say that the new varieties of the fruit, that have been imported from Italy and Southern France, will in time become the most profitable, and therefore the most generally grown varieties of the fruit in this State. Special attention is now given to cultivating olives for oil alone, or for keeping qualities in pickle; and here again there are a variety of opinions among horticulturists.

Like the true patrician that it is among all fruits and foods, the olive does not vaunt itself in gaudy display. Its blossoms, botanically allied to the lilacs and jasmines, hide their cream-colored petals under the mouse-ear foliage, the narrow leaves of which show at every gust from drab green to gray green, ever keeping some strange sympathy with the brilliant sky which is always the canopy of the olive. The unripe fruit has its own shade of yellowish green, to which man has been forced to give the distinctive family name, though the ripe fruit is purplish black, having a stain of the blue.

To millions of people whose knowledge of olives has been confined to a row of bottled olives on the shelf of a grocery store or to barrels or kegs of the fruit near the store counter, it will be news to learn that there are in Spain, Italy, and California some two hundred and ninety varieties of olives, the oil of each being as distinct in flavor as the wines of different grapes, and the colors of the oils ranging from amber to deep gold. The pickling olive is no more to be confused with the oil olive than the raisin grape with the wine grape. The Picholine and Nevadilla are the favorites for oil making, Northern California preferring the former, where it yields 3 per cent. more than in the south, and Southern California landing the latter as an earlier and heavier bearer, doing best on heavy and sandy soil. The Ivaria is singled out by many as the best for all-round use. It is valuable both for pickling and oil yielding. It ripens early, adapts itself to the soil, and is not affected by frost. It bears dark blue clusters. The Rubra is a remarkably regular and thrifty bearer. In the South it is a favorite for oil, being sweet, with a free stone. The tree is a rapid grower, doing well in all parts of the State, and best of all, on dry hills. The olive is always found beside its ancient friends in the Orient, the fig and almond, and it may safely be said that it will thrive anywhere in California except in the wheat valleys and on the high mountains, and often on lands considered wastes or washes.

The picking and harvesting of olives in California is largely done by boys and girls, who drive wagons under the branches or spread canvas on the ground to catch the fruit. The tree is generally shaken, or the fruit may be dropped by hand or dislodged by padded rakes, the gatherer being duly impressed by the ancient precept, "Do not cut or strike Minerva's sacred tree." The Howland olive mill in Pomona is a good specimen of the modern process of getting the oil from the berries. Here the assorted fruit is piled into a trough or mortar at the olive oil mill. A heavy stone, rotated by a gas engine, is put into motion over them with a slow, steady pressure of six or eight turns in a minute, greater speed causing a deleterious fermentation of the sensitive pulp and consequently of the oil, which is enmeshed in cells in the "water of vegetation," and the flesh. The mortar is always cleaned by baths of lye, and rinsed off with vinegar, though in the modern and less poetical tubs such strict purging is not insisted upon, great cleanliness, nevertheless, being an invariable rule. Some growers have prepared their own oil by the use of a common cider-mill, and large orchards have steam and hydraulic presses.

When the olives have been reduced to a pastelike substance, the mass is packed by hand into round, fat manilla mats, imported from Italy and Spain, and known as bruscoles, so that each mat holds about half a bushel of olive pulp. The mats are piled one upon another to the height of a yard, and placed in a powerful hydraulic press. The pressure upon them is gradual, continuing for several hours until the pulp has been squeezed dry. The oil runs with the "water of vegetation" into tin tanks below. The next process is filtering and separating the oil and water, and then comes a series of clarifications of the oil to suit the demands of commerce and to please the appetite of the consumers. The process of clarifying olive oil requires about a week, in a constant temperature of 55 degrees. Extreme care must be exercised in order to keep any odor or taint of atmosphere from the apartment where the clarification is in process, for olive oil is unusually susceptible to attracting and holding odors and dust.

The edible oils, and some of the others, perhaps, are filtered through prepared cotton, or charcoal lying between sand and chalk, the sand holding the gross impurities, and the charcoal the subtler, while the chalk absorbs part of the "water of vegetation." The clarification may be carried on to any extent, the final product being preserved in earthen jars, or in cool reservoirs. In no case is a drop of water to enter the jar, and thus injure the golden transparency of the oil.

The ancient Italian proverb, "A fool at the foot of an olive tree," was no doubt meant to express the ease and simplicity of curing or pickling olives for use. The essential requirement in the work is taste and judgment in the preparation of the liquors. The most generally accepted recipe for olive pickling is this: For six gallons of olives, dissolve a pound of concentrated lye in six gallons of water, and add four pounds of salt. Soak the berries in this for two days. Draw the water off and replace it with the same quantity for two days more. Draw the water off and immerse the olives in pure water for from five to eight days, according to bitterness. Draw off this water and put on a brine of three pounds of salt to six gallons of water for two days, and finally leave the berries in a new brine of three pounds of salt to four and a half gallons of water. Care must be taken to exclude the sunlight while this operation is progressing.

Up to this time a small quantity of the California olives have found their way into the markets east of Chicago, the call for them in the West having been more than equal to the supply. Minneapolis, Omaha, New Orleans, San Francisco, and the City of Mexico have all been good points for the sale of the olives from this coast this year. There is a feeling among horticulturists all over California that the eastern people, being wedded to the peculiar flavor of the green olives from the Old World, and having a conservatism that is unknown

in the West, hard work and patient effort will be required to cultivate there a general consumption of olives from this State. The wonderful success had, however, in the last seven years in introducing California prunes and raisins in the most conservative eastern markets gives the olive growers good reason for believing their product will in time be as popular there. United States Minister Porter stated a few years ago that the value of Italy's olive products was over $100,000,000 annually, and that it was estimated in Tuscany that the aggregate annual production of olive oil in Italy, France and Spain was about 180,000,000 gallons. The United States and England are the best markets for olives and olive oil.

The Swiss Alcohol Monopoly.

As the alcohol business is one of special interest to the United States just at present, the U. S. Consul at Zurich, Switzerland, presents a report in the June Consular Reports upon the method employed in Switzerland to conduct the traffic. A law was passed in that country in 1886 to regulate the manufacture and sale of alcohol, prevent adulteration, restrict consumption among the poorer classes, and provide a much-needed revenue for the cantons of the Federal Government. The manufacture is under the supervision of the "federal alcohol administration." None but pure spirits are sold to manufacturers and rectifiers of beverages, druggists, etc., and the product of home distilleries is given the preference. All spirits obtained otherwise than from the distillation of the grape, wines, pomace, lees of wine, apples, pears, cherries, plums, prunes, etc., are subject to the federal monopoly, and can be sold only by the government. Such, however, as are obtained from the distillation of the above named home products are free, and can be sold by the parties producing them. The government obtains its supplies of alcohol by contract with Swiss distillers, and by importation, which is exclusively in the hands of the government. Exported articles in the manufacture of which alcohol is consumed receive a drawback in a proportion to the quantity of spirits used, but no drawback is paid on any one shipment in which less than 23 quarts have been used. Licensed wholesale dealers are not allowed to sell spirits in less quantities than 42 quarts, but Swiss farmers are allowed to sell the product of their own stills in quantities not less than 5 quarts.

Strict supervision is kept over distilleries, as to location of premises, apparatus used, cleanliness, working hours, kinds of materials used, etc. The distilling period is limited to seven or eight months of the year, beginning at any time after the 15th of September, and ending May 15. The profit on the sale of spirits (amounting to $965,000 in 1894) is distributed among the cantons in a ratio proportionate to population, but each canton is required to set aside 10 per cent. of its revenue for the purpose of restricting alcoholism, and for the support of institutions created for the purpose of curing and redeeming drunkards. Alcohol is purchased from contracting distillers in quantities not less than 3.965, nor more than 26,417 gallons at a time, and at a price fixed by the government, which, however, cannot be lower than $25, nor higher than $28.95 per hectoliter (26.417 gallons) of proof alcohol, cash, exclusive of packages.

Spirits used in the arts, for technical purposes, or in the household as fuel, are sold at cost by the government after being denaturalized. Two methods are used in denaturalizing, the absolute and the relative. The absolute is applied to alcohol used as fuel in lamps or other utensils in the trades or household, coal-tar oil, pyridine bases, pyroxylic spirits, or other similar substances being used. It is sold at $8.73 per 26.417 gallons. Alcohol consumed in the arts, or in industrial pursuits, is denaturalized, so as to avoid impairing its usefulness. If, for the manufacture of vinegar, acetic acid is used; for varnish, camphor, turpentine or shellac; for perfumery, a solution of castor oil soap; for other industries, naphthalin, pyroxylin, benzin, nitric acid, ether, etc. It is sold at prices ranging from $8.68 to $12.74 per 26.417 gallons, according to grade of spirits used, and is sold only to bona-fide, well known manufacturers, who give bond for its proper use. The composition of the denaturalizing mixtures is changed from time to time to prevent renaturalization.

The penalties for infractions of the law vary as to circumstances from, say, $39.60 to $1,930, or 30 times the value of the amount involved. For a second offence the penalty can be doubled, and imprisonment for a period not exceeding six months can be imposed.

Uses of the Botanic Garden.

The success of the corporators of the New York Botanic Garden in raising the sum of $250,000 by private subscription, thereby securing $500,000 and 250 acres of land from the city for their use, has brought out expressions of great satisfaction from all classes of citizens. Now the people are beginning to count the practical advantages to be derived from this great pleasure ground.

The uses of a botanic garden may be reckoned as of four sorts. First and foremost is the purely scientific and educational use. Subsidiary to this, but still of a marked degree of importance, are the pharmaceutical and horticultural uses, and lastly, the general use as a place of agreeable resort for the public at large It is obvious that a considerable collection of living plants, arranged with scientific method and representing with tolerable completeness the various classes and orders of the vegetable kingdom, must be of immense interest and value to every practical botanist. Such a garden as New York will now have will speedily become the Mecca for the botanists of America and for those of the Old World also, if due attention were paid, as it should be, to making the representation of American plants as full as possible. To students of botany in the numerous schools and colleges within 100 miles of us, such a garden would be of the greatest benefit. Courses of instruction, vividly illustrated by living specimens, could be provided for pupils from New York and its vicinity, and thus a great and desirable impetus will be given to the pursuit of one of the most useful and interesting of sciences.

Students in medicine and pharmacy approach the subject of botany with a particular object in view. Plants of medicinal value have for them a special importance. With ample means at command, it would be easy to obtain an abundant representation of plants of this nature, thus securing for the institution the highest degree of pharmaceutical usefulness, and making it an invaluable auxiliary to our admirable medical schools.

The horticultural uses of a great botanic garden are more or less indirect, and yet of the utmost consequence to all practical gardeners. The hothouses of such an institution should be models of construction and management; the methods of cultivation should be the best that science and experience can dictate; the director and his deputies should be men of the highest ability in their calling. It follows, therefore, that such a garden becomes of necessity a sort of college of horticulture, service in which for a reasonable sum would be the best possible preparation for practicing the gardener's art. Moreover, the primary object of a botanic garden includes the introduction and cultivation of new and untried plants, and consequently the florist would find gathered there a multitude of rare species, many of which might prove desirable.

Can It Be Our John?

Among the American visitors at Kiel yesterday was a young Mississippian whose lines have fallen in pleasant places. He weighs about 110 pounds and is about five feet high. His name is Johnny Cox. He was traveling for a Boston drug house five or six years ago on a salary of $1200 a year, part of which he saved till he had a bank account of $2,500. Johnny was known all over the country as a lively, jolly, energetic, excitable, active business man and sold many goods for his employers. A druggist in St. Louis had a patent medicine that he could do nothing with for want of funds, and Johnny was persuaded to take a half interest for his account at bank. Then he set to work industriously to manufacture and advertise, and pretty soon had exhausted all his money. In some despair he called on a friend here, who has made a large fortune in the patent medicine business, and asked for advice. He had received an offer of $10,000 for his interest in the medicine. Would it not be to his advantage to sell? The friend asked if the loss of his original $2,500 would seriously cripple him; if not, he advised him to hold on and wait for returns. He held on and is holding yet. His income from that investment, which he wanted to sell for $10,000, is now over $8,000 a month! He had nothing to do but clip coupons and live at the Waldorf when in the city When not here he is in Europe making acquaintance with great names and noble faces. He ran across Emperor William last season and took a fancy to the erratic ruler of Germany, inviting him to

visit America as his guest. In return for this compliment the Emperor invited Johnny to be his guest at Kiel, and that accounts for Johnny's presence on board the imperial yacht yesterday. I am not sure Poultney Bigelow was there. The Emperor invited him to meet Johnny (New York Press.)

Nova Scotia Notes.

The druggists are much annoyed over the recent rise in the price of alcohol, some thirty or forty cents per gallon.

John Wyeth & Brother, Simpson Bros. & Co., H. K. Wampole & Co. and Parke, Davis & Co. had exhibits at the meeting of the physicians of the Maritime Medical Association, which was held on the 3d and 4th of July, in Halifax.

The Pharmaceutical Society meeting was much better attended this year than formerly. The President is Mr. F. C. Simson. The Councillors are: A. F. Buckley, J. B. Hattie, W. A. Dymond, Geo. A. Sterns, J. R. Rawley, Geo. A. Burbidge, W. H. Hamilton, Frank C. Simson, L. J. Mylius, W. F. Odell, A. H. Buckley, Jas. Angwin.

Following are the names of the successful candidates at the final examinations of the N. S. Pharmaceutical Society: John G. Clark, Truro; Lewis Thomas, Halifax; E. J. Phelan, Halifax; R. M. Jackson, New Glasgow; John S. Coombs, Halifax.

Fatal Error of a Druggist.

Independence, Kan., July 6.—A death due to a druggist's mistake occurred at Cherry Vale yesterday. Colonel Foster, a middle-aged man, had come from Sycamore, Ill., to attend his sister's funeral, which occurred at Cherry Vale Thursday. That evening Foster complained of not feeling well and went to the drug store to get some medicine. The druggist, by mistake, gave him laudanum. Foster took a large dose, and soon fell into a deep sleep, from which he could not be awakened. He died yesterday.

——G. W. Blaney has sold his drug store at 2001 Wilkens avenue, Baltimore, to H. G. Wilson, who also owns the pharmacy at Gilmor and Baltimore streets.

——E. Thornton Hall and Robert F. Maddox are having erected in Princess Anne, Md., a handsome building which they will occupy as a pharmacy.

——The proprietor of a certain patent medicine recently received the following letter, post-marked Sing Sing:

Dear Sir: This will let yu no wot yure Sarsaparilla has dun fur me before takin it i did not like wurk i had that tired feelin and culd not bear the sito of water it is now tu months since i taken yure 8 bottles and i wurk every day and wash myself with water. Yures truly,

THOMAS TATTERS.

i furgot somethin this is wot it is i have 4 months more pleas get me out i read every nite in yure almanac.

——A Paris physician, who was summoned the other day to attend a sick child, left directions which a neighboring French druggist had translated for the benefit of the English nurse in charge of the child. These are the directions with the English intended in parenthesis: 1. To distend the children of other children. (To isolate the baby from her sister.) 2. Not many flower in the eat and not give him that milk prepared. (Suppress farinaceous food and also the milk as hitherto prepared.) 3. Before the col of children une éponge warm. (Apply a hot sponge to the child's throat.) 4. Everybody that have occupation of children wild vhach the hands in liquor of van Swieten (Every person coming in contact with the child to wash his hands in van Swieton's solution.) 5. All the linen deteriored shall be whach in solution before londres. (All soiled linen to be washed in the solution before being sent to the laundress.)

——Boyhood owes a debt of gratitude to The British Medical Journal, which, in one of its recent issues, explodes the fallacy with regard to early rising. Courageously turning its back on all the wisdom of the past, and in flagrant contradiction with all those writers of moral essays concerning greatness achieved by early rising, this leading medical authority takes the part of the sleepy youth against his wakeful parents. We learn now that it is proper for elderly people to rise at 5 or 6 A. M., because their vascular system has become stiff; but that it is equally natural and proper for the healthy boy to keep his bed till 8. Henceforth boys must deny themselves such violent delights as rising with the lark, and their elders must cease encouraging them in so vicious a practice. The early worm may be all very well for the early-rising parent if his gastronomical tastes lie in that direction, but there are more palatable articles of food at the disposal of the boy who gets up later in the day which derive additional savor from the conviction that by lying abed he has done justice to his vascular system. It is a great thing to have a vascular system—especially for boys.

PROCESS FOR PURIFYING ALCOHOLS, SUGARS AND OTHER ORGANIC MATTERS.—E. Maumené (in Comptes rend., Jr. Soc. Chem. Ind.) finds that potassium permanganate will completely remove the bad taste from impure alcohol, by oxidation; in this way the alcohol can be rapidly purified, for the deposited oxides of manganese are easily separated by filtration, and any trace of acid produced by the oxidation can be neutralized with chalk. Both white and red wines can be similarly treated without loss of color or bouquet. Should any manganese be left by accident in the liquor it would be quite innocuous. Sugar solution is also capable of purification by potassium permanganate, and the application of this oxidant for rendering water fit to drink is likely to be of military service.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS.
Issued July 2nd, 1895.

541,859—Richard Koreff, assignor to Kinzlberger & Co., Prague, Austria-Hungary.—New amido base and colors therefrom.
541,895—Chas. A. Tatum, assignor to Whitall, Tatum & Co., New York, N. Y.—Tablet-machine.
541,899—Bruno Thieme, Siegburg, Germany.—Making nitropentaerythrit.
541,933—Eduard R. Kobert, Dorpat, Russia.—Medicinal Preparation from blood.
542,080—David T. Day, Washington, D. C., assignor of two-thirds to F. B. Squire, Cleveland, and A. Smith, Jr., Cincinnati, O.—Making phosphates soluble in dilute citric acid.
542,177—Franklin P. Stukey, Lancaster, O.—Anal-bougie.

TRADE-MARKS.
Registered July 2nd, 1895.

26,753.—Chewing-gum. The Kola Chemical Co., Cleveland, O. The representation of a partly nude male figure engaged in the act of overturning columns by forcing them over with his hands.
26,758.—Medical Plasters. The Dr. D. P. Ordway Plaster Co., Camden, Me. A facsimile of the signature of D. P. Ordway.
26,759.—Medicinal Remedy for Dyspepsia. Chas. E. Lavery, Newton's Corners, N. Y. The word "Cupepso," arranged in ornamental letters and associated with a branch of the cubeb plant.
26,760.—Blood Purifier. Louisa A. Krehbiel, Dayton, O. A bust portrait of King William and the word "Wilhelm."
26,761.—Cough Balsam. Van Vleet Mansfield Drug Co., Memphis, Tenn. The word "Hungarian" and the representation of a patient seated in a chair, a woman standing in front of the patient, and an angel appearing above, in clouds, and handing the bottle to the woman, whose hand is outstretched to receive it. Behind the woman is a small circular table, upon which are a cup and saucer.
26,762.—Certain Named Medicinal Remedies. The Zem-Zem Medicine Co., Fort Worth, Tex. The word "Zem-Zem" and the representation of a well and a woman dispensing water therefrom to a procession of people passing around the well.
26,763.—Powdered Substance for Relief of Headache. Everett A. Graves, Boston, Mass. The word "Maquelna."
26,764.—Tooth Powder and Receptacles for Same. John Scott Sanger and Roderick McLean Sanger, Orange, N. J. The words "La Parfait" and a scroll on which they are inscribed.
26,765.—Certain Named Toilet Preparations and Medicinal Remedies, Soap, Bluing and Mucilage. The Red Seal Remedy Co., Rockland, Me.
26,766.—Cleaning and Disinfecting Preparation for Materials and Fabrics. Lariat Mfg. Co., Jersey City, N. J., and Boston, Mass. The compound word "Clean-io" and the representation of an irregular portion of a floor with a bottle standing upright and bearing a label showing the said compound word "Clean-io."
26,767.—Water-bug and Roach Exterminator. John S. Juno, Schenectady, N. Y. The words "Mrs. J.'s Bug Exit."

Stability, uniformity and purity are three qualities which the physician requires in peroxide of hydrogen, and these three are just the ones which Larkin & Scheffer, of St. Louis, claim for their product. As the druggist also is after satisfactory results, a trial of this brand is one of the safest trade experiments he can make.

——H. W. Schultz, druggist of St. Louis, has located at the Olympic Theater Pharmacy, same city.

——J. G. Peters, vice-president of the Fuller & Fuller Co., Chicago, is spending his vacation at Cape Cod.

——Geo. Melvin, prescription clerk of the Palmer Drug Co., Chicago, is recreating at his home in Toledo, O.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

Arthur Colton, of Detroit, Mich., recently sailed for London, Eng., taking with him a full line of his special pharmaceutical machinery. He expects to interest foreign manufacturing chemists in the various machines which he has invented, and which are already well known in this country. He will return some time in September.

As this is the season of greatest demand for infants' foods, a liberal quantity purchase upon which a good discount can be obtained is a matter worth thinking of. Woolrich & Co., manufacturers of Ridge's Food, Palmer, Mass., offer a discount of 20 per cent. from list prices on cash orders, and will pay the freight on the shipment.

Good printing speaks for itself, and the catalogue sent out by E. B. Read & Son, Baltimore, Md., gives a most excellent idea of the firm's ability to make labels, prescription blanks, stationery, etc., which will suit the drug trade. Send for their samples and catalogues, and note that the latter says that all work sent out by them is fully equal to the samples.

The sales of Ford's Cherry Phosphate are 500 per cent. ahead of those of last year. This means that a good many druggists are also increasing the percentage of their soda fountain sales. If you want something new which is a trade winner, send for a sample to Frank E. Ford, Natick, Mass., and note the offer on the Counter Dispensing Tank in his advertisement.

The usual objections to the solubility of pills do not apply to the goods of the Upjohn Pill & Granule Co. Their friable pills can be reduced to a powder under the thumb, and this feature is one to which the physician attaches great importance. Over 500 kinds are kept in stock, and a list of these should be in the hands of every druggist. Address the Upjohn Pill & Granule Co., Kalamazoo, Mich.

For nearly 60 years the Theodore Metcalf Co., of Boston, have been turning out products which exactly suited the drug trade, and their sachet powders have been no exception to this rule. Quality, reliability and attractiveness are still features with this particular line, and the list of odors is complete enough to suit all tastes. No inconvenience about ordering the goods as nearly all jobbers handle them.

The American Silver Truss Co., Buffalo, report that inquiries are continually arriving at their office from dealers who want to know more about their trusses. Reports from those already handling them are most favorable. They are so simple, easy to fit, and comfortable to wear that the wonder is why the idea was not thought of before. Their free pamphlet gives the opinion of dealers who are handling the silver truss.

An investment of 85 cents which returns $3.60 is certainly a good one. The druggist who has never sold A-Corn salve has this opportunity. The manufacturers, the Giant Chemical Co., Philadelphia, will send one dozen free, upon receipt of an order upon a jobber for one dozen. To those who have sold the remedy, they offer one dozen free with an order for three dozen. This means an investment of $2.55 and a return of $7.20.

With Little Cathartic Granules (30 in a vial) and Mandrake Liver Pills (25 in a box), costing $6.50 per gross, the druggist ought to be able to meet almost any kind of competition. As they are made by Wm. R. Warner & Co., the dealer will know that he is not slighting quality for cheapness when he offers them to his customers. These goods are put up ready for sale, with buyer's name and address, and special prices will be quoted on large lots.

The druggist should not expect to buy refined yellow beeswax at the same price or less than that of crude, or pure white at a cent or two more than yellow, and get a good article. Beeswax at such prices is an article of suspicion. The best plan is to purchase a pure article from a bleacher of good reputation and long experience. Theodor Leonhard, Paterson, N. J., has been established since 1852, and his "Diamond L." and "T. L." brands have those qualities which please both dealer and consumer.

The R. W. Tansill Co., New York, having set the pace for $35 cigars in their "Tansill's Punch," are now bringing out a new brand selling at $33 which promises to be as popular as "Punch." The new brand is called "Deliciosa," and is a delicious smoke in every sense of the word. It is a handsomely made, medium size cigar, packed 50 in a box, and is guaranteed to be solid Havana filler. Send Tansill a cent stamp for postage, and you will receive a sample smoke by return mail.

A few of the June orders received by James W. Tufts, Boston, from New England and New York State: E. F. Fortin, Brunswick, Me.; J. F. Hazleton, Boston, Mass.; G. C. Brock, Lowell, Mass.; C. B. Wattlass & Co., Providence, R. I.; P. J. Collins, Providence, R. I.; M. T. Brewster, Lake Placid, N. Y.; Smith & Stage, New York, N. Y.; John Higgins & Co., Waterford, N. Y.; John O. F. Hill & Co., Coney Island; R. A. Austin, Cairo, N. Y.; W. H. Millard, Dundee, N. Y.; W. J. Steele, Sturgeon, N. Y.

The attention of readers of the high class journals of the country is being attracted through artistic advertisements, to Ed. Pinaud's new fancy colored smelling salts, "Sels Romains." They are typical "Pinaud" goods, and will be wanted by all who have ever used the perfumes and cosmetics of this famous French house. As they are unlike anything on the market, and unequalled for odor, pungency and elegance, they are one of the best articles to hand out to the new customer, and in cases where the buyer relies upon the judgment of the druggist.

The Coburn Trolley Track Mfg. Co., Holyoke, Mass., say they have never sold so many store ladders of all kinds as they have this spring. Their Summer Ball Bearing Ceiling ladder and the "Victor" which runs facing the shelves, have met with favor all over the country.

The Carabana Co. is the title of a new corporation lately formed for the purpose of introducing the celebrated Spanish purgative water, Carabana, and the St. Leger water of France. The company has opened offices at 2 and 4 Stone street, New York, its capital stock being $50,000, divided into $10 shares. The management of the company will be in the hands of Geo. J. Wallau, whose father some 30 years ago introduced the French Vichy and Fredericks-hall Bitter Wasser into this country. The new company proposes to place a good portion of its stock in the hands of physicians and druggists throughout the country, which plan will insure a broad market for the company's goods, with stronger assurances of dividends for the stockholders.

A Compact Homœopathic Pharmacy.

Of all the articles in a drug store there is nothing so compact and neat, as a case of Humphreys' Specifics, which is also arranged to hold Homeopathic Simples. With the $34 assortment of the Specifics and Witch Hazel Oil, and a $10 assortment of the Homeopathic Simples, you will have a veritable homeopathic pharmacy, occupying but a few inches of space on your counter. It will pay you to write to the Humphreys' Co., New York, for their liberal terms and inducements, and you will receive a photograph of the case, together with specimens of their advertising matter, which are always of the highest order.

Catalogues, Price Lists, etc., Received.

Rosengarten & Sons, Philadelphia.
New York Quinine & Chemical Works, New York.
Dodge & Olcott, New York.
Powers & Weightman, Philadelphia.
Mallinckrodt Chemical Works, St. Louis.
E. Clinton & Co., Philadelphia.
Chas. L. Mitchell, M. D., Philadelphia.
McIlvaine Bros., Philadelphia.
Eagle Paint & Varnish Wks., Pittsburg.
Keystone Whisk Broom Works, Philadelphia.
Kassa Chemical Co., Hydetown, Pa.
U. S. Gutta-Percha Paint Co., Providence, R. I.
Crystal Rock Water Co., Sandusky, O.
Parker, Stearns & Sutton, New York.
Wm. H. Raser, New York.
M. L. Barrett, Chicago.
Dry Extract Co., Janesville, Wis.
Piedmont Drug Mill Co., Lynchburg, Va.
Sulphume Co., Chicago.
Dr. Harter Medicine Co., St. Louis.
Swift & Co., Chicago.
Adams Mfg. Co., Minneapolis, Minn.
New Liverpool Salt Works, Salton, Cal.
Perfection Chair Co., Indianapolis, Ind.
James W. Gedney, New York.
King Paint Mfg. Co., Brooklyn, N. Y.
McCready Cork Co., Chicago.
Foote & Jenks, Jackson, Mich.
Weeks & Potter Co., Boston.
J. H. Kohmescher & Co., Cincinnati.
Richard Levick's Son & Co., Philadelphia.
E. E. Bruce & Co., Omaha, Neb.
Mead & Co., Detroit, Mich.
Hecla Compressed Gas Co., Chelsea, Mass.
Oelschlaeger Bros., New York.
J. H. Day & Co., Cincinnati, O.
Larkin & Scheffer, St. Louis.
Merck & Co., New York.
Rich. F. Fischer & Co., New York.
Herf & Frerichs Chem. Co., St. Louis.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Cacao Butter, Civet, Jamaica Ginger, Ipecac, Oil Citronella, Oil Peppermint, Tamarinds.
Declined: Alcohol, Beeswax, Caffeine, Coriander Seed, Gum Kino, Senega Root, Powdered Opium.

New York, July 9, 1895.

The general demand for drugs has continued light during the past week, and nothing has occurred to disturb the quiet condition referred to in recent issues. Semi-annual stock taking has, in a limited degree, aided in further curtailing the volume of business, but sufficient is yet in progress to make favorable comparison with previous corresponding periods, and while dullness is a characteristic feature of the market, very few complaints are heard, as dealers generally expect trade to be slow at this season of the year. All are looking forward to the coming autumn campaign with commendable cheerfulness; some are already making preparations to meet the anticipated demand, and others are devoting their spare time to rest and recreation. There have been no unsettling influences in this department of trade for many months, and the exceedingly healthy undertone is chiefly due to the conservatism and sound business judgment of buyers, the majority of whom have carefully avoided the accumulation of undesirable and slow moving stocks. Liquidation has been necessary in other commercial industries, but the drug trade has been exceptionally free from financial annoyances. There has been no feverish excitement, and the absence of speculation has assisted materially in placing the market upon its present satisfactory basis. Values of all leading commodities in the drug line, particularly the more seasonable varieties, continue to reflect the steady views of holders.

OPIUM.—In a jobbing way the demand has been somewhat better during the past week, but there is plenty of room for further improvement, and the market is far from being active. Prices have shown little, if any, variation, and the movement has been wholly in accordance with the current wants of consumers. Nothing of a speculative character has transpired since the sale reported in our last issue, and the principal holders are not making any special effort to attract the interest of large operators. The crop is being rapidly harvested, and it is conceded by all that there will be an abundance of opium, all danger from drought having passed. Values are already very close to the lowest ever reached, and many are of opinion that the record will be broken.

POWDERED OPIUM has been reduced about 5c. per lb., but the decline has not stimulated demand, and the market has remained dull with only small jobbing parcels moving.

MORPHINE.—No further change has occurred in values of foreign, and while the demand has been only moderate the market has presented a fairly steady appearance. The business in American is reported of average volume at the former range of quotations, the various brands being held on the basis of $1.75@$1.85 for eighths.

CODEINE.—The market is without feature of interest and a continued quiet feeling prevails with values barely steady.

QUININE.—The market has fully recovered from the slight depression referred to last week, and is again decidedly strong in tone with offerings from second hands exceedingly limited; a number of parcels are said to have been withdrawn, the holders declining to quote, firmly believing that an advance in manufacturers' prices will be announced shortly. Agents of foreign makers report a good business on liberal jobbing orders at full schedule rates, and we understand that one lot of 40,000 ozs. was taken by a pill manufacturer, who was unable to secure the quantity wanted from outside holders.

ALCOHOL.—An unsettled and irregular market, together with lower prices for grain, has resulted in a decline of 2c. per gallon, and the undertone continues weak.

BALSAMS.—A quiet market is noted for all kinds, with prices fairly steady, except for Canada fir, which remains dull and neglected. New crop to arrive is offering freely from primary sources at further concessions without attracting buyers.

CACAO BUTTER continues to improve under the influences heretofore noted, and values show a further advance of ½@1c. per lb., but there is not much inquiry, and we hear of no important transactions.

CAFFEINE is in better supply and offered more freely, with prices showing a decline of 50c. per lb., but there are some in the trade who think the reaction is only temporary and that high prices will again be demanded.

CIVET.—Spot stocks are almost exhausted, and for the small parcels in the hands of dealers a considerable advance on former quotations is demanded.

COCAINE.—The market retains a firm undertone, but nothing definite has yet transpired concerning the anticipated settlement of existing differences between manufacturers abroad.

CAMPHOR has continued to rule quiet during the week, but domestic refiners maintain firm views and decline to shade the recent advance in prices, the strong position of crude abroad warranting even a higher range. Japan is somewhat unsettled owing to an outside holder being anxious to realize, and current quotations could probably be shaded on a firm offer.

GUM KINO has been reduced 50 cents per lb. by the principal holder.

COD LIVER OIL.—Business has continued very good for this season of the year, but there is no change to note in prices of either old or new oil; the market, however, remains strong and all indications are favorable to holders.

OIL CITRONELLA is very scarce on the spot, and there is none offering from primary markets. The demand from the consuming trade is quite active and fully 15,000 lbs. sold during the week; holders subsequently advancing prices 5 cents per pound.

OIL PEPPERMINT.—The hardening tendency noted last week has resulted in an advance of 10@15c. per lb. in all varieties and holders are indifferent sellers, still higher prices being anticipated.

SENEGA ROOT is easier under free offerings of new crop from the West and prices are 1@2c. lower.

JAMAICA GINGER.—Unbleached is in lighter supply and the inside quotation is 1 cent higher.

IPECACUANHA.—An active buying movement was started in London on Friday last, when prices advanced 6d. per lb., and as soon as the information was cabled here, this market became excited and several holders withdrew until the details could be learned; others advanced their prices 5@10c. and filled all orders, but the demand was not particularly urgent. It is unusual for this article to be active at this season of the year, and it is only natural that those interested should move cautiously.

CORIANDER SEED has declined ¾c. per lb., owing to near approach of new crop.

TAMARINDS are 75c. per keg higher.

BEESWAX is unsettled and irregular mainly owing to the lack of export demand and prices show a further decline of 1 cent per lb.

London Market Report.

London, June 29, 1895.

There are no striking changes in the drug and chemical markets to chronicle since last week. Where prices have not remained unchanged there has been a falling tendency.

ACONITE.—Japanese, 22s 6d. per cwt.

CAFFEINE.—Spot prices, tending higher. 27s. 6d. is now asked, but it is probable that this price could be shaded.

CAMPHOR.—Price declined in the early part of the week, but has improved again. Formosa free in London 160s. to 162s. 6d.

CANADA BALSAM is being held for a rise. 1s. 6d. per lb. is asked.

CARDAMOMS.—Very high prices are being paid for the finest qualities. Ceylon Mysore very fine pale, 4s. 2d. per lb.; medium to large, pale, 2s. 8d.

COCA LEAVES.—Peruvian good quality 1s. 4d.

IPECACUANHA. — Rio root firm. Good firm annulated 4s. 2d.

JALAP.—Fine Vera Cruz, 11d.

KOLA.—No sale for these and lower prices are quoted for all qualities.

MERCURY, £7 10s. per bottle.

WAX. — Japanese palesquares, 25s. per cwt.

The words, "R. W. McCready Cork Co." and "Diamond M" are important things to look for on a bag of corks. The firm name is a guarantee, and the name of the brand stands for perfection of quality and finish.

Druggists who have inquiries for French and English preparations should keep in touch with E. Fougera & Co., 26 North William street, New York. They make a specialty of importing such goods, especially new remedies, and their price lists are always of interest to the trade.

THE PHARMACEUTICAL ERA.

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NEW EDITION OF THE ERA DRUGGISTS DIRECTORY.

In answer to many inquiries, we beg to advise the trade that we are now at work upon the revision of the names for a new edition of the Era Druggists-Directory, which will be issued in a few months, the exact date to be announced later.

Since the last edition of this Directory was issued (January, 1894) there have been an unusually large number of changes in proprietors of drug stores, many stores discontinued and many new ones opened. The names for this new edition will be compiled by a direct canvass of the entire trade, and no efforts or expense will be spared to make it the most reliable Directory of this trade as yet issued. The present classification of material will be continued, viz.:

Part 1. Wholesale Druggists only.
Part 2. Retail Druggists in United States and Canada.
Part 3. Manufacturers.

Part 2 of this Directory is used very largely by Manufacturers and Jobbers for sending out their announcements to the trade. We are particularly anxious to have the list complete and accurate in every particular, and especially desire to prevent any names of persons or firms from getting into the list who are not entitled to buy goods at retail druggists' prices. This refers particularly to physicians and dealers in other lines. We hope for the hearty co-operation of the drug trade, to enable us to make this part a reliable list of these retail drug dealers.

Manufacturers, Jobbers and others, who will require copies of this new edition, are requested to send in their orders promptly. The price will be as usual, $5.00 per copy, postage paid.

D. O. HAYNES & CO., Publishers.

ALCOHOL REBATES.

Eminent legal authorities freely express their opinion that the United States Court of Claims must allow the claims for rebate of tax on alcohol used for manufacturing purposes, in accordance with Section 61, Act of Aug. 28, 1894. They claim that because the Secretary of the Treasury has neglected or refuses to furnish the regulations as prescribed in the Act, does not affect the validity or the value of these claims.

Practically, all of the large users of alcohol for manufacturing purposes have protected their interests by filing their claims for these rebates. A decision on a test case is expected next October, and if favorable, as expected, the Government will be compelled to pay all of these claims as fast as they are proven.

There is no discrimination in the Act between a large and a small manufacturer, and every retail druggist who uses alcohol for the purposes stated in the Act is entitled to a rebate upon the quantity that he uses, but he must be prepared to prove his claim. As this rebate is $1.10 on a proof gallon, or about $2.06 per gallon on the present market price of alcohol, it is a matter of great importance to every retail druggist, each and every one of whom should begin at once, if he has not already done so, to keep such a record of his uses of alcohol as will enable him to prove his claims.

In another part of this issue we treat this matter at length, giving full particulars as to how druggists must proceed to protect their interests.

Association Advertising.

What has been said in the last two issues of this paper on the subject of association advertising has called forth many expressions of aproval. It has been a matter of much surprise to discover among the trade such a feeling of soreness, which has apparently been long existent and continually augmenting, and the surprise is the greater that no protest has earlier been presented. We are assured that for some two or three years past the jobbers and manufacturers have felt that they were being imposed upon, that their advertising patronage was solicited by associations not merely to save the expense of publishing their "proceedings," but as a profit revenue besides. The action of the private enterprise in Denver, which uses, and has apparently been granted the use of, the name of the American Pharmaceutical Association to further its advertising money-making schemes, caps the climax in a most exasperating manner, and it is time to call a halt.

What can the A. Ph. A. be thinking of to let its name be used in connection with such bunco schemes? If the Denver local committee wants to raise money for entertainment, let it call for subscriptions in a legitimate manner. It makes a great mistake when it gives its sanction and that of the association to the schemes of a publishing company, which is in it for revenue only. The methods of this company are very offensive to some of the pharmaceutical jobbing houses and manufacturers here in the East, and not a few prominent members of the association feel that its name is being dragged in the dust by the manner of solicitation followed. All are willing to contribute their pro rata shares for entertainment, but do not like to be bombarded with letters of a stand-and-deliver order requesting support of a scheme for private enrichment.

In regard to "proceedings" advertising it is perhaps legitimate for an association which is not self-supporting, because it pays over half its income in salaries to its officers, to ask its own jobbers to "chip in" toward the expense of printing them. But to go farther than this, to the trade in general, to farm out the advertising soliciting, on commission, to agents or printers, is an abuse which cannot too soon be corrected.

Advertising in proceedings is of but little value, at its lowest cost is far far more expensive proportionally than in legitimate ways, and when the advertiser is made to pay fifty or seventy-five dollars for a page, as some in this city have done, it is carrying the thing too far. In the instance in mind, if the same scale obtained throughout the proceedings there must have been a profit of at least $1,500. Whether the association, the secretary or the solicitor pockets this we cannot say, but no one of them should have it. It should be refunded to the advertisers proportionally, for they did not pay their money for this sort of thing.

No healthy association need go outside its own membership for aid. Members pay their dues for its support, and if it

is desired to get out the proceedings economically, the jobbers of its State will willingly stand their shares, but they should be asked for no more. To ask the outside trade is to ask something for nothing. Advertisers look upon this kind of advertising as a matter of charity, simply, are willing to be reasonably charitable, but they do not want to be bled by extortionate rates and for the profit of any one, association or individuals.

The American Pharmaceutical Association Bulletin should be issued by the association itself and paid for out of its large bank balauce, or the name of the association should be taken from the circulars and the scheme left to sink or swim according to its real value.

The World's Exposition of Pharmacy and Hygiene.

Circulars bearing the above pretentious title are being received by the trade. They come from Chicago, and announce that there will be held in that city from September 2d to September 14th, "under the auspices of the Retail Druggists' Association," a World's Expositiou of Pharmacy and Hygiene. The circular bears the names of the executive committee of the Chicago Retail Druggists' Association, and gives an outline of the exhibit to be made, attractions offered, etc., and is signed by the promoter, F. L. Maguire. The inference to be drawn from this circular is that the Chicago Retail Druggists' Association holds itself responsible for the pharmacy exposition. On another sheet is a diagram of the spaces for exhibits in the Panorama Building, from which it is learned that there are eighty-seven different spaces, ranging in cost of rental from $75 up to $400 each.

Upon investigation it is found that the exposition is to be primarily for the financial benefit of Mr. Maguire, and he is very frank in admitting this. It is further found that the Chicago Retail Druggists' Association gives no support to it, other thau merely wishing it a fair measure of success, and that the name of this association is used in the way that it appears wholly without official authorization. The promoter has had some experience in managing exhibitions of other nature, and thinks he will be able to make a success of this. If all the spaces are rented, the returns will be nearly $9,000, against which must be charged, according to Mr. Maguire, $100 a month (?) rent, and the expenses necessary upon certain preparatory constructive work. Advertising expenses may be made just what he sees fit.

There is no particular objection to this individual working this scheme for his own benefit, provided he says so frankly and makes no false pretensions; but we are reliably informed that the exhibit is not to be under the auspices of the Chicago Retail Druggists' Association, one or two of the members whose names are quoted on the circular absolutely repudiate it, and the only one financially or in any other way responsible for the show is its promoter and manager. To the question of a representative of this paper regarding the relation the Druggists' Association bears to the exposition as regards financial support, Mr. Maguire was careful to make no answer, other than that he had an arrangement with the President of the Association, the nature of which he did not feel justified in giving for publication, without that gentleman's consent. The action of the president in allowing the use of the name of the association has been repudiated by the latter, and the exposition must stand or fall upon its merits.

Of course, we cannot predict whether this exposition or any other pharmacy show can be made a success. The one in Boston, for various reasous which it is not necessary to go into, was a failure in both a pharmaceutical and a financial sense, and if this professional exhibit promoter can make a success of a pharmacy show in Chicago, he must be a great advertiser and a great schemer. According to his own statement, "the exhibits will consist of every thing of a legitimate character to be found in a retail drug store; each firm represented will make the best exhibit it can." The term "legitimate" may, and probably will, be stretched very greatly to admit patent medicines and appliances of all kinds, so that the exhibit will not be representative of professional pharmacy, but will more truly be a fair, of varied and kaleidoscopic character. We understand that half or more of the spaces have been sold, sufficient, probably, to warrant the financial success of the scheme.

The above statement we believe to be a fair and truthful presentment of the case, and exhibitors and advertisers may know from it just what the nature of the exposition is to be and who is responsible for it. It is not the retail druggists' of Chicago.

Humor, Phosphorus and Corns.

There are many interesting facts and experiments in chemical science and behind the curtain hiding the drugman's sanctum, which border so closely upon the romantic that the story teller cannot refrain from occasionally using them as warp for his woof. De Quincey has invested opium with an absorbing interest; Dumas has shown us some of the possibilities of brucine; the writers of "lightning detective" stories have mystified us with their instantaneous methods of compelling unconsciousness by means of strange draughts, and Jules Verne has twisted all the sciences before our admiring eyes to serve his purposes. It is no wonder, then, that the everyday artisan in letters should strive to emulate such examples, and borrow fascination from sources which are sometimes too deep for comprehension.

The lovers of the humorous have lately been amused with the story of a woman who applied phosphorus to one of her toes to cure a corn. Her husband, not having been informed of his wife's therapeutical experiments, was horrified upon awakening in the night to discover a luminous object at the foot of the bed, whose radiations of light were of such a peculiar color as to suggest the baleful presence of the great enemy of mankind. After reflecting that the appearance was not due to any bibulous indulgences on the part of the beholder, a shoe was pressed into service as an agent of destruction. What followed may be imagined by those who have had a big toe rudely stricken by a vigorous blow from a shoe in the middle of the night.

As a bit of humor this story is a success, but the fly in our ointment is the lack of detail regarding the phosphorus. It is perhaps a misfortune that people of "druggy" dispositions, or those who are chemically minded, should experience a dull feeling of dissatisfaction when the laugh has subsided over the quips of the person who jests with drugs and chemicals. We do not like to lay ourselves open to the insinuation that we require a diagram with every joke before we can understand it, but our interest is really aroused regarding the use of phosphorus as a corn remedy, and the formula for preparing it.

The World's Hand-to-Mouth Policy.

Reference was recently made in these columns to the prevailing tendency in all lines of trade to buy only for immediate requirements, a condition brought about by the monetary difficulties of the past two years. This policy has given currency to the term "hand-to-mouth," which is quite expressive of the condition it represents, and while it may be deplored in speculative circles, it is not such an unfortunate state of affairs as some suppose. U. S. Minister Denby, of Pekin, China, in a recent communication to the State Department reviewing the trade of that country, seems to find a similar condition of things existing in the Celestial Empire. He says: "Exchange has continued to fall. The customs tael averaged, as compared with the gold dollar, $1.04 in 1892, 93 cents in 1893 and 75 cents in 1894. The continual cry in China has been that the fall of exchange would destroy Eastern trade. The figures in the customs returns, 1894, tell a different story. It would seem that trade, in principle, is really barter—an exchange of imports for exports—and that it readily adapts itself to fluctuations in currency. No doubt, the uncertainty of the value of the circulating medium tends to alter the mode of doing business, but these returns tend to show that this does not necessarily affect the bulk or profitableness of the business. In China, for example, this uncertainty has led to quick and rapid transactions. Great stocks of goods are no longer held, as was formerly the custom. Sales sometimes take place on the dock as soon as the goods arrive. Formerly the importer took all risks of exchange and market. In the new style, the banks take the risk of exchange and the merchant the risks of the market."

Robert J. Bigelow, Ocoee, Orange Co., Fla.—I have failed to receive the Era for June 27. It is too valuable to us in the drug store to be deprived of one number without much regret and inconvenience. Can't you reserve the number for us?

PRACTICAL HINTS.

Little Things.

——It is a little thing to remember to store alcohol, turpentine, and all inflammable liquids where no artificial light is needed to draw or handle them, and yet attention to a regulation of this character may prevent a serious conflagration.

——Punctuality, promptness and despatch are each but a small part in the sum total of a man's habits, but when considered in the aggregate, they become important factors of success. The drug clerk who has these habits, though he knows little and knows it, knows much.

——It is attention to little things which brings success in the drug business. Heedless and careless employees are dangerous people to have around. An establishment that is kept trim and in order very rarely burns down, its proprietor has no suit instigated against him for damages, brought about by his carelessness, nor is he judged incompetent by the doctor. The greatest problems of humanity have been solved by looking after the little things.

——The habit of looking after the little things in the drug business is one which should be cultivated by the drug clerk if he would make for himself an enviable reputation. The clerk who is sure everything is in the prescription he has compounded, the bottle neatly corked and correctly labeled before he hands it out, is the one who is pretty certain of having employment. Excellent clerks and well-posted men in other respects lose position after position because they cannot be trusted to lock after little things.

——A misspelled word is a little thing in a letter or on a printed page, but there are times when it may prove costly and disastrous. The success of the proprietor and the reputation of his place of business depend upon the integrity of himself and his clerks, and nothing is of more importance to the young pharmacist than the cultivation of the habit of knowing that there is nothing left undone about any work when he leaves it as completed.

——How much attention do you devote in your business to looking after little things. Is it not natural and the most common thing in the world to consider the larger parts of the business without giving much attention to the minor details? The pharmacist who takes proper means to satisfy himself that the little things are right is the one who, in the end, will get the trade, the confidence of his customers, and the support of his physicians.

——Are you keeping track of the season's specialties? It is a little thing to ask, of course, but then your customers are looking for "pointers." In a very short time most of them will be in the midst of the season for pickling fruit and vegetables. They are only waiting, and it is just the time to push the sale of spices, condiments, etc. Display some of your finest specimens, and get people to look at them. High grade spices are profitable goods to handle. Read up on their various qualities and be able to give reliable information about those you sell.

——The necessity for a proper amount of exercise is another little thing which demands your attention. A sound body lies at the foundation of all that goes to make life a success. Of all business and professional men the druggist is one who needs exercise. Plato called a man lame because he exercised the mind while the body was allowed to suffer. Another writer has said that a man "too busy to take care of his health is like a workman too busy to sharpen his tools."

——Another little thing which merits attention is that of appearing well. The old saying that the dog who sneaks away with his tail between his legs is snapped at by every dog he meets, is as true today as when it was first written. It simply shows how appearances are taken as an indication of worth, and in nine cases out of ten, if one puts on the appearance of respectability, his pride further prompts him to maintain it. It is only the beggar who gets his living by the poverty of his appearance. The world pays homage to appearance, and the druggist, be he proprietor or clerk, who neglects to appear well before his patrons, will soon be left to his own reflections, a living monument to a mistaken calling.

Correction.

Through error, the article on page 58 of the issue of the Era of July 11th, entitled, "What Position Should the Retail Drug Trade Assume Regarding the Question of Tax-Free Alcohol" was referred to as a paper "read at a pharmaceutical meeting of the Philadelphia College of Pharmacy." The article originally appeared in the Alumni Report of that college, and should have been credited to that publication.

IT GROWS BETTER.

H. J. Brink, Doon, Ia.—The Era grows better; let her come.

J. E. Gasson, Versailles, O.—I am well pleased with the Era.

C. O. Lamson, Hampton, Ia.—I enjoy your paper very much.

Fred. J. Kellenberger, Pittsburg, Pa.—Must say that the Era is the best drug paper I ever had.

James I. Maln, Tekonsha, Mich.—As a recent graduate the writer finds the Era to be a dandy.

J. Pfeiffer, Brooklyn, N. Y.—I wish to renew my subscription, and in doing so I think it is very well invested.

E. T. Hagland, West Superior, Wis.—I find your journal very newsy and full of good points for a pharmacist.

Henry Tepe, Evansville, Ind.—The Era is my favorite journal, especially since it has made its appearance here promptly every Saturday.

John Burdis, Shingle Springs, Cal.—Enclosed find money order No. 963,359 for $1.00 on subscription to Pharmaceutical Era. Viva le Era.

F. V. Whittlesay, Little Rock, Ark.—I do not want my Era stopped. It would be like trying to run a pharmacy without distilled water.

Dr. R. L. Patterson, Cogville, Kan.—I would not be without your valuable journal, as I consider it a valuable aid to the busy practitioner.

W. S. Nicholson (Nicholson, Little & Co.), Sprague, Wis. I appreciate the Era and find no time for other pharmaceutical journals or house organs.

G. D. Stone, Marion, Ind.—Do not discontinue the Era for anything, as I would not go without it if I had to pay twice the subscription price.

J. W. England, Philadelphia, Pa.—The Era grows better and better with each number, and deserves the fullest measure of success in the pharmaceutical world.

Advertising Flavoring Extracts.

Flavoring extracts may be classed as food products, and the grocer may claim them as his own, but the source from which he obtains his supplies is usually, or, is at least claimed to be, presided over by a chemist, and there should thus be no question as to the propriety of the local chemist engaging in the business. There is a suspicion (perhaps unfounded), that the money to be made in flavoring extracts has attracted so many toward the business that in the competition following quality has been left to look out for itself. Flavoring extracts are now sold at retail at prices which must astonish the druggist, even if his imagination is liberal with such things as manufacturing in large quantities, and small profits for manufacturer, jobber and retailer. The public wants cheap goods, but such stuff is not cheap, and the druggist ought to be able to explain why it is not. We do not know how he can do this except by advertising. The public has got to be talked to on this subject. We give a suggestion for a talk. One announcement will hardly do for a subject like this; it should be followed by others, for people use flavoring extracts every day. There is not much use competing with the cheap goods on the market, as competition in that direction seems to have struck bed rock. The talk should be of something better at a better price. A demonstration of the difference between the contents of a panel bottle and one which is not deceptive as regards quantity contained in it, might be a good argument with many people who look at quantity as an important factor in such matters. We might also suggest neat dram or half-dram samples for judicious distribution, as other dealers in this line cannot do this very readily.

Some formulas for flavoring extracts are given on another page.

FLAVORING EXTRACTS

Used in medicines contain the same ingredients as those used in foods.

We use the purest oils and extracts for medicinal flavors and exactly the same material in making flavoring extracts for cooking purposes.

We have a complete line of the different flavors, and are sure about their purity.

We put up six, in full 2-ounce bottles, in a neat box and sell the lot for $——.

The lot includes:

LEMON,
VANILLA,
CELERY,
ALMOND,
PINEAPPLE,
STRAWBERRY.

Single bottles from — to — cents, the price varying with cost of raw material. We do not reduce strength to make the prices of all our extracts uniform. We do not compete in price with cheap artificial extracts, but we do compete in quality.

You are after Quality, are you not?

KNIGHT & DAY, Druggists.

Frank S. Browne Toledo, O.—I don't want to miss the papers on "The Study of Pharmacy." Those papers put your journal way ahead of all contemporary periodicals.

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[Continued from page 42, July 11.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XVIII. PHARMACY.

GENERAL PHARMACEUTICAL OPERATIONS.

Inorganic and Organic Pharmaceutical Chemistry,

(Pharmaceutical Assaying).

(Continued.)

By Virgil Coblentz, Ph. G., A. M., Phil. D.

Emulsa, or Emulsiones—(Emulsions).

Emulsions are artificial mixtures of a milky appearance, which consist of oils, fats or resinous substances suspended in water by the intervention of some viscid, or mucilaginous substance.

The object sought is to break up the substance which is to be emulsified, into as minute particles as possible, enveloping each of these in a coat of the emulsifying agent, which tends to prevent them from reuniting.

Natural milk, which consists of minute globules of fat (butter) suspended in water by means of the casein present, may be regarded as a sample of a perfect emulsion. The more closely an artificial emulsion can be made to resemble milk, the more permanent will be the product. An emulsion is perfect when the oil globules are invisible to the naked eye. The completeness of emulsification may be judged by placing a sample on a slide under the lens of a microscope, and comparing the size and uniformity of the oil globules of the emulsion with those contained in a sample of milk.

Emulsions may be divided into three classes—the natural emulsions, the gum-resin and seed emulsions, and the oil or artificial emulsions.

1st. Natural emulsions are such as exist ready formed in nature, such as milk, yolk of egg, certain plant juices, etc.

2d. Gum-Resin and Seed Emulsions.—Such gum resins as ammoniac, asafœtida, and myrrh, when triturated with water, form emulsions in which the resinous and oily constituents are suspended by means of the gummy matter present. In preparing these emulsions (Emulsa, U. S. P.), the powdered gum-resins should never be employed. Selected tears of the gum resins should be reduced to a coarse powder and then triturated with a small quantity of water, until a smooth paste is obtained, then the balance of water added, and the mixture finally strained. Under this class, the Pharmacopœia recognizes two, viz.: emulsum ammoniaci and emulsum asafœtidæ.

On triturating such seeds or fruits as the poppy, hemp or almonds with water, an emulsion is obtained in which the oily matter present is suspended (emulsified) by means of the albuminous and gummy matter. Under this class the Pharmacopœia recognizes emulsum amygdalæ, in which acacia and sugar are added to enhance the permanency of the preparation.

3d. Oil or Artificial Emulsions.—There are a great many different agents and methods by which we can produce artificial emulsions; most general among these are the two methods known as the Continental and English. (A description of these methods is left to the writer on Dispensing Pharmacy.)

Triturationes—(Triturations).

These are a class of powders which contain active substances in a minute state of subdivision, obtained by trituration with sugar of milk. By means of these we can accurately regulate the doses of powerful substances.

In the preparation of these powders it is advisable to employ the sugar of milk in small crystals or coarse powder, so that during the process of trituration, which is necessary to bring it to a fine powder, the medicinal ingredient may at the same time receive thorough and uniform subdivision.

A general formula is given by the U. S. Pharmacopœia.

Elæosacchara—Oleosacchara (N. F.)—(Oleosaccharates).

Oleosaccharates, or oil-sugars consist of sugar flavored with volatile oil or some other volatile aromatic substance.

The German Pharmacopœia directs that 1 gramme of volatile oil be added to 50 grammes of sugar in moderately fine powder, and the mixture thoroughly triturated. In France, oleosaccharates are made double this strength.

Under the title of Oleosacchara, the National Formulary directs the following general formula:

Volatile oil ..... 1 drop.
Sugar .....30 grains.

Triturate the sugar with the volatile oil to a fine powder.

The oleosaccharates are intended as a pleasant aromatic vehicle for administering medicinal substances in powder form. Those prepared from volatile oils should be freshly made when wanted for use. Only the best quality* of fresh volatile oil should be employed.

* Old resinified oils impart a bitter, unpleasant taste, as well as terebinthinate odor, to the sugar.

Masses Resulting From Admixture of Powders With Fluids.

Confectiones (Confections).

Confections (conficio = to make up) are soft masses resulting from the admixture of one or more medicinal substances with sugar. They are usually prepared by incorporating the drug or drugs in paste or powder form with some saccharine liquid.

This is a very ancient method of administering medicines, but it has almost gone out of use at present.

Confections, when they have become hard from drying out, may be restored to a pulpy condition by working them over with a little glycerin. The U. S. Pharmacopœia recognizes confectio rosæ, which is employed as a vehicle for massing pills and administering other remedies, and confectio sennæ, which is employed as a cathartic.

Massæ.

The U. S. Pharmacopœia recognizes three pill-masses, namely massa copaibæ, massa ferri carbonatis and massa hydrargyri. These are permanent preparations, and are conveniently kept in stock.

Trochisci—(Troches).
Tabellæ—Pastilli.

Troches (lozenges) are round or oval, solid, flattened masses, consisting of medicinal substances combined with sugar and mucilage.

They represent a convenient form of administering such remedies as are intended to act by continual application, through slow disintegration, on the throat. Troches generally vary in weight from one-half to one gramme.

Pilulæ—(Pills).

Pills are spherical or elongated masses of medicinal substances of such a size as to be convenient for swallowing. The pill forms a very convenient method of administering such substances as are characterized by an unpleasant odor or taste.

The weight of pills varies from 0.1 to 0.3 gm. for vegetable powders, and up to 0.6 gm. for inorganic combinations; a pill which is much larger than this is known as a bolus. Very small coated pills are called granules.

A pill-mass should be sufficiently plastic to admit moulding, and yet sufficiently firm to enable the pills, when moulded, to retain their shape.

To be successful in the preparation of pill-masses, a knowledge of the nature of the substances to be combined is necessary, for, with systematic procedure, the most intractable substances can be managed.

Pills should not be made too firm or

hard, which would render them insoluble in the stomach, causing thereby nausea and irritation.

The pill-mass consists essentially of two parts, viz., the active ingredients, whether solid or liquid, and the excipient, which imparts the proper degree of consistence and tenacity.

Extracta—(Extracts).

Extracts are solid or semisolid preparations obtained by the evaporation of solutions of the medicinal principles of drugs.

According to the solvent employed in exhausting the drug they are designated as alcoholic, hydroalcoholic, aqueous, ethereal, acetic, or ammoniated extracts.

The strength of these preparations bears no definite relationship to the drug, for the amount of solid extract obtained depends on the nature of the drug, the solvent employed, and the mode of preparation. The more aqueous the menstrua, the greater is the yield of extract, the more alcoholic the menstrua, the smaller the yield.

It must be remembered that the activity of most drugs resides, as a rule, in certain definite principles, which generally constitute the smallest portion of the bulk of an extract; the other constituents of the drug, embracing gums, starch, inert extractive, coloring matters, etc., constitute the larger inert portion soluble in water. Hence, the solvent selected for extraction must be such as to take up all the active, with as little of the inert matter as possible.

Extracts vary in consistence. Some are as liquid as honey, others have the consistance of a pill mass, and still others are hard and dry, hence there is not likely to be any uniformity of strength, with such variations as these. Therefore, unless there is some guarantee of intrinsic value based on its alkaloidal strength or physiological activity, no reliance can be placed on the strength of one extract as compared with another.

Solid extracts are prepared either—

(a) From the dried and powdered drug, by extraction with a solvent, or—

(b) From the fresh, moist drug, by expression alone.

(a) When solid extracts are prepared from the dried drugs by extraction, the following rules should be observed:

1st. Only the best obtainable drug should be employed. Poor drugs cannot be expected to yield active preparations; it is, therefore, advisable to exercise the greatest care in their selection.

2d. That, whatever process of extraction is employed, it should be carried to as complete an exhaustion of the drug as possible. Extraction is effected by the process of maceration (15–20° C. for 24 to 48 hours), or digestion (35–40° C. for 12 hours) with expression; or by percolation.

3d. That the menstruum selected will deprive the drug of its active principles with as little inert matter as possible. The various menstrua directed by the Pharmacopœia have been selected with this view; hence, an alteration of the menstruum with a view to economy is a reprehensible practice.

4th. The concentration of the liquid extract of the drug should take place as rapidly, and at as low a temperature as possible. Under no circumstances should it be heated over a direct flame.

(b) Certain plant drugs, when recently gathered and subjected to expression, yield their juices, impregnated with all their active principles; these juices, when evaporated, constitute a class of extracts generally known as succi spissati, or inspissated juices. Among the drugs adapted to this treatment are taraxacum, belladonna, hyoscyamus, and colchicum. The plants should be worked up immediately after being collected, being cut into pieces and bruised until reduced to a pulp. In case the plant is not very succulent, a little water should be added to assist in diluting and extracting the juice. The pulp is then enclosed in a canvas bag and subjected to expression. The juice thus obtained from fresh plants, or leaves, is of a more or less green color, due to the presence of chlorophyll.

Physical Characters and Preservation of Extracts.

The Pharmacopœia recognizes two degrees of consistence—the soft or pilular, and the hard extract. The pilular consistence should be such that the extract readily admits being rolled into pills, which retain their shape. Twenty-five of the official extracts should be of this consistence. The pilular extracts of the market vary considerably as regards their consistence, many being exceedingly soft, while others are quite hard.

The hard extracts, of which seven are official, admit of being reduced to powder. The dispensing conveniences which a powdered extract offers, have led to the general introduction of all the various extracts in powder form.

Extracts should be preserved in closely covered jars, it being best to place the jar of extract in a canister having a closefitting lid. Some extracts readily dry out and become very hard. In such cases it is well to moisten the surface with a little glycerin.

Other extracts, owing to the presence of deliquescent salts, are quite hygroscopic and absorb moisture readily. Still others become inert on standing for a long time, due to an alteration of their principles by the action of the air.

Many extracts (as those of stramonium, hyoscyamus, belladonna, etc.) contain numerous crystals of inorganic salts (potassium nitrate or chloride, etc.). The presence of these is manifested by the grittiness of the extract when rubbed on a slab under a spatula. Such extracts should always be rubbed with a few drops of water before being combined into ointments or suppositories.

Abstracta (Abstracts).

Abstracts are powdered extracts, the strength of which bear a definite and uniform relation to the drug. This class of preparations was introduced into the Pharmacopœia of 1880, but because of their unpopularity* they were dropped from the present Pharmacopœia of 1890. The strength of the abstracts represents twice that of the drug or of the fluid extract from which they are prepared.

The abstracts recognized by the U. S. Pharmacopœia of 1880 were abstractum aconiti, belladonnæ, conii, digitalis, hyoscyami, Ignatiæ, jalapæ, nucis vomicæ, podophylli, senegæ, and valerianæ.

Resinæ—(Resins).

These are solid preparations usually obtained by exhausting certain drugs with alcohol and precipitating the resinous principles by addition of water.

The procedure is applied to those drugs whose activity resides in resinous principles.

The Pharmacopœia recognizes four resins, three of which are prepared in the following manner: The drug is exhausted with alcohol; after concentration of this alcoholic extract to a syrupy consistence it is poured slowly, with constant stirring, and in a thin stream, into a large excess of cold water, the precipitate is allowed to subside, washed by decantation, strained off, and dried with a gentle heat. Resin of podophyllum is precipitated with acidulated* water, in order to facilitate its separation, the acid imparting at the same time a brighter yellow color to the resin. The water used in precipitating this resin should be cold, and the resin dried by exposure to air in a cool place. Resin of copaiba, being one of the two constituents of balsam of copaiba, is more readily separated by distilling off the volatile oil.

Resinoids—(Eclectic).

These are a class of resinous powders or medicinal substances obtained by precipitation of the alcoholic tinctures of certain plants or plant-parts, either by means of water alone or aided by heat, or by acids or other agents.

If the drug contains an oleoresin, it is necessary, in order to bring the precipitate to a powder form, to mix it with a sufficient quantity of the powdered drug.

Such resinoids as hydrastin and sanguinarin are precipitated in water acidulated with an acid or rendered slightly alkaline with ammonia water.

These preparations, the names of which generally end in -in, should not be confounded with the similarly sounding alkaloids or other active plant principles.

They vary greatly in their activity, owing to various impurities and to the fact that many do not represent all the virtues of the plants from which they are obtained.

FOR EXTERNAL USE.

Unguenta—(Ointments).

Ointments are soft, unctuous preparations, composed of fats, generally medicated, which are applied to the skin by inunction.

An ointment consists of medicinal agents combined with a vehicle which is generally of the consistence of lard.

Vehicle.—The U. S. Pharmacopœia directs, in most instances, the use of benzoinated lard or simple ointment. Among other vehicles proposed and in use are petrolatum, wool-fat, diachylon ointment; mixture of yellow wax (3 parts) and

* It is unfortunate that this class of preparations of definite and uniform strength should not be able to supplant a class characterized by so little uniformity and so great a variation as the solid extracts.

* Water containing alum is also employed, but yields a product contaminated with alumina.

olive oil (7 parts), mixtures of such fats as spermaceti, suet or cacao-butter with almond oil; mixture of expressed oil of nutmeg (6 parts), olive oil (2 parts), yellow wax (1 part), etc.

The three most popular vehicles, namely, benzoinated lard, wool-fat, and petrolatum, should not be used indiscriminately.

Petrolatum is not adapted for use as an absorbent vehicle. For this reason it should never be substituted where lard or wool-fat is directed. It answers as a bland neutral protective dressing.

Wool-fat forms the best basis for dermal medication; it is more readily absorbed by the skin than lard, does not become rancid, and is miscible with aqueous solutions to the extent of its own weight.

Lard is not as readily absorbed by the skin as wool-fat, but owing to its cheapness, and the readiness with which it may be purified, it forms the most popular vehicle. It is often objectionable because of its tendency to rancidity; but, if properly purified and benzoinated, it can, with care, be kept almost indefinitely.

Ointments, according to the method of preparation, are made either (1) by fusion, (2) by mechanical admixture, or (3) by chemical reaction.

1st. By Fusion.—In preparing ointments by fusion, those substances which have higher melting points should be fused first, then the balance of the fats added, the whole strained, if necessary, well stirred, and, while it cools, such additional substances incorporated as may be directed. The fats should be melted by the heat of a water-bath, and never directly over the flame.

2d. By Mechanical Admixture. — A large variety of substances are directed to be incorporated into ointments. The admixture may be accomplished either by trituration in a mortar or by working the materials, on an ointment slab,* with a spatula. In handling such materials as iodine, corrosive sublimate, salicylic acid, tannic acid, etc., a steel spatula should not be used, but, in place of it, one of horn or hard rubber should be substituted.

3d. By Chemical Reaction.—There is only one official example of this, namely, ointment of mercuric nitrate.

Cerata—(Cerates).

Cerates (cera, wax) are a class of preparations similar to ointments, but of a firmer consistence.

They are made by mixing oil or lard with wax, or some other substance having a higher melting point, imparting to them a consistency between that of an ointment and plaster. When applied to the skin they do not melt like ointments, but retain their soft consistence. The materials selected (oil or lard) should be free from all traces of rancidity.

The wax or materials of higher fusing point should be first melted on a water-bath, then the oil or lard added in portions; when all is liquefied, the fluid should be stirred constantly while cooling, and those portions which congeal on the sides of the vessel re-incorporated until the whole assumes the proper consistence.

Cerates should be kept in a cool place, in clean and well-covered jars. Those made with white wax, owing to its incipient rancidity, are liable to become rancid, while those containing yellow wax keep unaltered.

Cerates are employed chiefly as dressings for inflamed surfaces.

Emplastra—(Plasters).

Plasters are compounds of various fusible solids of a melting point higher than that of the human body, being friable when cold, but rendered adhesive by the warmth of the body. According to the vehicle employed, they may be designated as plasters proper, or as resinous plasters. Emplastrum plumbi forms the vehicle of the former class, while the latter consists of various combinations of resins.

The Pharmacopœia recognizes two ready-spread plasters, namely, emplastrum ichthyocollæ and emplastrum capsici.

In the preparation of plasters, care should be taken that no higher degree of heat be employed than that of the water-bath, otherwise decomposition of the volatile medicinal constituents might ensue.

Some plasters are made by simply fusing the various constituents together; others require the admixture of various solids, which are added to the fused mass either in a state of fine powder, or in the condition of a smooth paste obtained by treatment with a proper solvent. While cooling, the mass should be well stirred to insure uniformity in composition.

Owing to the introduction of the rubber base, the preparation of plasters has almost entirely fallen into the hands of the manufacturer; it is seldom that the dispenser is required to spread other than cantharides plaster.

Chartæ—(Medicated Papers).

The official papers consist of paper saturated or covered with medicinal substances.

The Pharmacopœia recognizes only two of these medicated papers.

Charta Potassii Nitratis.—This consists of white unsized paper saturated with a solution of potassium nitrate. It is employed in cases of asthma, by burning it, and inhaling the smoke. It is often saturated with fluid extract of belladonna or of stramonium.

Charta Sinapis.—The fixed oil present in the black mustard is first removed by percolating with benzin. The solution of india rubber serves as an adhesive coat, firmly retaining the powder. The irritating properties of the powdered black mustard depend upon the generation of a vesicating volatile oil, which takes place when the powder is moistened with water. This volatile oil is formed through the decomposition of a glucoside called sinigrin (potassium myronate), caused by the influence of an albuminous ferment myrosin, which does not enter the reaction itself: the reaction being thus:

$$\underset{\text{Sinigrin. (Potassium Myronate).}}{C_{10}H_{18}KNS_2O_{10}} = \underset{\text{Allyl Sulphocyanate (Oil of Mustard).}}{C_3H_5CNS} + \underset{\text{Acid Potassium Sulphate.}}{KHSO_4} + \underset{\text{Glucose.}}{C_6H_{12}O_6}$$

Suppositoria—(Suppositories).

Suppositories are suitably-shaped masses of medicated fats, which readily fuse when introduced into the body.

According to their size and shape, there are three forms, namely, the rectal (cone-shaped) Fig. 71, which should weigh about one gramme (U. S. P.), but which may also be made to weigh as much as two grammes; the urethral (pencil-shaped) should weigh about one gramme (U. S. P.), the vaginal (globular or cone-shaped) should weigh about three grammes (U. S. P.), but may also be made to weigh over four grammes.

Fig. 71.

Suppositories are sometimes given a double cone-shape, that is, pointed at both ends. The usual cone- and double cone-shaped suppository is sometimes difficult of retention, because of the peculiar contraction of the sphincter muscles.

The vehicle employed should be of such consistence as to retain its shape at the ordinary temperature of the air, yet it should be sufficiently soft not to produce any injury on insertion. It should not become rancid and yet be capable of being mixed with most medicinal substances without any lowering of its fusing point.

The various vehicles employed may be designated as fatty (cacao butter), saponaceous (curd soap from animal fat), and gelatinous; neither of the latter, however, give the general satisfaction that is obtained from the use of cacao butter.

The gelatin vehicle forms a valuable and serviceable substitute where objections are made to a fatty vehicle. These gelatin suppositories are more readily made than those of cacao butter, but present the difficulty of lacking firmness. They are made by moulding. For this purpose the moulds must be thoroughly cleaned and dried, then wiped inside with a piece of flannel impregnated with oil. The vehicle is fused in a capsule on a water-bath, the medicinal ingredients dissolved in a little water and stirred in until thoroughly diffused or dissolved. When of proper degree of consistence the mass is poured into well-cooled moulds.

The same mass is not applicable to all medicaments, since some render it too hard, others too soft. The gelatin vehicle may be kept almost indefinitely, provided it is poured into bottles and, when cold, covered with alcohol. For various formulæ see Handbook of Pharmacy, p. 364.

For a glycerin suppository,* the following has been recommended: Glycerin 10 parts, water 5 parts, gelatin 1 to 2

* A convenient substitute for this consists of a block-pad made of parchment-paper, which is impervious to fats and liquids of all kinds. Immediately after use, the soiled leaf is torn off, thus saving the labor and time of cleansing.

* This was proposed previous to the appearance of the U. S. P. of 1890, in which "Suppositoria Glycerini," made by another process, were made official.

parts; in order to render the suppositories sufficiently firm, it has been recommended to dip them into melted cacao butter.

Cacao Butter Suppositories.—According to their method of preparation they may be designated as hand-rolled, moulded, and compressed.

Moulded Suppositories.—The Pharmacopœia gives instructions for the preparation of these.

(All of the above subjects as applied to practical pharmacy will be discussed later by the writer upon "Dispensing Pharmacy.")

XIX. INORGANIC PHARMACY.

In connection with this outline of Inorganic Pharmacy the student or reader is presumed to have the U. S. Pharmacopœia nearby for constant reference, in addition to standard works on Inorganic Chemistry. Wherever possible, the various Pharmacopœial tests for identity and purity will be explained, avoiding unnecessary quotations from the original text, such as descriptions, specific gravity, boiling points, etc.

COMPOUNDS OF HYDROGEN AND OXYGEN.

AQUA, H_2O.—Because of its great importance in medicine and pharmacy, water has always been retained in the Pharmacopœia. According to its source, water is more or less impregnated with various inorganic and organic constituents, which do not interfere with its use for drinking purposes and general use as a solvent. However, water, as found in some sections of our country, contains impurities of such a character as to render it unfit for use in the manufacture of many pharmaceutical preparations. For this reason the U. S. P. has placed certain limits upon the extent to which these impurities may be present, for example: Water should not contain over 0.05 per cent. of soluble salts, and when this residue is ignited, it should not carbonize (absence of undue proportions of organic matter); also, it should not show the presence of metallic impurities when treated with sulphuretted hydrogen or ammonium sulphide; likewise, nitrates should be absent, as shown by the diphenylamine test ($NH(C_6H_5)_2$) solution; also, not more than traces of nitrites should be present, shown by failure of immediate blue coloration of the zinc iodide of starch T. S., the presence of nitrous acid (liberated from the nitrites by the addition of the H_2SO_4) causing the liberation of the iodine from the test solution, which strikes a blue color with the starch present. Water may be purified to some extent by the addition of small amounts of alum or ferric chloride. Among the various terms employed for water in prescriptions are Aqua, pura (pure), -fluvialis (river), -pluvialis (rain), -fontana (fountain or spring), -fervida (hot), and -bulliens (boiling).

From water are prepared:

AQUA DESTILLATA.—The U. S. P. directs that 1,000 parts be distilled, rejecting the first 100 volumes and then collecting 800 volumes, thus avoiding all possible contaminations. It should be preserved in loosely stoppered containers. It is employed in preparing the medicated waters, hypodermic solutions, also solutions of various sensitive chemicals, as silver nitrate, potassium permanganate, lead acetate, alkaloids, etc. The presence of undue quantities of nitrogenous bodies is detected by the reduction (decoloration) of potassium permanganate V. S.

AQUA HYDROGENII DIOXIDI.—This should contain 3 per cent. by weight of Hydrogen Dioxide, H_2O_2, corresponding to about 10 volumes of available oxygen. This is prepared by decomposing barium dioxide in the presence of water, by the careful addition of phosphoric acid, insoluble barium phosphate being formed, while hydrogen dioxide is generated. $3BaO_2 + 2H_3PO_4 = Ba_3(PO_4)_2 + 3H_2O_2$.

The great facility with which this solution gives up its oxygen renders it a powerful oxidizer. It bleaches organic colors, likewise hair, converts sulphides and sulphites into sulphates, ferrous into ferric compounds, liberates iodine from hydriodic acid and iodide of iron, etc. It is stated that the addition of 1 part of H_2O_2 to 1,000 parts of impure drinking water will, after a short time, effectually destroy any disease germs that may be present. It is employed in medicine as a powerful antiseptic and deodorant. The commercial solution scarcely ever contains over 3 per cent. by weight of the absolute peroxide, hence it behooves the apothecary to assay each lot which he may purchase.

The strength of this solution is also indicated by Volume. Thus a 20 volume solution is one which, when decomposed into water and oxygen, will yield 20 times its volume of oxygen. When the H_2O_2 is decomposed by potassium permanganate (U. S. P.), only one-half of the oxygen given off comes from the H_2O_2. The strength of the solution is estimated by means of decinormal solution of potassium permanganate, according to the following equation:

$$\underset{\text{Potassium Permanganate.}}{K_2Mn_2O_8} + \underset{\text{Hydrogen Peroxide.}}{5H_2O_2} - \underset{\text{Sulphuric Acid.}}{3H_2SO_4}$$

$$\underset{\text{Oxygen.}}{5O_2} + \underset{\text{Water.}}{8H_2O} + \underset{\text{Potassium Sulphate.}}{K_2SO_4} - \underset{\text{Manganese Sulphate.}}{2MnSO_4}$$

$$315.3 \qquad 169.6$$

The permanganate solution is added slowly, until the pink color no longer disappears. The presence of the sulphuric acid serves the purpose of dissolving the manganic hydroxide as fast as formed, otherwise the brown oxide diffused through the liquid would render the end of the reaction difficult to distinguish. Now, according to the above equation, 1 mol. of $K_2Mn_2O_8$ (315.3 p.) corresponds to $5H_2O_2$ (169.6 p.); or 0.003153 gm. of potassium permanganate (1 cc. of the decinormal solution), corresponds to 0.001696 gm. of absolute hydrogen peroxide. Where it is desirable to express the strength in volumes of available oxygen, we multiply the number of cubic centimeters of the solution of permanganate, decolorized by 1 cc. of the solution, by 0.56. This latter factor is explained thus:

Since one-half of the liberated oxygen is supplied by the potassium permanganate ($K_2Mn_2O_8$), 1 molecule of $K_2Mn_2O_8$ (315.3) liberates 5 of oxygen (80) from the hydrogen peroxide (H_2O_2); hence, 63 gm. of $K_2Mn_2O_8$ (one-fifth of 315.3) will liberate 16 gm of oxygen (one-fifth of 80), which at normal temperature measures 11,188 cc. If 63 gm. of potassium permanganate liberate 11,188 cc. of oxygen, 0.00315 gm. of permanganate (1 cc.) will liberate 0.56 cc. of oxygen.

It should be kept in loosely stoppered bottles in a cool place. Care should be taken in opening bottles of hydrogen peroxide, as frequently considerable pressure is exerted from the confined gases ejecting the cork with considerable violence.

INORGANIC ACIDS.

The inorganic acids are characterized by their sour taste when diluted with water; their acid reaction, that is, their property of changing blue litmus to red, and by their power of combining with bases to produce salts. The official inorganic acids will be considered in the following order: The Haloid Acids, or those not containing oxygen; the Oxygen Acids, and the Acid Anhydrides, or Solid Acids.

The acids as obtained in the market are designated by different names according to their strength and purity.

"Com."—Commercial acids, because of their impure condition, should not be employed in pharmacy; they are intended for industrial purposes. In strength, they are far below the U. S. P. requirements.

"U. S. P."—This indicates that the acid fulfills all of the Pharmacopœia requirements as regards strength and purity, and is to be used for medicinal and pharmacal purposes.

"C. P."—Chemically pure acids are usually of greater strength and purity than are required by the U. S. P.

The strength of acids is designated in percentage by weight of the real, or anhydrous, acid. This is ascertained by determining their specific gravity and referring to tables, or by direct assay by means of a volumetric solution of potassium hydrate as directed in the U. S. P. The methods of assaying the various acids will be treated under the chapter on Volumetric Analysis.

The chief impurities that occur in the various inorganic acids are metals (iron, lead and copper), free halogens and arsenic; in certain instances special impurities are given under their respective heads. The above mentioned impurities arise from the crude materials from which the acids are prepared, also from the metallic vessels employed in their manufacture. For instance, in the manufacture of sulphuric acid, the sulphur dioxide necessary is obtained by roasting iron pyrites, and this generally contains arsenic, which finds its way into the acid; also, since the crude weak acid is concentrated in leaden pans, the resulting product will be contaminated with lead. As sulphuric acid is employed in the manufacture of hydrochloric and nitric acids, these impurities are easily communicated.

The various acids are tested for the presence of arsenic by means of Bettendorff's or Fleitman's Test.

Bettendorff's Test consists in adding to the acid to be tested, some pure concentrated hydrochloric acid, followed by a solution of stannous chloride and a piece of pure tin foil. The presence of arsenic is revealed by the production of a brown color or precipitate. The reaction being thus:

$$\underset{\text{Arsenous Acid}}{As_2O_3} + \underset{\text{Stannous Chloride}}{3SnCl_2} + 6HCl = \underset{\text{Arsenicum}}{2As} + \underset{\text{Stannic Chloride}}{3SnCl_4} + 3H_2O$$

Fleitman's Test, which is performed in an alkaline solution, consists in generating hydrogen gas from a solution of potassium hydrate and zinc (or aluminum) and to this is added the solution to be tested, it having been previously made alkaline. If arsenic be present, arsenuretted hydrogen (AsH_3) is generated; this, when allowed to pass through a piece of filter paper moistened with a solution of silver nitrate, will cause a black spot to form, owing to the reduction of the salt to metallic silver. The reaction is as follows:

$$As_2O_3 + 6H_2 = 2AsH_3 + 3H_2O.$$
$$AsH_3 + 6AgNO_3 + 3H_2O = H_3AsO_3 + 6HNO_3 + 3Ag_2.$$

In carrying out the above tests, all of the reagents should be first tested for the presence of arsenic, otherwise the results obtained are of no value.

The acids as employed by the apothecary are usually sold in 5-pint glass-stoppered bottles; these should be kept in a cool place, as they expand and disengage gases by heat (HCl, HNO_3). When dispensed, they should be put up in glass-stoppered vials only, properly labeled, giving the necessary precautions as regards properties, handling, etc. Strong acids are sometimes taken accidentally; in order to counteract their corrosive action mild alkalies, as magnesium oxide, lime water, etc., in connection with bland fixed oil (almond, olive, etc.), should be quickly administered.

Haloid Acids.

These are hydrogen compounds of the halogens.

ACIDUM HYDROBROMICUM DILUTUM. U. S. P. This acid may be made:

1st. By interaction between molecular quantities of potassium bromide and tartaric acid, potassium bitartrate (cream of tartar), being precipitated. $KBr + H_2C_4H_4O_6 = HBr + KHC_4H_4O_6$.

2d. By distilling a mixture of potassium bromide and diluted sulphuric acid, acid potassium sulphate remaining in the retort: $KBr + H_2SO_4 = KHSO_4 + HBr$.

3d. By passing sulphuretted hydrogen through a mixture of bromine and water, sulphur separating: $H_2S + 2Br = 2HBr + S$.

4th. By the action of bromine on phosphorus in the presence of water, phosphoric acid being the by-product: $5Br + P + 4H_2O = 5HBr + H_3PO_4$.

The acid obtained by these processes is afterward diluted to the requirements of the U. S. P.

As test of identity, the addition of chlorine water will cause the liberation of bromine, which may be recognized by the yellow color it imparts to chloroform when shaken with the mixture. The presence of sulphuric acid is told by the addition of barium chloride, which produces a turbidity or precipitate due to the formation of the insoluble barium sulphate: $BaCl_2 + H_2SO_4 = BaSO_4 + 2HCl$.

The strength of this acid is fixed at 10 per cent. of absolute HBr.

ACIDUM HYDROCHLORICUM, U. S. P. (Muriatic Acid).—HCl.—This is produced in immense quantities in the manufacture of sodium carbonate from sodium chloride. It may be prepared by the apothecary by heating a mixture of sodium chloride and sulphuric acid; after passing the gas through a wash bottle it is collected in a vessel of cold water;

$$\underset{\text{Sodium Chloride}}{NaCl} + \underset{\text{Sulphuric Acid}}{H_2SO_4} = \underset{\text{Acid Sodium Sulphate}}{NaHSO_4} + \underset{\text{Hydrochloric Acid}}{HCl}$$

$$\underset{\text{Acid Sodium Sulphate}}{NaHSO_4} + \underset{\text{Sodium Chloride}}{NaCl} = \underset{\text{Sodium Sulphate}}{Na_2SO_4} + HCl$$

or it may be prepared from the impure commercial acid by distillation. The Pharmacopœia requires that the acid contain 31.9 per cent. of absolute hydrochloric acid gas, and it should have a gravity of 1.163. The acid when exposed to moist air gives off white fumes, caused by the combination of the gaseous acid and the ammonia of the air. The yellow color of the commercial acid is caused by the presence of traces of iron. As test of identity the acid, when heated with manganese dioxide, chlorine gas is given off:

$$4HCl + MnO_2 = MnCl_2 + Cl_2 + 2H_2O.$$

With silver nitrate it produces a white precipitate ($AgCl$), which is soluble in aqua ammonia without producing a blue color (absence of copper). Iron may be detected by color or turbidity produced by the addition of ammonium sulphide T. S. The presence of chlorine or bromine may be detected by the liberation of iodine from zinc iodide of starch T. S., which produces a blue color. Sulphuric acid, if present, will precipitate barium sulphate, on addition of barium chloride T. S., to the diluted solution: $(H_2SO_4 + BaCl_2 = BaSO_4 + 2HCl)$.

The acid and preparations containing it are incompatible with alkalies, metallic oxides, sulphides, potassium tartrate, tartar emetic, silver nitrate, lead compounds, etc.

It is used in the preparation of the various official chlorides (Fe_2Cl_6, $ZnCl_2$, solution of arsenous acid, etc.); for preparing the official diluted hydrochloric acid (10 per cent.); for the generation of chlorine gas; and with nitric acid in the preparation of nitrohydrochloric acid.

ACIDUM HYDRIODICUM. — HI. — This acid is not official. It is made by passing sulphuretted hydrogen through water containing powdered iodine ($H_2S + I_2 = 2HI + S$), or by interaction between an alkali iodide and tartaric acid. The acid on exposure to air and light undergoes decomposition, with the liberation of free iodine. It is incompatible with silver salts, and salts of the metals, also mineral acids.

Oxygen Acids.

The elements nitrogen, phosphorus and sulphur form with hydrogen and oxygen the acids of this group. They consist of nitric, phosphoric, hypophosphorous, sulphuric and sulphurous acids.

ACIDUM NITRICUM. — HNO_3. — (Aqua Fortis).—A liquid containing 68 per cent. by weight of absolute HNO_3 and of specific gravity 1.414. It is prepared by distilling a mixture of sodium nitrate and sulphuric acid (temperature 180° C.). $NaNO_3 + H_2SO_4 = NaHSO_4 + HNO_3$.

If two molecules of sodium nitrate are employed for each one molecule of sulphuric acid, a much higher temperature (200° to 300° C.) is necessary for the liberation of the acid, hence a portion of the acid undergoes decomposition into water, nitrogen tetroxide and oxygen. The resulting acid is highly colored and is known as Fuming Nitric Acid, which is employed in various technical and chemical operations. The official acid should be free from the usual impurities, as metals, sulphuric acid, arsenic, etc. Nitric acid acts upon organic tissues such as skin, nails, also wool and silk, staining them yellow (xanthoproteic acid). Being a powerful oxydizing agent, care should be taken in mixing it with such organic substances as glycerin, alcohol, oil of turpentine, etc. It oxidizes phosphorus and sulphur, giving rise to phosphoric and sulphuric acids. It dissolves mercury, silver and copper, with evolution of red vapors of nitrogen tetroxide, ($Cu + 4HNO_3 = Cu(NO_3)_2 + 2NO_2 + 2H_2O$). The nitrates of the heavy metals on heating are decomposed, producing lower oxides of nitrogen and the metallic oxide ($Hg(NO_3)_2 = 2NO_2 + O + HgO$). Also the nitrates of the alkali metals, when heated, yield oxygen and nitrites ($NaNO_3 = NaNO_2 + O$). Nitric acid should not be transported packed in sawdust, excelsior, tow, etc., for should, through breakage, the acid come in contact with such packing, fire is liable to ensue. The acid is employed in pharmacy as an oxidizing agent in the preparation of ferric compounds, citrine ointment, also in preparing the nitrohydrochloric acid and the official dilute nitric acid (10 per cent.).

ACIDUM NITROHYDROCHLORICUM.—U. S. P.—Nitromuriatic acid.—(Aqua regia).—This is prepared by mixing 18 volumes of nitric and 82 volumes of hydrochloric acid and allowing to stand in bottles not more than half filled. When these acids are mixed, reaction soon begins and the liquid takes on a yellow color, giving off fumes having a strong odor of chlorine; the acid should not be placed in a bottle until the slight effervescence has nearly ceased. The reaction results in the formation of free chlorine and nitrosyl chloride ($HNO_3 + 3HCl = NOCl + Cl_2 + 2H_2O$). This acid, from the presence of free chlorine, possesses the power of dissolving gold and platinum. Great care should be exercised in combining the strong acid with infusions, tinctures and other organic preparations, as it frequently reacts violently with these. The diluted acid is prepared by adding water (78 vols.) to a mixture of nitric acid (4 vols.)

and hydrochloric acid (18 vols.). However, the water should not be added before the reaction between the acids is over. The diluted acid liberates iodine and bromine from their salts, hence it is incompatible with the syrups of ferrous iodide and hydriodic acid.

ACIDUM PHOSPHORICUM, U. S. P., H_3PO_4.—Under this title the U. S. P. recognizes an acid containing 85 per cent. of absolute orthophosphoric acid. There are five different acids of phosphorus, namely:

HPH_2O_2, Hypophosphorous acid (U. S. P.); H_3PO_3, Phosphorous acid; H_3PO_4, Phosphoric acid (U. S. P.).

From Phosphoric acid are obtained by removal of water:

$H_4P_2O_7$, Pyrophosphoric acid; HPO_3, Metaphosphoric acid.

The official, or orthophosphoric, acid is obtained by the action of nitric acid on phosphorus in the presence of water, according to the following equation:

$$3P + 5HNO_3 + 2H_2O = 3H_3PO_4 + 5NO.$$

It is also obtained by the action of bromine on phosphorus in the presence of water with a little nitric acid, hydrobromic acid resulting as a by-product.

$$5Br + P + 4H_2O = 5HBr + H_3PO_4.$$

As test of identity, the acid is supersaturated with ammonia water, followed by the addition of magnesium sulphate T. S., producing a white crystalline precipitate of ammonium magnesium phosphate ($MgNH_4PO_4$). If this is dissolved in diluted acetic acid, the solution yields a yellow precipitate with silver nitrate (silver phosphate).

$$MgNH_4PO_4 + 3AgNO_3 = Ag_3PO_4 + Mg(NO_3)_2 + NH_4NO_3.$$

Phosphorous acid (H_3PO_3), which is poisonous, sometimes occurs in phosphoric acid through incomplete oxidation; if present, it will cause the solution to be blackened upon the addition of silver nitrate T. S., due to reduction to metallic silver, thus:

$$H_3PO_3 + AgNO_3 = Ag + H_3PO_4 + NO_2.$$

Also, the solution should not be rendered turbid by mercuric chloride T. S., owing to the separation of mercurous chloride (calomel):

$$H_3PO_3 + 2HgCl_2 + H_2O = Hg_2Cl_2 + H_3PO_4 + 2HCl.$$

Phosphoric acid should not respond to the tests for arsenic; this dangerous impurity may be traced to the sulphuric acid employed in the preparation of phosphorus. Occasionally, samples of phosphoric acid are met with, which, when added to tincture of ferric chloride, produce a precipitate, or jellify on standing. This is caused by the presence of pyro or meta phosphoric acid which are formed from the ortho (U. S. P.) acid in heating. For example: On heating up to 200° C., two molecules of the ortho acid lose one molecule of water, giving rise to the pyro acid ($H_3PO_4 - H_2O = H_4P_2O_7$); when heated still higher, it is converted into the meta (glacial) acid, ($H_3PO_4 - H_2O = HPO_3$). These acids may be converted into the ortho variety by adding a few drops of nitric acid to the sample and boiling. The three acids are distinguished by peculiar reactions, namely:

Ortho, On addition of $AgNO_3(+NH_4OH)$ = yellow precipitate.

Meta, On addition of $AgNO_3(+NH_4OH)$ = white precipitate.
On addition of $BaCl_2$ = white precipitate.
Coagulates Albumen.

Pyro, On addition of $AgNO_3(+NH_4OH)$ = white precipitate.

In applying the silver test to the above acids, the addition of the silver nitrate should be followed by the careful addition of very weak ammonia water to neutralize the excess of nitric acid liberated by the reaction ($H_3PO_4 + 3AgNO_3 = Ag_3PO_4 + 3HNO_3$); care should be taken to avoid excess of ammonia, otherwise the precipitate formed will be redissolved.

METAPHOSPHORIC ACID, HPO_3, Glacial Phosphoric Acid.—This acid generally appears in sticks, being obtained from bone ash by treating with dilute sulphuric acid, neutralizing the filtered liquid with ammonia, evaporating to dryness and heating to redness; it is then moulded into sticks. This acid should not be used in place of the official article.

ACIDUM PHOSPHORICUM DILUTUM, U. S. P.—This acid contains 10 per cent. of the orthophosphoric acid. It is employed in preparing Syrup of the Phosphates of Iron, Quinine and Strychnine, etc.

ACIDUM HYPOPHOSPHORICUM DILUTUM, U. S. P., HPH_2O_2.—This acid should contain about 10 per cent. by weight of the absolute acid. It is obtained by boiling phosphorus, barium hydrate and water together; barium hypophosphite is formed and phosphoretted hydrogen escapes, ($8P + 3Ba(OH)_2 + 6H_2O = 3Ba(H_2PO_2)_2 + 2PH_3$). The barium hypophosphite is decomposed by the careful addition of sulphuric acid, insoluble barium sulphate resulting in addition to the free hypophosphorus acid, ($3Ba(H_2PO_2)_2 + 3H_2SO_4 = 3BaSO_4 + 6H_3PO_2$).

From silver nitrate T. S., it reduces black metallic silver ($HPH_2O_2 + 2AgNO_3 = H_3PO_4 + Ag_2 + 2NO_2$). From mercuric chloride T. S., it reduces a white precipitate of calomel, ($4HgCl_2 + HPH_2O_2 + 2H_2O = 2Hg_2Cl_2 + H_3PO_4 + 4HCl$). When heated to a high temperature it is decomposed into hydrogen phosphide and phosphoric acid, ($2HPH_2O_2 = PH_3 + H_3PO_4$). When heated with copper sulphate T. S., a yellow precipitate of copper hydride falls, ($CuSO_4 + HPH_2O_2 + 2H_2O = CuH_2 + H_3PO_4 + H_2SO_4$). This acid is used in the preparation of the Syrup of the Hypophosphites. Care should be taken not to triturate the salts of this acid (Hypophosphites) with organic substances, since they are very explosive.

ACIDUM SULPHURICUM, U. S. P., H_2SO_4.—This acid should contain not less than 92.5 per cent. by weight of absolute Sulphuric Acid. This acid has an almost unlimited application in various pharmaceutical operations; by means of it most of the other inorganic acids are prepared; it also enters into many important official preparations. In view of this the various impurities which are liable to occur in sulphuric acid should be noted, for through it they are introduced into various derivatives and preparations.

This acid is obtained by passing the vapors of burning sulphur (SO_2) and nitric acid with steam into leaden chambers; the weak sulphuric acid formed is then concentrated in leaden pans, till it reaches about 80 per cent. strength, constituting the crude brown "Oil of Vitriol." It is then further concentrated in platinum vessels until it reaches about 92 per cent. strength. This impure acid, containing lead, arsenic and oxides of nitrogen, is purified by distillation in platinum or glass vessels. The arsenic, which is introduced from the sulphur ores used in generating the sulphur dioxide, is removed by means of sulphuretted hydrogen or by passing hydrochloric acid gas through the hot acid, converting it into the volatile arsenic trichloride. Arsenic frequently occurs in the commercial acid and but rarely in the U. S. P. acid. Lead sulphate is occasionally found in the U. S. P. acid; it is detected on diluting the acid with alcohol or water, lead sulphate precipitating as a fine white powder. The presence of sulphurous (H_2SO_3) or nitrous (HNO_2) acid may be told by its decolorizing power on potassium permanganate, ($KMnO_4$). When dropped on wood or sugar it blackens it, because of the abstraction of water. When mixing with aqueous or alcoholic liquids, the acid should invariably be poured into the diluting liquid. When added to oil of turpentine or the volatile oils, it frequently gives rise to explosive reactions. Internally, it is administered in the form of Dilute Sulphuric Acid (10%), or

ACIDUM SULPHURICUM AROMATICUM, U. S. P.—This preparation contains 20 per cent. of the official acid. The directions given in the U. S. P., to add the acid gradually to the alcohol, should be explicitly followed, otherwise accidents may occur, owing to the great heat generated. This preparation is commonly known as "Elixir of Vitriol." It is frequently used as an excipient for quinine pills, reducing their size and rendering them more soluble.

ACIDUM SULPHUROSUM, U. S. P., H_2SO_3.—A liquid composed of not less than 6.4 per cent. by weight of sulphurous acid gas, (SO_2). This acid is prepared by saturating water with sulphur dioxide. The gas is generated according to the U. S. P., by heating sulphuric acid and charcoal, ($C + 2H_2SO_4 = 2SO_2 + CO_2 + 2H_2O$). It may also be obtained by heating sulphur and sulphuric acid together; ($S + 2H_2SO_4 = 3SO_2 + 2H_2O$). Also by the action of copper on sulphuric acid; ($Cu + 2H_2SO_4 = CuSO_4 + 2H_2O + SO_2$). In the official process, the gas is passed through a wash bottle and then into a receiver containing distilled water for its absorption. When the acid is heated, the gas evolved will blacken a strip of paper moistened with mercuric nitrate T. S.; ($Hg_2(NO_3)_2 + H_2SO_3 + H_2O = H_2SO_4 + 2HNO_3 + Hg_2$). If the acid be mixed with some diluted hydrochloric acid and a piece of zinc added, sulphuretted hydrogen will be evolved, ($2Zn + 4HCl = ZnCl_2 + 2H_2$), ($SO_2 + 4H = 2H_2O + H_2S$), which will blacken a strip of paper moistened with lead acetate T. S. (formation of lead sulphide). The acid is employed as a bleaching agent in the arts; also for arresting fermentation, as it possesses powerful antiseptic properties.

(To be continued).

Should a Standard of Literary Training be Required of Applicants for Examination?*

By Mrs. Belle Heilman, Tecumseh, Neb.

There is but one way to consider the subject, and that, of course, is affirmatively. 'T is a foregone conclusion. Transpose the word "should" and the question answers itself. To treat the subject negatively, would simply be to burlesque it. By a "standard of literary training" we take it that such a one is meant which shall reach neither extreme. Too high a one would not be feasible—too low would be sheer folly. Perhaps to some the establishment of a proper standard seems the greater difficulty. Certainly it requires comprehensibility of the various subjects to be considered to arrive at a determinate quantity and quality of all, taken as a whole, which constitute a standard by which other things shall be justly measured or compared. Fortunately, prominent steps have already been taken in the matter, and valuable suggestions made by progressive and interested pharmacists, among whom is Dr. Oscar Oldberg, of Chicago. In his draft of a proposed pharmacy law in regard to registered students of pharmacy, in Sec. 25, he touches the subject thus: "They shall have acquired before the beginning of their study of pharmacy * * * a general education at least equivalent in character and extent to that required for graduation from the high schools of this State." * * * Then again in Sec. 26: * * * "And such examination shall include English orthography, grammar and composition, mathematics, the science studies, and either German or Latin so far as embraced in the customary curriculum of the public high schools of this State, or its equivalent. The importance of the profession of pharmacy requires that an aspirant for place in its ranks should evidence his ability to maintain a creditable position therein."

There are those who have a right to demand the establishment of such a standard; they are those who have patiently and laboriously climbed the "Heights of Parnassus." To train is to teach, to educate. An ignoramus is a clog and a hindrance in any calling. He is just so much raw material which must be "milled"—in short, educated,—before he can be put to a legitimate use. It is an imposition for him to intrude himself before a board of pharmacy for examination in such an unformed and unavailable condition. The unreasonableness (even if we do not call it by the harsher term of presumption) of such an act is manifest. If a student has not an ordinary, common-school education, he certainly is not fitted to undertake any branch of scientific study or research. He simply cannot get at the text. If, by some extra spurt, he has managed to gather some considerable information along certain lines, yet his underlying ignorance of the basic principles of education, will again and again foil him. The student who does not possess a fair amount of learning, i. e., literary training, is not fit to attempt the scientific studies embraced in the study of pharmacy. His mind is not sufficiently mature. This branch of the subject admits of tedious elaboration, which, for brevity's sake, we will not attempt. When we ask, "Should the applicant be required?" we merely recognize the obligation; and if we go no further we are doing little, indeed, when decisive action is necessary. We are in the predicament of Mike and Pat when the former asked, "Why do thim false eyes be made of glass, now?" and received the answer, "Shure 'n how else could they say thro' 'em? ye thick head." It is full time that the matter should receive serious consideration, both in and outside of the profession. There is nothing whatever desirable to be gained by not requiring a reasonable standard of literary training of the candidate, who, if he successfully passes the examination before the board of pharmacy, confidently expects to at once assume the dignities and responsibilities of his profession. A literary training costs time, money, and effort. Valuable commodities, these. When one makes such an investment, the effort is directed so as to gain the greatest possible return. A literary training opens up to the student numerous avenues of resource from which he would otherwise be quite shut out. It is the most valuable aid the student in any capacity can have; without it he is handicapped on all sides. Intellectual symmetry and proportion are lost in the case of the poorly-qualified student, and the loss is felt by whatever trade or calling he enters. "A little learning is a dangerous thing." It does not require a great amount of knowledge to be a fool; it does take a deal of it to be really wise. We quite agree with the Irishman who exclaimed, "That some folks don't know would blasht a rock." Evidently, he had a keen appreciation of its potential force. Certainly, ignorance will blast many a bright prospect. The higher the standard, the greater the gain to the profession in general. Any calling, trade, or institution that throws wide its doors to those who are manifestly incompetent or illiterate, openly courts derision and contempt. Such an institution is held in no regard, and sooner or later becomes a by-word and a jest. A college of pharmacy is supposed to fit a student for the next step forward into active business life. A student is required to possess a certain standard of proficiency, and must be examined with the additional object * * * to determine the degree of information possessed by the candidate in the rudimentary branches of an English education, before he is allowed to graduate from such a college. How much more, then, should a candidate, who has not had the advantage of a preliminary training be required to pass an equivalent examination before placing them both on a legal equality?

An educational amendment to the pharmacy law would doubtless receive the hearty support of all thinking druggists. It could work neither injustice nor hardship to the proposed candidate. For, if he is proficient, it should afford him no embarrassment, but, on the contrary, pleasure, to prove it. If he is not, far better for him if the fact be properly demonstrated, as he still has the opportunity for improvement before him. If, forsooth, he is burdened with the paralyzing thought that he "don't know as he ever knowed a boy as knowed as much as he knowed," then he needs discipline. It would be well to have him bit with a bright idea. The trend of affairs pharmaceutical is certainly upward. Associations, boards, and schools of pharmacy, are the most potent factors in the case. And we may confidently rely upon their wisdom and enterprise for the furtherance of all beneficial schemes. This paper does not aspire to the dignity of an argument,—still less to offer suggestions,—but merely as observations by the way. "Stagnation is death." Pharmacy does not stagnate, but is very much alive and growing. Pharmacy has passed beyond its childhood days. It has not yet attained its full stature. It is in a vigorous, healthy youth. In fact, it donned its first white shirt when the Legislature passed the pharmacy law, which was immediately followed by long pants when the State Board became a reality. And even though we are sometimes quietly amused when we catch him parading in an astounding necktie and cane, and shrewdly suspect he has a silk hat in that box shoved into the furthermost corner under the bed, with which he intends to get himself up quite regardless, we feel he is merely showing a disposition to persevere and ability to improve. We console ourselves with the thought that he is not as green as he once was, and no longer keep him off the common for fear the cows will eat him.

* Presented at the last annual meeting of the Nebraska Pharmaceutical Association.

The Relation That Should Exist Between the Doctor and the Druggist.*

George W. Moore, Harvard, Neb.

The privilege of again having this subject before us can only be repaid by giving it some marked attention in the way of deliberation and comment, and should action be taken toward improvement, it could not be out of keeping with the real state of affairs.

And a few remarks regarding the existent relations might be considered entirely in place at this juncture.

But be that as it may, the subject-matter will be taken up at once.

What relation should exist between the doctor and the druggist?

Viewing this strictly as a business proposition, as it should be, it is easily discernible that the earliest error between these professionals was the demand and the allowance of a percentage on prescription work, or a tender of free office rent from the druggist as a bait for patronage.

Although the physician and the pharmacist, as I shall endeavor to impress, should be very rigidly bound together from a professional standpoint, yet in a business way should they not be decidedly upon their own resources?

For, not only do these points have a tendency to promote the usurpive nature, and give rise to heavier demands, but also at times they are conducive to the under coldness that often is supplanted by unfriendly feelings. Why not com-

* Read before the Nebraska Pharmaceutical Association.

of the most common of all modern inventions—the high-grade bicycle—first, from the fact that these professions cannot be too highly graded, and also from the following other very noteworthy reasons is there a similarity to call forth this comparison.

Note the technical delicacy of their outline, the deep experimental superiority of the ideas involved, the strength and accuracy of their general make-up, the correctness of their bearings.

Allow us to still further compare the doctor to the rear, or foremost wheel, or both, as you like and the druggist to the rest of the machine, or vice versa, as the case may be. Of what utility are the wheels as a medium of progress without the pedals, chain, and sprocket; or, imagine the usefulness of these three parts in the absence of the wheels. Would it not be a laborious task for either to be subjected to the whole maneuver?

Is there any compliment extended that should not be reciprocated?

Such a thing is hardly probable.

They should be evenly bound together by that chain of professional or mechanical thought, wrought by the elevation of the mind, making the one's assistance so essential to the smooth-gliding propensities of the other.

To get full benefit of the "push," there should be a hearty co-operation on an equal footing; there should be unity in the workings of the two.

Now, with these relations existing cannot the financial connection be entirely separated? Is there anything more certain than that the druggist can do just as much for the doctor as the doctor can for the druggist? The doctor does not expect the druggist to bow down to his recognized knowledge; in fact, by so doing he only lowers himself in the doctor's estimation.

One doctor should not have privileges around our stores that are not extended to another; and there is no reason why he should take any undue privileges.

Our prescription files should be more carefully guarded, to insure perfect confidence of all concerned. No physician should be allowed to examine the prescription files, or the prescriptions of other physicians, but he should be cheerfully shown any prescription of his own which he should wish to see. The refilling of prescriptions should not be done except by the doctor's orders, for there is no question that it is many times harmful; and counter-prescribing, when unnecessary, should be entirely foregone.

Then there would be a marked change in the affinity of these two professions that should move forward as one.

The doctor would be our "champion and defender," and we would be recognized by him as an indispensable safeguard through which all his prescriptions should pass, and the great fact would be more clearly illustrated to ourselves that we are not in this business seventeen hours a day simply for the attainment of physical ability.

Chromic acid was first employed as a caustic by Sigmund, of Vienna.

HELIUM.

Professor Ramsay at a recent meeting of the Chemical Society read what many in the audience regarded as his first official paper on Helium, although he announced his discovery at the anniversary meeting. We are indebted to the Chemist & Druggist for the following interesting abstract of the paper:

Professor Ramsay first assigned a share of the credit to Dr. Norman Collie, who had, with Mr. Travers, been aiding him in his work. About 40 different minerals, more or less rare, had been examined with the view of finding helium in them. It had been found in about 15 of them. The chief sources up to the present were cleveite, broggerite, samarskite, English pitchblende, and monazite. He had specimens in vacuum tubes from all of these sources, and handed round a dozen small direct-vision spectroscopes for the Fellows to examine the spectrum. The light was now turned down, and the giant Ruhmkorf began to speak. The helium spectrum flashed out to magnificent advantage, and those who did not know would have felt certain that the huge yellow band now called D_3 was the double sodium line, so great was its intensity. The methods used in obtaining the gas were the following: (1) Pumping out the gas evolved on heating the mineral in an evacuated piece of combustion tube (this often contained hydrogen and carbonic acid, with sometimes a hydrocarbon, but never any argon); (2) Powdering the mineral finely with $KHSO_4$ and heat; (3) Or boiling with H_2SO_4 (70 per cent.) preferably in a current of CO_2. The gas is purified by absorbing with KOH, mixing with oxygen, exploding over a little KOH and mercury, and it can then be passed over ignited magnesium and copper oxide when necessary. The spectra showed five specially brilliant lines—one in the red, then the famous yellow line, one in the green, one in the blue, and finally one in the violet. From pitchblende Professor Ramsay only obtained about ½ cc. from 70 grams of material. It "didn't pay to extract," said Professor Ramsay, amidst some laughter. Broggerite, a mineral which resembles cleveite, merely having the small quantity of yttrium therein contained, replaced by thorium, is a useful source of the gas. In justice to Hillebrand, he said that uraninite does give off large quantities of nitrogen, and he had received a letter from this chemist saying, he had observed numerous strange and new lines in the spectrum, but had not been bold enough to assume he had discovered a new element. The remainder of the work was devoted to a study of the properties of the gas. He had taken the density of three samples obtained from the following sources: (1) Cleveite, (2) Broggerite, (3) Broggerite. The gases were in all cases finally passed over ignited magnesium, copper oxide and phosphoric anhydride. All three gave a density of 2.2. Lest a misunderstanding might arise, he pointed out that he gave his original figure, 39, as the maximum density, not as the true density. The exact figure of the three samples was 2218, and on further long heating over ignited magnesium, he had reduced this to 2133. He had only about 30 cc. to use for the determination, but this admitted of a reading with an error of less than 2 per cent. The wave-length of sound was also determined by the lycopodium method, and the result of the ration of specific heats at constant volume and constant pressure was found to be 1.652. For a monatomic gas this should be, theoretically, 1.66. So that the monatomicity was apparently established. Helium is the least soluble of all the gases, 100 volumes of water dissolving only 0.7 volume of gas. There were two lines in the spectra of helium and argon which were identical. Perhaps this points to the existence of some other gas or gases in both, which might allow the density of argon to be brought down to 38 and come just after chlorine in the periodic law. None of the minerals yielding helium re-absorbed it, and the question as to whether it has combined or not is still unsettled. The spectrum of argon was then displayed.

PHARMACY.

TAR FOR HÆMORRHOIDS.—The following mixture is recommended by Rev. de Ther, Med. Chirur., to be applied night and morning to the nodules, and we are told it will effect a cure in from four to twelve days. Wood tar, 3 parts; extract of belladonna, 3 parts; glycerin, 30 parts.

BARIUM PYROGALLATE.—R. Godeffroy (Oesterr. Zeitschr.) describes a pyrogallate of barium, obtained in fine acicular crystals, by mixing an aqueous solution of pyrogallic acid with excess of solution of barium hydrate. The composition appeared to correspond to the formula, $C_6H_4BaO_3$, $4H_2O$.

COPPER COMPOUNDS IN AGRICULTURE.—A. Girard (Comp. rend.) has conducted experiments during recent years to ascertain whether the accumulation in the soil of copper compounds used as insecticides has any ill effect upon future crops or upon human beings and animals consuming the produce. As a result he finds that there is no apparent falling off in the crops, and a careful examination of the different vegetable products is held to establish their absolute innocuousness from a hygienic point of view.

A GERMAN ANTI-FOULING PAINT.—A. Buecher, Heidelberg, Germany, has secured in the United Kingdom a patent which relates to a paint or composition for coating iron or steel to prevent rust. The composition consists of a powder comprising zinc dust and calcium carbonate, with the addition of some polishing materials such as tripoli, colcothar or charcoal. The powder is mixed with a liquid just before being used. Two liquids are described which are used respectively to make a temporary or a permanent coating. The first liquid consists of an alcoholic solu-

tion of saponates, obtained from olive oil and pork grease, with the admixture of benzene. The second liquid consists of an alkaline solution of gluten.

RICININ.—M. Soave extracts ricinin from castor cake by boiling with water, straining, evaporating to an extract, and exhausting with alcohol. (Ann. di chim. e farm.) The alcoholic solution leaves on evaporation a resinous residue in which crystals of ricinin can be seen. Dilute soda removes nearly all resin and fat, and the ricinin can then be crystallized from water. Shelled seed yielded only .03 per cent.; the shells contain .15 per cent. The author was unable to obtain Tuson's nitrate or chloroplatinate of ricinin. Heated on a water bath with dilute soda, methyl alcohol is separated and ricinic acid formed. (Ph. Jr. & Trs.)

ARGONIN.—Under this name a new silver preparation has been placed upon the market, which is prepared according to a process devised by Liebrecht and Röhmann, of the Breslau Physiological Institute. It is described in Apoth. Zeit. (Phar. Jr. & Trs.). The process consists in precipitating a solution of silver nitrate and casein-soda with alcohol. Argonin is described as a fine, white powder, which dissolves in water with a neutral reaction. The silver in the compound is not precipitated by chlorides, ammonium sulphide, etc. As the result of experiments upon species of gonococci, argonin is recommended by Drs. Meyer and Jadassohn as an efficacious disinfectant.

APPLE LIQUEUR.—The following is given by Timm, in Alcohol, for an exquisite apple-flavored liqueur, which may be used in flavoring fountain drinks: (Nat. Dr.) Choose the most aromatic apples obtainable, and grate them up on a metallic grater. Press out the juice, either with a press, or by squeezing with a cloth; strain, and bring the colate to a gentle boil, adding the requisite amount of sugar to make a syrup, or, say, from ½ to 1 pound of sugar to every quart of juice. Let cool, and finally add an equal volume of good brandy, or best old bourbon whiskey. Color with caramel, or tincture of carmine. The liqueur is said to be of exquisite taste. As it is rather hard to clear, the author recommends its filtration through felt.

SYNTHETIC WHISKEY.—During a prosecution which is at present proceeding in Calcutta for the fraudulent manufacture of spirits by a European named John Croft, the following interesting inventory of some of the contents of that enterprising individual's laboratory—or cellar, rather—was produced: (We quote from Ch. & Dr.) One hundred bottles of essence of whiskey and brandy, one bottle essence of Irish whiskey, essence of pineapple, sweet-almond oil, two large bottles of œnanthic ether, two bottles malt ether, a large jar containing extract of grapes, a vial of nitric acid, tincture of capsicum, tincture of tobacco, tincture of licorice root, oil of grapes, jars containing tincture of apricot, tincture of plantain (bananas), tobacco and chillies, caramel and packets of oxide of manganese. This list is said to embrace all the essential elements of the noted brands of Scotch whiskey, which are so popular in India, any of which were said to be made to order as required.

CONSTITUENTS OF NUTMEGS.—W. Bussé, in his "Arbeiten aus dem Kaiserl. Gesundheits-Amte," states that the ash contained in nutmegs is not more than 5 per cent., and the proportion insoluble in muriatic acid does not amount to more than one-tenth part; for incineration 2.5 gm. of freshly ground material was used. The loss caused by drying ranges from 9 to 13 per cent. on the better qualities. Reckoning nutmegs to contain 8.10 per cent. of volatile oil (according to Schimmel), the proportion of water contained in them can only amount to 5 per cent. Fat was found to the extent of from 31.1 to 40.5 per cent., and this was obtained by ether extraction in Soxhlet's apparatus. The longish nuts, which appear to be preferred for nutmeg butter, showed the same quantity of fat. (Phar. Wochensch., Ph. Jr. & Trs.)

"SHOULD DOCTORS DISPENSE?"—An interesting opinion from a correspondent of the Birmingham Daily Mail is this: "Such a monstrous state of things is not for a moment allowed on the Continent, and why the English government should allow a man the privilege of writing out death certificates, and yet at the same time sanction his dispensing the medicine for his patients, is beyond all conception. I would submit three important suggestions why doctors should not dispense, and these, I think, must appeal to any intelligent person as reasonable: (1) Their right to give certificates of death and dispense medicines at the same time. (2) Their insufficient knowledge of dispensing; the knowledge of pharmacy and practical dispensing required for their examination not being a tenth part of that required by the Pharmaceutical Board of Examiners from candidates. (3) Their liability to substitute cheaper medicines than those which would be of greatest value to the patient, in order that their drug account may be kept down. Now, these are not fanciful ideas, but bare facts, which my own impartial experience indicates, and of which I have constantly seen the result. Of course, the patient is the sufferer, and I, for one, always take great care that my medicine is never dispensed in the slobbery manner carried out in so many of our doctors' surgeries."

MALT WINE.—Natural malt wine, which has attracted some attention as a nutrient and restorative, resembles in strength, sweetness and taste, sherry Madeira, Malaga, or Tokay, according to the manner in which it is prepared. Ph. Jour. abstracts an article in Zeitsch. f. Krankenpfl., which says that all the varieties are clear, strongly alcoholic and free from any unpleasant taste. As far as its origin is concerned, malt wine may be considered a beer, but in its constituents and properties it is to be regarded as a wine. It is made as follows: Ground malt is mixed with water and carefully heated. To the liquor obtained by pressing a pure culture of the lactic acid ferment is added in order to give the necessary acidity. It is then fermented by carefully selected and cultivated wine yeast at the usual temperature. After the production of the alcohol, which can be increased by the addition of cane sugar, the wine is freed from every trace of the odor of malt by allowing it to remain for several weeks in contact with air frequently renewed. It is then racked off into barrels and allowed to ripen. The wine thus prepared contains 11.5 to 15 per cent. of alcohol, 11 to 25.5 per cent. of extractive matter, 0.06 to 0.15 per cent. of phosphoric acid, and 0.7 to 1.5 per cent of total acid.

GUARDING THE RESPIRATION.—The point is made by Dr. Mann, of San Francisco, in an article in The Pacific Medical Journal, that individuals whose nostrils are best supplied with hirsute growth are less susceptible to the irritating qualities of foreign material so universally distributed through the atmosphere, to say nothing of septic matter from decomposing animal and vegetable substance, bacteria, the special bacilli of various diseases, etc. But abundant experiment, he holds, long ago demonstrated that cotton wool is capable of arresting germinal matter with which the air is filled; by placing within the nostrils, out of sight, a thin pledget of cotton, not sufficiently dense to interfere with free respiration, the air may be greatly purified—the cotton immediately becoming moistened during expiration, which adds materially to its efficiency as a filter, and its efficacy, when thus placed, in arresting dust, particles of soot, etc., being shown by introducing the pledgets and then after an hour's walk through the streets removing them, when they will be found blackened and soiled. Microscopic examination discloses a most varied assortment of germinal matter—prominent among these being the well known forms of catarrh and bronchial secretion that have been desiccated and pulverized by passing feet, thus liberating the germs which, planted upon congenial soil, will produce disease.

DRUG ADULTERATION IN BIRMINGHAM.—In the annual report on adulteration prosecutions in Birmingham, Eng., for 1894, it is stated that 1,129 samples were analyzed, 124 or 11 per cent. of which were adulterated. This was a somewhat lower percentage than usual. That for 1893 was 13. The drugs analyzed were of rather better quality than in the two preceding years, though 20 per cent. of them were adulterated. Four tinctures of rhubarb were not compounded as specified by the British Pharmacopœia. Two precipitated sulphurs contained about 50 per cent. of sulphate of lime. One sample of tincture of iodine was deficient in both iodine and iodide of potassium. Water had been added in two syrups of rhubarb. Two sweet nitres contained far too much ethyl nitrite, an objectionable feature, says the report, in a drug which is required to have a definite

strength; three other samples had much too small a quantity of the same constituent. A sample of yellow beeswax and three of white wax were adulterated with paraffin; a fourth sample of white wax consisted entirely of Japan wax, which is a vegetable product. All the six samples of cream of tartar contained traces of lead. One tincture of senna did not contain the proper quantity of solid ingredients, and another was deficient of 18 per cent. of proof spirit. A sample sold as light magnesia had only 80 per cent. of that article in it, and one purchased as heavy magnesia consisted entirely of carbonate of magnesia.

INVERSION OF CANE SUGAR IN CERTAIN SYRUPS OF THE FRENCH PHARMACOPŒIA.—It is a well-known fact that invert sugar is formed in the preparation of many syrups, especially such as contain acids, but very little has been attempted in the way of a systematic investigation of the subject. M. Herissey, pharmacist of the Laennec Hospital, has recently, on the advice of Mr. Bourquelot, undertaken a study of this matter, and presents the results in the form of the following table: (Mont. Ph. Jr.)

Syrups.	Quantity of invert sugar in 1 litre immediately after preparation.	2 weeks after.	7 weeks after.	10 weeks after.
Citric acid	5.50	104.16	175.70	178.50
Tartaric	3.76	142.80	192.30	240.30
Chlor. hyd. phos. lime	23.25	same	same	57.40
Lacjophosphate lime	19.61	32.40	46.76	46.70
Acid phosphate lime	83.33	268.30	258.05	277.70
Perchloride of iron	7 35	384.40	531.80	581.30
Sulphate of quinine	2 65	14.70	2[illegible].80	20.40

Samples of the syrup made by the cold and hot processes used as checks gave, the first, 2 gm., the second 4.16 of invert sugar per litre after standing 10 weeks.

SYRUP OF FERROUS IODIDE.—The various proportions of ferrous iodide contained in the different Pharmacopœias are:

	Per cent.
Greek	0.052
French	0.50
Belgian	0.520
Italian	0.61
Spanish	0.67
Swiss	1.00
German and Russian	5.00
Austrian	5.082
British	5.700
Danish and U. S.	10.00
Hungarian	12.30
Dutch	20.00

CELLULOSE PAINT FOR VESSELS.—A cellulose paint is recommended by a French writer for the protection of steel ships and all exposed metal surfaces. He would use a 10 per cent. solution of ordinary wood pulp, colored as desired, with the addition, at the time of using, of some siccative, such as an acid salt of lead or of manganese. The paint is said to be more adhesive than oil paints, and it finally becomes insoluble and absolutely unalterable.

FLAVORING EXTRACTS.

General Flavoring Extract.

Oil of bitter almonds (freed from hydrocyanic acid) ..... 8 drops.
Essence of lemon .....12 drops.
Oil of cinnamon ..... 8 drops.
Oil of nutmegs ..... 4 drops.
Highly rectified spirit .. 1 ounce.

A few drops to be added to puddings, custards, etc.

Banana.

Banana fruit (peeled) ...1 pound.
Alcohol .....1 pint.
Water .....1 pint.

Macerate for 14 days; express and strain.

Celery.

Celery seed .....2 ounces.
Alcohol, q. s.

Powder the celery seed in an iron mortar, and pack the mixture in a percolator prepared for percolation. Cover with alcohol (using about 20 fluid ounces), and when the percolate appears close the exit of the percolator and macerate for a period of 24 hours. Then percolate slowly until 1 pint of percolate is obtained. The strength may be increased or diminished to suit the taste of the operator, the quality desired governing in this direction.

Cinnamon.

Bruised cinnamon .....2 drams.
Oil of cinnamon .....1 dram.
Highly rectified spirits .3 ounces.

Digest and strain.

Cloves.

Oil of cloves .....2 fl. drams.
Freshly powdered cloves .....2 ounces.
Alcohol, a sufficient quantity.

Rub the oil with the powdered cloves and pack the mixture in a percolator prepared for percolation. Cover with alcohol (using about twenty fluid ounces), and when the percolate appears close the exit of the percolator and macerate for a period of twenty-four hours. Then percolate slowly until one pint of percolate is obtained.

Coriander.

Deodorized alcohol ....500 parts.
Proof spirits .....400 parts.
Oil of coriander ..... 50 parts.
Carbonate of magnesia . 50 parts.

Color lightly with caramel.

Curry.

Oil black pepper ..... 2 drams.
Oil coriander ..... 2 drams.
Oil caraway ..... 1 dram.
Oil cloves ..... 1 dram.
Oil cardamom .....30 drops.
Extract ginger ..... 6 ounces.
Extract capsicum .... 4 ounces.
Tincture turmeric .... 6 ounces.

Mix and filter.

Lavender.

Deodorized alcohol....500 parts.
Proof spirits .....300 parts.
Oil of Mitcham lavender 100 parts.
Carbonate of magnesia . 100 parts.

Color with red tincture.

Lemon.

Oil of lemon (fresh) ..1¼ ounces.
Carbonate of magnesium .....1½ ounces.
Alcohol .....12 ounces.
Water, quantity sufficient to make .....32 ounces.

Dissolve the oil in the alcohol and rub it with the carbonate of magnesia in a mortar. Pour the mixture into a quart bottle, fill the bottle with water, and allow to macerate a week or more, shaking every day. Then filter through paper to make the product measure two pints. One-half strength of concentrated extract lemon, and makes a clear liquid with syrup and aqueous liquids. Can dilute with water to any extent, mixed with 25 per cent. alcohol.

Lemon.

Oil lemon, fresh .....8 ounces.
Grated peel 6 lemons.
Alcohol .....1 gallon.

Macerate 14 days and filter.

Mace.

Mace, moderately fine..6 ounces.
Alcohol .....32 ounces.

Macerate for 14 days; express and filter through paper.

Nectarine.

Flavoring extract lemon .....4 fl. ounces
Flavoring extract bitter almonds ....2 fl. ounces.
Flavoring extract orange .....4 fl. ounces.
Flavoring extract rose .....2 fl. ounces.
Flavoring extract vanilla .....4 fl. ounces.
Cochineal color, a sufficient amount.

Mix the extracts and color to suit the taste with cochineal color. The proportions of the ingredients of this extract may be varied, if the operator desires, for the combination is purely fanciful.

Orange.

Add one fluid ounce of sweet oil of orange to 15 fluid ounces of alcohol, and color the mixture to suit the taste with tincture of curcuma modified with a little cochineal color. The shades of the mixture may be regulated by the amount of curcuma tincture and cochineal used.

Peach.

Bruised peach pits .... 4 drams.
Oil of bitter almonds .. 2 drams.
Diluted alcohol .....16 ounces.

Macerate 48 hours and filter.

Pineapple.

Grated pineapple .....16 ounces.
Alcohol ..... 6 ounces.

Macerate 48 hours in a covered vessel, and strain, adding enough water through the strainer to make the liquid measure 1 pint.

Pistachio.

Macerate the crushed nuts with diluted alcohol, adding for every pound of the nuts used, ½ ounce each of cinnamon and cloves, and a few pieces of lemon peel. After macerating for 8 days, filter or percolate.

Vanilla.

Take one pound of vanilla beans, long, of good flavor, cut into small pieces and bruise in a mortar; macerate the same in one pint of diluted alcohol, shaking occasionally for two weeks, then transfer to a percolator and add gradually diluted alcohol sufficient quantity to make two pints of finished extract.

Vanilla.

Vanilla, fine .....½ ounce.
Sugar, about .....½ ounce.
Alcohol,
Water,
Of each a sufficient quantity.

Cut the vanilla beans transversely into thin slices, place in an iron mortar, and by concussion, gradually adding sugar to absorb the juice, crush the bean until reduced to the condition of a coarse powder. Prepare a percolator for percolation, introduce the powder in the usual manner, press gently, and cover with dilute alcohol (about 20 fluid ounces). When the liquid appears at the exit, cork the percolator and allow maceration to progress for a period of 24 hours. Then remove the stopper and allow the percolation to progress slowly until 1 pint of tincture is obtained.

Vanilla (With Tonka.

Vanilla beans in small pieces, 3 ounces, rubbed up in a mortar with two or three times its bulk of sugar, and then 6 ounces of tonka beans in fine powder added and the whole mixed, packed firmly in a percolator without moistening, and then percolate with a mixture of 3 quarts of water and 1 quart alcohol.

PHOTOGRAPHY IN COLORS.—Several times within the last two years there has been mentioned a system of photographing through glass screens, ruled with colored lines, 200 or 300 to the inch. A transparent positive thus obtained, covered with a similar screen and held up to the light, reproduces the hues of the original with more or less faithfulness. Dr. Joly, of Dublin, who has been conspicuous in this work on the other side of the Atlantic, recently displayed, at a soiree of the Royal Society in London, pictures of this sort, representing men and women in striking costumes, pansies, scenery, buildings, china and other subjects. The degree of accuracy obtained is said to have been surprising. Among the advantages of this system are the possibility of multiplying the picture endlessly from one negative, exhibition in a magic lantern and the restoration of the colors, if the latter fade with time, by substituting a newly made screen for the old cover. The colored lines, says the London Times, are ruled with inks mixed with gum and gelatine upon a gelatine-coated plate. While these screens are not yet being produced on a commercial scale, the same journal declares that their manufacture is not likely to be attended with difficulties necessitating a high price. James W. McDonough, of Chicago, it will be remembered, not only claims to have originated this idea of getting all three colors upon one screen for photography on this plan, but also to have developed it further than Dr. Joly. Our fellow-countryman believes that he is able to make his photographic positive a printing-block, to rule his colored lines on white paper, and then, by a carefully "registered" impression in a slow press, to illustrate a magazine or book in colors corresponding to those of the objects represented.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(F. M. P.) See rules at the head of this department.

An Exterminator.

(H. B. R.) See May 30, 1895, Era, page 686.

Dressing for Russet Shoes.

(R. L. C.) See issues of the Era for March 21, 1895, page 367, and April 11, 1895, page 462.

Sale of Extract of Malt and the Special Tax.

(T. F.) We think your query is very fully answered in a letter and circular from the Commissioner of Internal Revenue, at Washington, appearing on page 719, June 6, 1895, Era.

Seeds from the Agricultural Department.

(J. L.) Write to your Representative in Congress, or the Secretary of Agriculture, for the seeds you want. The Government makes appropriations for the distribution of certain seeds to farmers and others, and your Congressman can probably tell you all about how to obtain them.

Carbolic Acid, No 33.

(Subscriber.) The quantity of this preparation (made after the formula appearing on page 402, March 28, 1895, Era) required to make a 1 per cent. solution is 1 tablespoonful, instead of 1 teaspoonful, as given in the formula The error escaped the proof-reader's notice.

Compound Solution of Gallic Acid.

(E. S. E.) Griffith gives this formula under the title "Compound Mixture of Gallic Acid." It may answer your purpose:

Gallic acid .....12 grains
Compound tincture
of cinnamon ... 1½ fl. drams
Tincture of opium. 8 minims
Caraway water,
sufficient for.... 2 fl. ounces

Used in chronic diarrhœa and gastric irritation.

Interstate Registration.

(W. C. M.) The licentiate of any one of the following Boards of Pharmacy can be registered without further examination upon paying the required fee and furnishing a certificate from the secretary of the board examining him that he passed the examination five per cent. higher than was actually required in Michigan, Wisconsin, Minnesota, North and South Dakota, Washington and Missouri. Of course, this is reciprocal, any one of the boards in the States named recognizing the certificates of each of the others. For further information, write to the secretary of the Board of Pharmacy of the State in which you wish to become registered.

Paper for Cartons.

(J. B.) The following are a few of the leading manufacturers and dealers: Agawam Paper Co., Mittineague, Mass.; Keeny Bros. Mfg. Co., Manchester, Conn.; C. H. Dexter & Sons, Windsor Locks, Conn.; American Straw Board Co., Chicago, Ill.; Whitewater Paper Co., Whitewater, Wis., and Henry Lindenmeyr & Sons, New York City. Cartons are manufactured by the National Folding Box and Paper Co., New Haven, Conn., and E. B. Read & Son, Baltimore, Md.

Oil for Sharpening Razors.

(J. L.) Some thin oil, as lard or fine machine oil, is generally used. To grind and set a razor, place it on a perfectly flat hone or other fine grained stone, with a little oil, letting the back always rest against the stone, and, with small circular motions of the hand, without pressure, grind down the bevel of the blade until the stone marks meet on both sides in a thin feather edge. The paste often used on strops for sharpening raxors is composed of oxide of iron (rouge) mixed with olive oil. Oxide of tin or putty powder mixed with oil, also makes a good razor paste.

Potassium Iodide and Tincture of Hyoscyamus.

(T. F.) in the prescription:

Potassium iodide ....1½ ounce
Tincture hyoscyamus. ½ ounce
Adjuvant, enough to
make .. ..4 ounces

An incompatibility occurs between the potassium iodide and tincture of hyoscyamus, the alkaloids of the latter preparation being thrown down. A satisfactory vehicle for the administration of potassium iodide, and, in fact, the majority of saline remedies, is the adjuvant elixir of the National Formulary, a preparation which was introduced into that work for the purpose.

To Preserve Cider.

(J. B. L.) The most common practice is to add to each barrel of cider from 5 to 10 ounces of sulphite of lime—in fact, most druggists keep this article in stock, as put up in packages by certain manufacturers. Another preservative is salicylic acid, which may be used in the proportion of from ½ to 1 ounce to the barrel. Solution must be insured by agitation.

The following is also said to be a good method of preservation: When the saccharine matters by fermentation are being converted into alcohol, if a bent tube be inserted air-tight into the bung, with the other end into a pail of water, to allow the carbonic acid gas evolved to pass off without admitting any air into the barrel, a beverage will be obtained that is all that can be desired. A handy way is to fill the cask nearly up to the wooden faucet, when the cask is rolled so the bung is down. Get a common rubber tube and slip through the end of the plug in the faucet, with the other end in a pail of water. Then turn the plug so the cider can have connection with the pail. After the gas ceases to bubble up through the water, bottle or store the cider away.

Hair Dye.

(J. L.) We cannot give you the formula for the proprietary article you name. A preparation said to color by combing the hair through with it is the following:

Pyrogallic acid	1 dram
Chloride of copper	2 drams
Nitric acid	5 drops
Distilled water	6 ounces

Another "one bottle" preparation is this one:

Nitrate of copper	360 grains
Nitrate of silver	7 ounces
Distilled water	60 ounces
Water of ammonia, a sufficiency.	

Dissolve the salts in the water and add the water of ammonia carefully until the precipitate is all re-dissolved. This solution, properly applied, is said to produce a very black color; a lighter shade is secured by diluting the solution. Copper sulphate may be used instead of the nitrate.

Ropiness in Wine.

(A. J. L.) The gumminess, or ropiness, of wine is due to the beginning of the mucous fermentation of sugar. It takes place in wines poor in tannic acid, and hence more readily with white than red wines. It can be cured by the addition of tannic acid, treatment with sulphurous oxide, or starting a new fermentation by addition of grape sugar. M. Francois, a French chemist, recommends the use of 1 pound of the bruised berries of the mountain ash in a somewhat unripe state, well stirred in each barrel of wine to be improved. After agitation, the wine is to be left to repose a day or two, and then racked off. The tannin in the berries by that time will have separated and precipitated the glutinous matter from the liquid, and removed the ropiness.

Another scheme proposed is to shake the spoiled wine in a clean cask with freshly-burned charcoal in the proportion of a tablespoonful to every quart, and then allowing it to stand for a week or ten days.

Polish for Patent Leather.

(R. L. C.) French Paste for Patent Leather.—To preserve the gloss of patent leather the following preparation is used: Melt pure wax over a water bath. Place it on a moderate coal fire, add first some olive oil and then some lard, and mix intimately by stirring. Then add some oil of turpentine, and finally some oil of lavender. The resulting paste is filled in boxes, where, on congealing, it will acquire the requisite consistency. Apply a little of it to the shoe or boot, and rub with a linen rag, which will restore the gloss to the leather and keep it soft and prevent cracking.

2.) Gum .....8 ounces
Treacle .....2 ounces
Ink .....1 pint
Vinegar .....1 ounce
Sweet oil .....1 ounce
Alcohol .....2 ounces
Lampblack .....¼ ounce

3.) Cracks in patent leather: Take ½ pound molasses or sugar, 1 ounce gum arabic and 2 pounds ivory black; boil them well together, then let the vessel stand until quite cooled, after which bottle off. This is an excellent reviver and may be used as a blacking in the ordinary way, no brushes or polishing being required.

What Does the Doctor Mean?

(C. H. B.) wants to know what the doctor means by "emulsio q. s. ad ℥iij" in the following prescription:

℞

Bismuthi subnitratis	ʒ ij
Tinctura ipecac. et opii	fl. ʒss
Lac amygdalæ	fl. ʒss
Mucilaginis acaciæ	q. s.
Aqua amygdalæ	q. s.
Emulsio q. s. ad	℥ iij

M. Shake well.
S. One dessertspoonful every 3 hours.

In plain English, the prescription calls for a sufficient quantity of each of mucilage of acacia and almond water to make, with the other ingredients, an emulsion which will measure three ounces. To dispense, triturate the bismuth subnitrate in a mortar with about a fluid ounce of mucilage of acacia and about a fluid ounce of bitter almond water. Transfer the mixture to the bottle into which has previously been placed the milk (lac) of almonds. Add the tincture of ipecac and opium and enough of the almond water to complete the desired quantity, first having used it, however, to rinse out the mortar. Of course, the mixture should go out under a "shake" label. By "aqua amygdalæ" the doctor undoubtedly means the bitter almond water of the Pharmacopœia.

Extract of Vanilla, "Warm Process."

(A. F. W.) The following is given by Fenner:

Vanilla .....8 ounces av.
Alcohol,
Water, each, a sufficient quantity.

Mix three measures of alcohol with two measures of water, and having cut the vanilla in fine pieces and reduced it to a coarse powder by thoroughly beating in a mortar, moisten it with 6 ounces of the menstruum, pack firmly in the water bath percolator, pour upon it 10 ounces of menstruum and set in a warm place for seven days; then heat moderately and after one hour begin to percolate slowly, adding menstruum to the drug and continuing the heat and percolation until 14½ fluid ounces have passed, which reserve. Continue the percolation with the menstruum until the drug is exhausted, then distill the alcohol from this last portion, evaporate the residue to a soft extract, add to the reserved portion, and afterward, sufficient menstruum to make a pint of the fluid extract. After standing a few days filter through muslin.

It will be observed that this is but half the strength of ordinary fluid extracts. It is thus made because a fluid extract of full strength cannot be obtained without impairing the flavor of the preparation by the heat required to evaporate it.

To make flavoring extract of vanilla from this fluid extract, use 2 fluid ounces, with enough alcohol and water mixed in the proportion of 3 measures of alcohol to 2 of water to make a pint.

Some Chemical Reactions.

(H. S. Several reactions take place when the following formula is compounded:

Raw linseed oil	16 fl. ounces
Potassium nitrate	1 ounce av.
Lead acetate	1 ounce av.
Sulphuric acid	1 ounce av.
Carbolic acid	½ ounce av.

Mix the oil with the saltpeter and sugar of lead (in fine powder) and slowly add the sulphuric acid, stirring continually. When cold pour from the dregs and add the carbolic acid.

The first reaction is probably that between the lead acetate and sulphuric acid, insoluble lead sulphate being formed according to the reaction:

$$Pb(C_2H_3O_2)_2 + H_2SO_4 = PbSO_4 + 2HC_2H_3O_2.$$

Another reaction is between the potassium nitrate and the sulphuric acid, potassium sulphate and nitric acid being formed, as represented in this equation:

$$KNO_3 + H_2SO_4 = K_2SO_4 + 2HNO_3.$$

Just how much of these two salts are decomposed by the sulphuric acid, cannot be predicated with absolute certainty, as undoubtedly some of the oil is decomposed by the acid. In the above reactions acetic and nitric acids are formed, the latter readily oxidizing linseed oil. In decanting the mixture some of the lead sulphate would probably be left behind, and the remainder together with the other insoluble compounds would be held in suspension by the thickened oily liquid. This liquid would have an acid reaction and it would be somewhat difficult to determine what effect it would have upon the carbolic acid when mixed with it. Under certain conditions, free nitric acid forms with carbolic acid, various nitro-derivatives.

Cement for China Ware.

(G. A.) Try one of the following:

(1) English Cement for Porcelain.—Soak 1 dram of isinglass in water; pour upon this a sufficient quantity of alcohol to cover the isinglass, and allow it to dissolve, placing it in a warm room. Next dissolve ½ dram of mastic in 1 fluid dram of rectified spirit of wine; mix both solutions together, add ½ dram of powdered gum ammoniac, and evaporate the mixture in a water bath until it has acquired the requisite consistency. Keep the cement in a glass bottle, and when it is to be used place the bottle in hot water, when the cement will become soft so that it can be conveniently applied to the fragments of porcelain to be cemented, which should be previously heated.

(2) Milk is coagulated by means of acetic acid, and the caseine thus formed is well washed in water, and then dissolved in a cold saturated solution of borax; a clear solution is thus obtained which is superior to gum arabic in adhesive power, and is colorless. For porcelain, this liquid is mixed with finely powdered quicklime, and the resulting cement is quickly brushed over the fractured surfaces, which are then bound together; the ware is then dried to a gentle heat.

(3) To resist heat. It is made of Stourbridge clay mixed with a little tow or asbestos to increase its coherence. It should be well beaten before application; the glass or china should be first rubbed over with a little of the cement mixed with water, taking care to press the two edges of the glass or china together. This cement will bear a very strong heat.

(4) Calcine oyster-shells; pound and sift them through a sieve, and grind them on a flat smooth stone with a muller, till reduced to the finest powder; then take white of egg, and form the whole into a paste. Join the pieces of glass or china and press together six or seven minutes. This cement will stand both heat and water, and will never yield, if properly done.

Filtration of Lime Juice.

(Subscriber.) Some information regarding the preparation and preservation of lime juice may be found in the March 14, 1895, Era, page 335. To filter, the following process has been described: Allow the juice to settle for about two months, draw off the top by inserting a tap in the center of the barrel, pack a glass percolator with filter paper pulp, through which passes the juice. Mix a portion of the residue in the barrel with kaolin, throw this into a felt filter bag so that a coating of kaolin will cover all portions of the bag, then pass all the residue through this bag. If still cloudy, pass through the pulp as was the first portion. Filtration may be assisted and facilitated by clarification. This is done by first heating the juice to about 80° or 90° C., and adding a solution of white of egg. The juice is then skimmed and filtered.

Lime juice is very variable as to quality, which depends upon the method of extraction and the quality of the fruit. When fresh it is sharply acid with a peculiar refreshing and grateful aroma. Chemically it contains gum, sugar, albumen, extractive matter, inorganic salts, water and citric acid which is the most important and valuable constituant. There is only a mere trace of sugar, while the quantity of gum and albumen is much less than that contained in lemon juice, on which account some claim it is much less liable to fermentation and decomposition than the latter. The quantity of inorganic salts contained in lime juice is about the same and is also of the same nature as that obtained from lemon juice. According to good authority, a fair quality of lime juice should contain not less than 7.25 per cent. of free citric acid. This can be estimated by volumetric quantitative analysis. The method adopted by Eames is to first prepare a standard solution of ammonia. Fifty grams of the juice are then weighed and diluted to 500 cc. Fifty cc. of the sample thus diluted are then placed in a beaker, a few drops of phenolphthalein added, then standard ammonia solution, and when about nine-tenths of the acid is neutralized it is boiled a few moments, and when cold, the titration is completed. The percentage of free acid is calculated as citric acid.

Sachet Powder.

(W. A. W.)

Jockey Club.

1.)	Powdered orris	16 ounces
	Musk	5 grains
	Otto of rose	40 minims
	Oil of bergamot	1 dram
	Oil of sandalwood	1 dram
2.)	Powdered orris root	12 ounces
	Ground sandalwood	2 ounces
	Essence of musk	½ ounce
	Oil of bergamot	2 drams
	Essence of civet	2 drams
	Otto of rose	8 minims
3.)	Sweet orange peel, dried and ground	2½ pounds
	Powdered orris root	1½ pounds
	Ground rose petals	1½ pounds
	Siam benzoin	4 ounces
	Ground sandalwood	2 ounces
	Cloves	1 ounce
	Coumarin	10 grains
	Musk	1 grain
	Civet	1 grain
	Otto of rose	1 dram
	Oil of bergamot	1½ drams
	Oil of rose-geranium	½ dram
	Oil of neroli	½ dram
	Oil of cinnamon	10 minims
	Oil of bitter almonds	10 minims
	Oil of ylang-ylang	10 minims
	Jasmine extract	4 ounces

Violet.

1.)	Powdered orris root	2 pounds
	Powdered benzoin	4 ounces
	Cassie extract	1 ounce
	Otto of rose	10 minims
	Essential oil of almonds	10 minims
2.)	Powdered orris root	3 pounds
	Essence of musk	1 ounce
	Oil of bergamot	½ dram
	Essential oil of almonds	20 minims
	Otto of rose	20 minims
3.)	Orris root	400 parts
	Rhodium wood	100 parts
	Rose leaves	100 parts
	Black currant leaves	100 parts
	Benzoin	4 parts
	Oil of bitter almonds	q. s.
	Musk pods	8 parts

The solids should be in a coarse powder, freshly ground.

Preparation of Boiled Oil.

(N. B.) Linseed oil and other drying oils possess the property of drying in a short time when exposed to the air in a thin layer. This property is still further increased if the oil is heated for some time to a temperature at which decomposition takes place, or, to use the common term, is "boiled." The maximum drying power is obtained by the addition of certain metallic oxides, which not only part with some of their oxygen to the oil, but also act as carriers between the atmospheric oxygen and the heated liquid. This heating of the oil with oxides is known as boiling, although the liquid is not volatilized without decomposition, as is the case with water. At about 500° F. (260° C.), bubbles begin to rise in the oil, producing acrid white fumes on coming into contact with the air. The gas thus given off consists chiefly of vapor of acrolein mingled with carbonic oxide. There is no advantage in heating the oil higher than 350° F. (176° C.); the drying properties of the oil are not increased by heating beyond this point, while its color is considerably darkened. For the finer qualities of boiled oils, it is essential that the raw oil should have been stored for some time, so that it may be free from mucilage. This mucilage is the chief source of the dark color of some boiled oils; when heated, it forms a brown substance, which is soluble in the oil itself, and extremely difficult to remove. The oxides usually added to the oil during boiling are litharge or red lead, the former being preferred on account of its lower price. About 2 to 5 per cent. by weight of the oxides or driers is gradually stirred into the oil after it has been slowly raised to about 300° F. (149° C.). The stirring should be continued until the litharge is dissolved, or it would cake on the bottom of the pan and cause the oil to burn. Litharge may even be reduced to a cake of metallic lead when the fire is brisk. Some pans are furnished with stirrers and gearing by which the latter can be worked by hand or steam. The material of which the pans are made is wrought or cast iron. Copper pans are sometimes used with the object of improving the color of the oil. Little is known respecting the chemical reactions which take place during the boiling of the oil. Even when air is excluded during the process, the drying properties are greatly increased, and if boiled long enough, the oil is converted into a solid substance. The loss of weight which ensues is dependent upon the temperature and the time during which the operation continues. It is less when the air is freely admitted than if the pan is covered with a hood. The vapors given off by the oil are of an extremely irritating character, and should be destroyed by passing through a furnace. As their mixture with air in certain proportions is explosive, this furnace should be situated at some distance, and the gases be conducted into it by an earthenware pipe. An old formula for boiling oil is: Take 2½ gallons green linseed oil, 14 ozs. litharge, and 4 ozs. amber. Boil all together until it is clear from scum, say 6 or 8 hours, being careful to stir well. If it is desired to have the oil dry very quickly, add double the quantity of litharge and amber.

About the only disposition you can make with linseed oil, which has become more or less thickened by exposure, is to mix it with boiled oil, and sell it as such. No solvent or other substance can be added which will satisfactorily restore a resinified oil without materially altering or changing its properties.

SUB-MARINE PHOTOGRAPHY.—A French photographer has arranged an alcohol lamp so that while it is immersed he can throw powdered magnesium into the flame and thus secure a very brilliant light under water. In this manner he has been able to obtain some clear and beautiful photographs of the bed of the Mediterranean. Oxygen is carried down in the apparatus to promote combustion.

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ALCOHOL CLAIMS.

WHAT RETAIL DRUGGISTS SHOULD DO TO SECURE THEIR REBATES ON ALCOHOL USED IN MANUFACTURING.

Section 61, Act of Aug. 28, 1894, reads as follows:

"Any manufacturer finding it necessary to use alcohol in the arts or in any medicinal or other like compound, may use the same under regulations to be prescribed by the Secretary of the Treasury, and on satisfying the Collector of Internal Revenue for the district wherein he resides or carries on business that he has complied with such regulations, and has used such alcohol therein, and exhibiting and delivering up the stamps which show that a tax has been paid thereon, shall be entitled to receive from the Treasury of the United States a rebate or repayment of the tax so paid."

Every retail druggist in the United States has a professional interest in the coming hearing before the Court of Claims in Washington on the test case involving the refunding of the tax on alcohol used in the manufacture of medicines. Every retail druggist should have a pecuniary interest in the same matter also, but it is entirely within the bounds of reason to assert that 99 out of 100 retailers in this country have made a mistake that will cause many vain regrets hereafter. In short, the retail druggists have not, like the wholesalers, placed themselves in a position to receive the benefits of the rebate should the Court of Claims decide the test case in favor of the petitioner.

And yet, if eminent counsel are correct, the retail druggists have just as good reason to enjoy the benefits as their more enterprising brethren. The small manufacturer, who uses alcohol to make tinctures, stands on the same plane with the big producer of patent medicines before the law, and the battle of one for the rights given by the tariff law of 1894 should be the cause of the other. While the wholesale trade has made a grand, concerted move on the Secretary of the Treasury by way of the Court of Claims, the small dealer has neglected his opportunity and withheld even a moral support which would have helped the movement along. It is not too late now, however, for the retail druggist to take action in this matter; in fact, the retailers have already made a start, and it is the purpose of this article to show them the proper procedure in order that they may obtain the rebate in case the petitioner wins the suit that is to be heard at the Capital in October. If that case is decided in favor of the consumer, every druggist will be dollars in pocket. If a defeat is met, the retail druggist loses nothing that he now has. The watchword is: be prepared, that you may receive the benefits.

WHAT TO DO.

The retail druggist who proposes to put himself in position to get the rebate on alcohol should, as the first step, notify the Collector of Internal Revenue in his district that such is his intention. He should send the collector a formal written notice that he, John Smith, of No. —— Blank street, New York city, druggist, is a user of alcohol in the manufacture of medicines, and entitled, under the law to receive certain rebates; that he proposes to keep a record of all alcohol so used, and will, in due time, serve a further notice reciting how he has complied with the law, presenting his claims, and demanding the rebate. This notice on the collector may not be strictly necessary, but it is a safe thing to do as a starter. No point is so small that the government would not take advantage of it; and this little piece of red tape may have quite an effect. At least it costs nothing, and does not involve much work.

Having served notice on the collector, the druggist now proceeds to buy his alcohol.

DO NOT BUY ALCOHOL IN LESS THAN FIVE GALLON QUANTITIES.

In that way you secure a stamped package, and the possession of the stamp is the sine qua non of the whole matter. The alcohol dealer who sells this five-gallon package to you draws the amount from a fifty-gallon barrel, and he must have a stamp affixed to your package. On that stamp, in red figures, will be the number of the original package, thus enabling you to trace your alcohol to that package. If you sell alcohol over the counter, it is advisable that you purchase a separate quantity of alcohol for such sales, and the reason will be seen when the next step in the matter is outlined. Having your stamped package of alcohol, now begin to keep a record. Enter the transaction as you would a regular cash account. With the date of purchase, debit the amount purchased, from whom and number of stamp.

For the purposes of this article, assume that you have bought two stamped packages of alcohol. Let the one from which you intend to draw for counter sales be placed away for sales only; the other put in your laboratory or where you make your tinctures, etc. On this latter package put a label that will show your clerks that its contents is only to be used for manufacturing purposes. On this cask tack a long slip of paper at the top of which is aligned the following headings:

CASK NO. 1. STAMP NUMBER.....

Contains 5 gallons alcohol, purchased of . ....., July 18, 1895.

DRAWINGS. (See Note.)

Date.	Quantity.	For what used.	Amount of product.	Drawn by

Let no alcohol be drawn from that cask unless the proper entries are made on the slip. Do not draw alcohol from that cask for any other purposes except those of manufacture. There is still some doubt whether the drawing of even a minute quantity would not prevent your making any claim for rebate on the entire quantity in the cask, no matter how rigid a record you had kept. There is a chance that it would, so it is best to be careful.

The five gallons of alcohol now having all been used in the preparation of medicines and the complete record appearing on the slip, carefully soak off the stamp on the cask, put your name or initials on it, pin it to the slip, and your claim for the rebate is in good order. Now another notice to the Collector of Internal Revenue is advisable. That notice should contain the statement that you have complied with the law in regard to the alcohol tax rebate, have used 5 gallons of alcohol, bought of ———, date ———, stamp number ———, and demand a refund of the tax ($1.10 for each proof gallon) amounting to $———. The collector will probably ignore you altogether.

If your record is complete and correct in regard to all packages of alcohol which you have used for manufacturing purposes, you will be prepared to prove your claim. It is not necessary to file these claims now, but KEEP YOUR RECORDS and as soon as a decision is rendered in the cases now pending, if the court maintains that these claims must be paid, you will then be prepared to present your claims for payment.

What Druggists Think.

The Era has interviewed several retail druggists in this city in regard to the alcohol rebate matter, and not one out of six had paid any attention to the subject. They gave several reasons for this, one being that they did not know that retailers could derive any benefit from the law. They had not given any thought to the subject. Again, those who had looked into the matter were not sanguine of victory in the Court of Claims. When asked if they had kept any record of their use of alcohol in manufacturing,

NOTE.—We have had a quantity of proper blanks prepared for retail druggists' use and will send a package of them to any *subscriber* on receipt of 16 cents; to *non-subscribers* the price is 50 cents per package. Ask for "Alcohol Blanks."

they all said no. It was pointed out by the interviewer that had they kept such a record since last September, they would be in a position to sue for a tidy little sum, whereupon they asked if they could not look up their records and prepare claims on alcohol already used. It was interesting to note that they saw the point right away. It was explained why they could not prepare back claims, and suggested that they should immediately start in to buy alcohol in not less than five-gallon packages. In one case, the retailer ordered his head man to stop purchasing the four and four-fifths gallon packages, and to get the five-gallon ones.

Of those seen by the Era representative, the majority said they used about $30 worth of alcohol a month. They all agreed that a saving of $250 a year or more was not to be sneezed at.

Bureau for Collection of Alcohol Rebates.

Philadelphia, July 11.—A. T. Pollard, William Harris, and W. Nelson Stem comprise the Bureau of Retail Apothecaries for the collection of alcohol rebates in this city. Mr. Pollard is chairman, and the office of the bureau is at the northeast corner of Eleventh and Locust streets. This is practically the first move, made by the retail druggists for the protection of their own interests in regard to securing the rebate of tax on alcohol, used in their business. A few days ago a letter, of which the following is the substance, was sent by the bureau to all of the leading druggists in this city and Camden, N. J.

Dear Sir:—A bureau has been established by the undersigned, who are engaged in business in this city as retail apothecaries, for the purpose of affording to the members of their profession in this vicinity an opportunity to recover the large rebates on the alcohol consumed by them, to which they may be entitled, either now or hereafter, under the Tariff Act of August 28th, 1894.

Section No. 61 of this Act provides that any person who finds it necessary to use alcohol in the arts or in any medicinal or other like compound shall, upon presenting proper proof as to the quantity so consumed, be entitled to receive from the Treasury of the United States repayment in full of the tax which was originally paid on such alcohol by the distillers. The present Bureau has been organized for the purpose of enabling the retail apothecaries of this city and vicinity to obtain the benefits of this legislation, both at present and hereafter, in a systematic and effective manner. If the claims of these various retail apothecaries are collected for them, it will mean to many of them an addition to their incomes of from $200 to $500 per annum during the continuance of the present tariff law, which may last for a period of several years. Lack of familiarity with the provisions of the law, and the proper means of securing the rebate for which it provides, have hitherto deterred all but a few of our retail apothecaries from taking any steps toward obtaining the sums to which they are entitled. It is the object of the present Bureau to supply the means by which a large number of comparatively small claims can be classified and presented to the Court of Claims in such a manner as to secure an award in full, followed by speedy payment of the claims year after year. The formal presentation of these proofs will be made before a United States Commissioner in Philadelphia, so that no claimant will be obliged to leave the city at any time, either to give testimony or for any other purpose.

All retail apothecaries who desire to make further investigation into this matter, are invited to place themselves in communication with any one of the three members of the Bureau.

A. T. POLLARD, N. E. Cor. 11th and Locust streets.
WILLIAM HARRIS, N. E. Cor. 21st and Pine streets.
W. NELSON STEM, 2000 Callowhill street.

Mr. Pollard was seen by the Era representative, and in talking about the plans of the Bureau, said that the trade has not been thoroughly canvassed as yet, but it was the intention to do so this month and next, as he had been advised that many of the druggists were willing to enter into any scheme by which they could secure a rebate on the alcohol purchased. Many of the druggists in this city have nothing to show for the alcohol they have used, as they purchased it in quantities of less than five gallons, and in so doing do not get any stamp with it, but it is understood, however, that since the Bureau has taken charge of the affair, many of the druggists are now buying alcohol in larger quantities, and sending the stamps to the proper officials of the Bureau.

Besides the retail druggists taking up this free alcohol subject, the committee which was appointed some time ago by the Philadelphia College of Pharmacy, has the matter well under way and is now preparing a bill which will be introduced in the next session of Congress for the enforcement of the law. While in some cities there are some objections to the bill, and associations have been formed to have it repealed, it is thought that it will have little weight as the majority of the druggists have communicated with the Philadelphia Association and have given their approval. While the law is not clear in some respects, it is contended by members of the association that all legal advice has been to the effect that there is no doubt but that they will receive their rebate.

Undervaluation of Sponges.

It is reported from Philadelphia that the Collector of Customs at that port has requested the United States District Attorney to bring suit against Louden & Hill, importers of sponges at 624 Arch street, for the recovery of duties alleged to have been fraudulently withheld from the government. The government officers claim to have found private invoices upon examining the books and papers of the firm, which gave prices much higher than those appearing upon the Consular invoices, upon which the amount of duty is assessed by the customs officers. They also claim that the practice of undervaluation has been carried on for over a year. The firm positively denies any fraudulent intent or any knowledge of differences between the Consular invoices and those received from the shippers of the sponges.

—The Iowa State Pharmacy Commission held a meeting July 9th to consider the question of beginning action against the saloon drug stores of Des Moines. It is likely that the certificates of a number of druggists will be cancelled.

Druggist's National Fire Insurance Company.

A number of retail druggists met at Columbus, Ohio, June 25, and adopted articles of incorporation, a code of regulations, and took preliminary steps toward securing subscriptions for the stock of The Druggists' National Fire Insurance Company. The charter of the company provides for a capital stock of $200,000, in shares of $100 each, and also for a reservation of 25 per cent. of the net profits to be placed to a permanent fund, until that fund is equal to one (1) per cent. of the aggregate of all the insurance carried. This fund is to be invested in the same manner as the stock, and the profits to go to the policy holders. Twenty-five (25) per cent. of the profits goes directly to the policy holders at the end of each year, and when the reserve fund is full, the whole fifty (50) per cent. is rebated to them, except so much as may be necessary to keep the reserve fund to its limit. The other fifty (50) per cent. of the profits is to be paid at the end of each year directly to the stockholders. The interest accruing from the investment of the reserve fund goes to the profits of the policy holders, from the investment of stock to the stock holders, and from the investment or loan of the premium fund to the general profits.

This company is intended to carry insurance on the property of retail druggists in towns and cities protected by abundant water supply and ample fire protection. It is based upon the experience of five and a half years' of the Druggists' Mutual Insurance Company, of Ohio, in which the losses on protected risks have averaged less than ten (10) per cent. of the premiums from that source. The druggists of the various cities of the United States will soon be called upon for subscriptions to the stock, and for their support in the matter of their insurance.

The incorporators are: John Weyer and John Ruppert, of Cincinnati; W. R. Ogier, W. H. Syfert and John Byrne, of Columbus; F. T. Bower, of Toledo, and Robert I. Eads, of Indianapolis, Ind.

S. M. Burroughs' Will.

APPLICATION FOR ANCILLARY LETTERS OF ADMINISTRATION MADE IN NEW YORK CITY.

Of the total value of the estate of Silas Mainville Burroughs, about £125,926, personal property worth $15,000 is located in New York State, so application has been made to Surrogate Arnold, in this city, for ancillary letters of administration. The will has already been admitted to probate in England, and administration papers granted to the widow, Olive Augusta Chase Burroughs, and Theodore Barrett. The provisions of the will have already been given in the Era. The bequests to Henry George and certain institutions at Medina, N. Y., are in excess of the amount of personal property in this State, so the money held here will be retained to pay a portion of the bequests, following an arrangement with the London executors. Surrogate Arnold has the matter under advisement.

Opium Smuggling at Detroit.

Detroit, July 13.—Albert B. Hall, an old soldier and a G. A. R. man, was arrested here last Tuesday on the charge of smuggling opium. Hall is a resident of the State, but of late has made the Franklin House, Detroit, his headquarters. He claimed to be a nurseryman, and went about with an apology for a horse and a wagon. Some of his actions excited the suspicions of the custom officers, and at last Inspectors A. J. Kennedy and James Downs nabbed him after one of his trips to Windsor. Careful search failed to disclose anything dutiable until one of the officers happened to notice something odd about the horse's collar. In it were three cans of opium, upon which Mr. Hall had neglected to pay $18 duty, $6 per can. He had pulled the stuffing out of the collar to make room for the drug.

Upon being taken before U. S. Commissioner Graves for examination, the poor smuggler presented a most pitiable spectacle. It seems that he is a confirmed morphine eater, and he was suffering miserably from want of the drug. He begged piteously for a potion of morphine, and his request was finally granted.

Hall waived examination and is held, with bail fixed at $1,000. He is now in jail awaiting bondsmen. He has told the officers at the jail that he has 116 lb of opium concealed in a stable in Windsor, and claims that all of it was purchased for his own private speculation.

Much sympathy is expressed for the old man, and he may be let off on his own recognizance to go to the Soldier's Home, the place where he really ought to be.

Warned Not to Sell Malt Extract.

Boston, July 13.—Druggists in the neighboring city of Malden have been warned to sell no more of Morris' Malt Extract and Pabst's Best Tonic. If they do, they will be prosecuted. The Chief of Police has had Morris' Malt analyzed, and it is alleged that it contains 5 94-100 alcohol. Most of the druggists have on hand a large stock of these goods, and have been making many sales. It is believed that other brands of malt also contain a greater amount of alcohol than the 1 per cent. allowable in no-license communities.

Prof. Maisch's Library on Sale.

Mrs. C. J. Maisch, 753 North 40th street, Philadelphia, has issued a sale catalogue of the library of the late Prof. John M. Maisch. Bids will be received for any books desired, which will be sent to the highest bidder, C. O. D. All bids will be scheduled, and awards made on Aug. 15, 1895.

John W Carter's Generosity.

Boston, July 13.—John W. Carter, the ink manufacturer, who was recently drowned, made public bequests amounting to $50,000, one-half of which goes to Harvard College, and $12,500 to the Institute of Technology. Eight other institutions are handsomely remembered.

NEW YORK AND VICINITY.

——Peter R. Lance was in town last week.

——C. G. Euler, of Dodge & Olcott, is at Belmar, N. J., for the summer.

——J. T. Thomas, of Anderson, N. C., has been visiting friends in the trade here.

——Hermon W. Atwood is spending much of his time now at his Long Branch store.

——John Hinchman, of T. H. Hinchman & Co., of Detroit, has been in town for a few days.

——Ezra J. Horton, of Peekskill, has just taken a position in one of the White Plains pharmacies.

——Dr. William Jay Schieffelin has been in Canada since his father's death, but returned a few days ago.

——J. A. Rosenheim has resigned his position with H. T. Galpin, Sixth avenue and 57th street, this city.

——George Gorham, late of McKesson & Robbins' and Hegeman's, is now at the "Ferry Pharmacy," Brooklyn.

——R. W. Phair sailed for Europe last Tuesday on the Lahn. He will not return for two or three months.

——A Williamsburg druggist announces by a sign in his window: "Dog disease treated by homeopathy or allopathy."

——Albert Koehler, N. Y. C. P., '95, has accepted a position with C. Ernest Vetter, Madison avenue and 116th street, this city.

——William R. Warner sailed for Europe on the Columbia recently, and will be abroad six or eight weeks. He is now in London.

——Emil J. Nearing, N. Y. C. P., '91, who recently sold his store in East New York, is rusticating at Aquetuck, Albany County, N. Y.

——E. A. Sayre is taking his vacation in short batches, and is finding much pleasure in looking after his new home in Roseville, N. J.

——A. V. Hennicke, one of McKesson & Robbins' salesman, and who travels over the Eastern part of the United States, is in town on his vacation.

——Samuel Morris, N. Y. C. P., '94, has resigned his position of assistant apothecary at the Good Samaritan Dispensary, No. 57 Essex street, this city.

——C. S. Woodhull Davis, N. Y. C. P., '95, who took the special prize of $100 in chemistry, is now located with B. F. Warren, 79th street and Amsterdam avenue.

——E. Ancetin has left his position at J. Dorn's 93d street and Columbus avenue pharmacy, to take charge of L. T. Perkins' Long Branch pharmacy for the summer.

——Charles A. Vrooman, Jr., N. Y. C. P., '93, whose sickness was reported a few weeks ago, has so far recovered as to be able to resume work at Atwood's Long Branch Pharmacy.

——F. W. Blesi, a Covington, Ky., pharmacist, who owns three stores in that city, was a caller at the Era office on the 12th inst. Mr. Blesi is spending a few days in the East on pleasure and business.

——F. Y. Perry, representing Johnson & Johnson, in the west, with headquarters at St. Louis, has been spending a few days in New York, and was a caller at the Era office.

——Victor G. Lockwood, a clerk for some years in Hepburn's drug store, in Flushing, L. I., died recently at Manus, Conn., of consumption. He leaves a widow and one child.

——Manager Edward Fluhr, of the New York office of W. R. Warner & Co., has the sympathy of his many friends in the loss of his mother. Mrs. Fluhr died in this city last Thursday night.

——Henry C. Fick, the popular Wisconsin and Minnesota salesman of Lehn & Fink, is spending his vacation in this city. He is accompanied by Mrs. Fick, and is stopping at the Imperial.

——Among those lost on the steamship Colima, off Mazatlan, Mexico, was Louis Nelson, a chemical expert, who lived for several years in Hoboken. He was especially known in the mining territory of the West.

——Henry Bohling, N. Y. C. P., '90, formerly with Hegeman & Co., lower Broadway, is now at Perry's Pharmacy in the Sun Building. Mr. Bohling was, at one time, proprietor of a Brooklyn pharmacy.

——A. H. Mason is to spend his vacation fishing in the St. Lawrence and golfing at Montreal. His family has been in Montreal for some time, and he went there this week. He expects to return in about two weeks.

——William O. Luttman, N. Y. C. P., '94, lately with B. G. Kraft, at Lenox avenue and 125th street, will leave for Europe soon. He intends visiting his father at his native city of Bremen, and will remain abroad a numebr of weeks.

——John McKesson, Jr., states that the loss caused by the fire in the Ann street house will not reach the figure placed on it, $30,000. It is fully covered by insurance. Repairs will be made just as soon as the insurance companies have finished their work.

——G. R. Bradley, of Noonan, Ga., a retail druggist, is enjoying his vacation visiting friends in New York City and vicinity. He took his "bike" the other evening and rode around Central Park by gaslight, and counts it one of the most pleasant features of his visit.

——Frank E. Foster, assistant to the head bookkeeper at McKesson & Robbins', is spending his vacation touring Long Island on his bicycle. Mrs. Foster accompanies him. They started out last Saturday, and will visit all the places of interest before they return home, two weeks hence.

——Dr. T. A. Quayle, of New Orleans, assistant demonstrator in the Tulane University College of Pharmacy, in that city, has been in this city for several days. He came by way of Cincinnati and Niagara Falls, visiting friends in the former place. While here, he renewed old friendships, and called at the College of Pharmacy, E. R. Squibb & Sons laboratories, and the Post-Graduate Hospital. He left New York last Saturday.

——The firm of Packard, Thomas & Co., crude drug importers, at 171 Duane street, New York, have been dissolved. R. G. Thomas withdraws. The business will be carried on as usual by M. N. Packard & Co. L. D. Wells, their chief representative, remains with the new firm, with his headquarters at Indianapolis.

——G. J. Volckening, a Brooklyn chemist, was hired recently by county officials to examine the stomach of a person who was supposed to have died from the effects of poison. He presented a bill for $500, and the County Auditor returned it, recommending that the chemist be given $50. The latter sum was paid for like service in 1894 and 1893.

——Last week's Era contained a notice of the coming meeting of the Society of Chemical Industry in England. Owing to the general election now going on for members of Parliament, the meeting has been postponed until further notice. Many members of the society are either members of Parliament, or interested politically in the elections, hence the postponement.

——Tom N. Sumner, manager of J. N. Hegeman & Co.'s 59th street store, is spending two weeks at his home, in Oakville, near Toronto, Canada. Mr. Sumner is a nephew of Rev. Dr. Nelson, of the Seventh Avenue Presbyterian Church, Brooklyn, and takes quite an interest in church affairs. Before locating here, he had charge of one of Toronto's finest pharmacies. One of his favorite amusements is boating.

——Among the Schuetzen who have been enjoying themselves at Glendale, L. I., recently, was Mr. Rosenthal, of Milwaukee, well known by reason of his connection with the Charles Baumbach Co. He is one of the crack shots, and is president of the Milwaukee Section of the National Schuetzenbund. He carries decorations won at San Francisco and other places. Mr. Rosenthal spent a day in the drug section of this city meeting friends.

——Lasker & Bernstein, of No. 161 William street, have a sponge display in their windows, and in a show-case outside the store, that has attracted much attention from passers-by. In the showcase is a sponge that is said to be the largest ever found. It measures eight feet in circumference when wet. In one window is the figure of an organ-grinder with his organ, all formed of sponge. The figure has a hat extended for pennies. The sponges are colored artistically, and a second look is often required before one sees that the whole exhibit is made from the useful toilet article.

——George W. Byram and William A. Baker, of the Kraemer Drug Co., of Newark, N. J., charge Dr. Kraemer with obtaining money under false pretenses, and the defendant will be called for trial on July 23. The complainants will ask for the appointment of a receiver, pendente lite, of Dr. Kraemer, at that time. They will also seek to have granted a restraining order to stop proceedings in law at replevin. They allege that Dr. Kraemer is regaining possession of the company's property, and has secured some chattels that formely belonged to him and others, that did not belong to him. Dr. Kraemer regained some property by a recent suit against the company.

Tried to Die in His Drug Store.

Druggist Anthony Papanscheck, of No. 104 Manhattan avenue, Greenpoint, L. I., had a lively time last Saturday night with a young woman who tried to commit suicide. She entered his store with an elderly gentleman, who said she wanted laudanum to deaden pain. The poison was furnished, and before the druggist could prevent, she had swallowed most of the contents of the bottle. Papanscheck applied the proper antidotes, and worked over the woman until an ambulance came and took her to a hospital. In the meantime the escort of the would-be suicide disappeared. Papanscheck has the satisfaction of knowing that he saved the woman's life.

Will They Stop Soda Sales.

NEW YORK DRUGGISTS DO NOT KNOW WHETHER THEY CAN SELL THE DRINK ON SUNDAY OR NOT.

Druggist Charles Zeitfuss, of No. 2 Dock street, Kingsbridge, has the distinction of being the only druggist within the limits of New York City who was arrested last Sunday on the charge of selling soda water. It doesn't make much difference to New York druggists that Zeitfuss was discharged, because the Judge believed he had not sold soda, but had given it away. To their mind it was sufficient that an attempt had been made to stop the sale of soda water on Sunday, but they are asking why a Kingsbridge druggist should have been picked out, as the one to make a test case on.

It appears that the Captain of the Kingsbridge station sent a policeman in uniform to Zeitfuss' store, with orders to buy a glass of soda water. The policeman got the soda, and placed the druggist under arrest. Mr. Zeitfuss gave bail in $100, and was released. On Monday he appeared in court, and swore that he did not sell the drink, but gave it to the policeman, refusing pay. His story was corroborated by a physician of that district. As it is not against the law to give away soda on Sunday, Mr. Zeitfuss was discharged.

While there had been reports that the police proposed to test the right of druggists to sell soda water on Sunday, it was generally supposed that no immediate action in the matter would be taken. No notices were given warning druggists. Some of them watched for policemen, but finding that the officers made no move towards stopping sales, went right on as usual. If the police intend to stop the sale of soda water on Sunday, say the druggists, they will find it an easy matter to do so, for no druggist will run the risk of a $15 fine. There is not enough money in it. They speak their minds very freely about the present manner of enforcing the blue laws, and "boys' play," "foolishness," are some of the expressions heard. They are puzzled by the action of the police, but will continue to sell soda until warned that it is illegal to do so on Sundays.

HERE AND THERE.

——The wife of Bernhardt Brehm, an Indianapolis druggist, is suing for divorce.

——T. E. Hansmann has been appointed druggist at the Insane Asylum in St. Louis.

——Joseph Carey, of Carey Bros.' Pharmacy, St. Louis, has gone to Denver to recuperate.

——J. B. Colwell, of Peter Van Schaak & Sons, Chicago, is on a two weeks' vacation in Wisconsin.

——Gustave Koch, druggist at Twentieth and St. Louis avenues, St. Louis, has gone to Europe to spend his vacation.

——A. S. Danforth, who some time ago sold his drug store at Augusta, Ga., to Dr. J. P. Smith, died in that city July 9.

——Burglars entered the premises of Dr. J. J. McCoy, at Steubenville, O., and carried away considerable silverware and wearing apparel.

——P. B. Fitzgerald, of Morrisson, Plummer & Co., Chicago, departed July 13, for Niles, Mich., where he will spend a two weeks' vacation.

——President C. F. G. Meyer, of the Meyer Bros. Drug Company, of St. Louis, has gone to Europe with his wife to spend the summer.

——D. B. Wenger, of the drug firm of D. B. Wenger & Co., Trinidad, Colo., is spending a month at Wagon Wheel Gap, amusing himself with the rod and line.

——The grocer at Houston, Tex., charged by the Board of Pharmacy with selling certain drugs at retail against the statutes of the State, upon a jury trial was found not guilty.

——A woman has brought suit against Druggist Gog, of Preston, Ia., for $5,000 damages, alleging that the druggist made unlawful sales of liquor to her husband, causing the latter's total downfall and depravity.

——The Penn Medicine Company, at Beaver Falls, Pa., a cut rate patent medicine store, has been closed on a landlord's warrant for rent. The druggists of the town instituted a retaliatory cut, and drove the concern out of business.

——Many druggists of Indiana have had a section of the Nicholson law printed on cards for use in explaining to customers the reason why liquors in less quantities than a quart cannot be lawfully sold, except on prescription. It saves a lot of trouble.

——The Moffit-West Drug Company, of St. Louis, has been awarded the contract for supplying drugs and chemicals for three months to the different institutions of that city. Their bid was $1,307.43. The other bidders were: Meyer Bros Drug Company, $1,402.75; Hopkins-Weller Drug Company, $1,421.61 and the Dougherty-Crouch Drug Company, $1,-451.82.

——The annual prohibition war is again on in Kansas, with all the ferocity of a modern cyclone. All druggists in Horton have been notified that if they ever violated the prohibitory law, they must stop short and do so no more; as a result, there are dejected looking faces on some people, who, with the assistance of the prohibitory law, have brought disgrace upon the drug business in Kansas.

——Druggist Charles O. Hatch, at Willow Lakes, S. D., upon terminating his service as postmaster of that place, received a draft for 1 cent from the Post Office Department, at Washington, to balance up accounts. He is going to keep it as a curiosity.

——The superintendent of police, at Indianapolis, has instructed all the officers to learn the names and addresses of every druggist of that city who sells at any time intoxicating liquors contrary to the law. He proposes to make it warm for the offenders.

——In response to requests from temperance people, the select men of Uxbridge, Mass., have compiled a list of habitual and occasional drunkards, and presented the druggists with a copy, with a request that no intoxicating liquors be sold them in the future. Several whose names are on the black list threaten suits for defamation of character.

——The assignee's sale of the Lapp Drug Co., Philadelphia, began on July 8th, and continued for several days. The prices brought were a great deal better than anticipated, and some of the stock was purchased at considerably higher prices than could be obtained by the wholesale druggists. Previous to the sale Mr. Lapp said that the firm could pay dollar for dollar and have a balance.

——The Horton Drug Company, composed of Joe Erwin and G. E. Ott, have discontinued doing business in Horton, Kansas. They have divided their stock and removed one-half of it to Effingham, Kan., where they will enter into the drug business under the firm name of G. E. Ott & Co., the other one-half of the stock will be controlled by Joe Erwin, who intends to ship it to Pleasanton, Kan., and open a drug business there as soon as he can find a suitable person to place in charge.

Noted in St. Paul.

St. Paul, Minn., July 11.—Max Wirth, one of the leading druggists of Duluth, and one of those who started in there when the city was quite small, and has one of the finest stores and businesses in the northwest, was in the city on business and pleasure Tuesday. He reports business fair, and that his brother, formerly a prominent architect of this city, but now a resident of Germany, is visiting him.

D. R. Noyes, of Noyes Bros. & Cutler, is taking a week's vacation with his family at Mackinac Island, and E. H. Cutler, of the same firm, is with his family in Europe.

W. S. Bright, some years ago in business at St. Cloud, is fixing up a fine store there and will put in a new stock very soon.

J. S. Kreuger, formerly in and around the Twin Cities and now owning a nice store and drug business at Morris, was down here on business Tuesday.

Mr. Tennyson, a young pharmacist, formerly resident in Minneapolis, but for the last few years doing a fine drug business in the pushing little city of Two Harbors, was down here visiting old friends a few days ago.

ASSOCIATIONS,
CLUBS, SOCIETIES.

CALENDAR OF MEETINGS.

JULY.

24 to 26, Illinois—Peoria.

AUGUST.

6, North Dakota—Fargo.
14, A. Ph. A.—Denver, Colo.

SEPTEMBER.

2, N. W. D. A.—Denver, Colo.
2, Manufacturers and Dealers in Proprietary Medicines—Denver.

——The Quebec Pharmaceutical Association concluded its preliminary examination of candidates July 6. Of the twenty-five candidates who presented themselves, two—Messrs. J. N. Farley and R. H. D. Benn—passed in all of the subjects.

——The Association of Manufacturers and Wholesale Dealers' in Proprietary Articles holds its annual meeting in Denver, Sept. 2, simultaneously with the meeting of the N. W. D. A. Joseph Leeming, 73 Warren street, this city, is the secretary.

——The Rhode Island Pharmaceutical Association held its semi-annual meeting at Fields' Point, July 10. The resolutions passed by the Chicago Retail Druggists' Association were discussed. After the meeting, baseball, football and other games were participated in.

——The Association of Wholesale Druggists of Ohio, Indiana and Kentucky held its fifth annual meeting in Toledo, July 9. Business of a trade interest was discussed, and the members were treated to a lunch at the Toledo Club and a drive through the residence portion of the city.

——The Tompkins County (N. Y.) Druggists' Association held its eleventh annual meeting at Sheldrake-on-Cayuga Lake, Tuesday, July 9. Most of the members embarked at Ithaca, and were joined by others on the way. After doing justice to a good dinner, the session was opened by President Brooks, who congratulated the members upon the success of the organization, and the great necessity of standing together on prices, in view of the cuts now going on at Geneva, Rochester, Syracuse and Binghamton. After the reports of officers and committees, and the election of officers, several papers of interest were read, which were interspersed by humorous poems, notably one by Mr. Todd, entitled "The Drug Clerk's Dream," which appeared in the Era, under date of Oct. 1, 1891. The next place of meeting was left to the selection of the officers. A discussion was held over the injustice of asking the pharmacists of the State to pay $1 annually for the renewal of their licenses, when so many nearby grocers were selling so many things, the sale of which the druggists have already paid to be protected in. It was also decided to discourage the sale of Mulford's Malt, since it is now sold at retail by liquor dealers at $1.50 per dozen. A vote of thanks was given to the accommodating landlord, and all seemed free to express themselves well pleased with the year's annual outing.

JAMES M. LOVE.

James M. Love, of Kansas City, the newly elected President of the Missouri State Pharmaceutical Association, is a Virginian by birth, having been born in Augusta County, of that State, in the year 1848. When ten years of age he attended the Pine Ridge Academy, in Adams County, Miss., and stayed there four years. In 1862 he entered Washington and Lee University, at Lexington, Va., but had been in there only a short time when he joined the Confederate Army. At the close of the war Mr. Love was appointed a member of the staff of Brig. Gen. W. L. Jackson, and returned to the Washington and Lee University to finish his course. In 1886 he entered the drug store of J. W. Winn, at Enterprise, Miss., but two years later engaged in the drug business on his own account at Meridian, Miss. He came to Kansas City, Mo., in 1878, and by dint of hard work and his popular way of running things, worked up one of the most prosperous retail drug trades in the State. Mr. Love is a man of considerable ability, makes friends wherever he goes, and is a member of a great many pharmaceutical and other organizations. Druggists throughout the State express general satisfaction over Mr. Love's election.

——The semi-annual meeting and banquet of the Beverly (Mass.) Druggists' Association was held at the Cabot House, Beverly, Wednesday, July 10. An elegant repast was served by Landlord Harlow, after which a business meeting was held, at which the following officers were elected. President—Frank F. Ferrin; Vice-President—Wm. H. Larcom; Secretary and Treasurer—Thomas F. Delaney. Every member but one was present, and much enthusiasm was manifested. The members discussed ways and means to insure more uniform prices, and prevent the cutting of prices. The meeting adjourned at a late hour. The affair was in charge of the following committee: John L. Berry, chairman; S. L. Stickney, George H. Gerrard, Wm. H. Kinlock, Frank C. Berry.

AMERICAN PHARMACEUTICAL ASSOCIATION.

Forty-Third Annual Meeting.
Denver, August 14 to 21, 1895.

The sub-Committee on Transportation of the A. Ph. A. is out with the following announcement:

To Members of the American Pharmaceutical Association:

Gentlemen—The General Transportation Committee has decided not to select an official railroad route for the Denver meeting. The Kansas Pharmaceutical Association has arranged a programme of welcome to members of the American Pharmaceutical Association en route to Denver, through the State of Kansas, and has perfected this arrangement on the line of the Atchison, Topeka & Santa Fé Railroad, because the principal towns in Kansas are located on that line; therefore we take the liberty of suggesting that you use the Santa Fé route to Denver, and enjoy the entertainment which will be provided, and the special advantage of traveling with a party composed of those who are in your own line of business.

A special train has been arranged for, with Pullman and chair cars, besides an extra baggage car for refreshments, leaving Chicago at 5 P. M., Aug. 11, and Kansas City at 9 A. M., Aug. 12. This train will stop about thirty minutes at each of the following places:

Lawrence.—The historic city of Kansas, where a special entertainment will be provided by citizens. The Haskell Institute, United States Indian School, is located here, also a view of the great water-power of the West on the Kansas River is afforded. Memorial albums of this city may be had at the train, illustrating the border war, scenes of the Rebellion and Quantrell's raid, with photographs of Indians and landmarks of the city.

Topeka.—The Capital of the State Welcome by the Mayor and the Topeka druggists. Installment of fruit.

Emporia.—One of the college towns of Kansas. Installment of fruit.

Newton.—Junction of the A., T. & S. F. R. R. with Texas line. Installment of fruit.

Hutchinson.—Location of the great salt mines; capacity 5,000 barrels daily.

The Entertainment Committee at Denver has not as yet prepared its programme, but we are able to advise you in a general way that they propose to entertain the delegates while at Denver royally.

Train will arrive at Colorado Springs at 8 A. M. on the 13th. From Colorado Springs electric cars run to Manitou, a distance of five miles. From Manitou the ascent to Pike's Peak can be made by the cog railway, the round trip consuming only four hours. If desired, members of the party can remain over night at Manitou or Colorado Springs, and continue the journey to Denver the following morning, arriving in time for the opening of the association meeting on the 14th.

It is apparent that the pleasure of this excursion will be materially enhanced by making it a large congenial party, bound together by a common interest, rather than on different dates and by different routes, and we trust you will find it convenient to join this special party, either at Chicago or Kansas City or at any intermediate point, as may be most convenient.

The rate from Chicago for the round trip will be $29.50; from Kansas City, $17; from St. Louis, $24.50, and a correspondingly low rate of one fare for the round trip from intermediate points. A further advantage offered by the Santa Fé Route is the fact that stop-over at Colorado Springs for side trip to Manitou, Pike's Peak, etc., as well as to the other great Colorado resorts, such as Cascade Canon, Ute Park, Green Mountain Falls, Glenwood Springs, etc., can be made on these tickets, as they will read directly through to Colorado Springs. Stop-overs may be made at Pueblo as well. Those who particularly desire to return via a different route from that used in going, are privileged to do so, but it is specially recommended that the party travel solid over the same route going in order to enjoy the programme above outlined. Tickets will be on sale Aug. 11 and 12, and will be good for return until Aug. 25.

The Pullman berth rate, Chicago to Denver, is $6; from Kansas City to Denver, $3.50, each way. A berth will comfortably accommodate two persons.

Tickets can be ordered and Pullman reservations made in advance. Those going by way of Chicago, can address Albert E. Ebert, member of the General Transportation Committee at that point, or they may apply to the city ticket office of the Santa Fé Route, No. 212 Clark street. Those going by way of St. Louis and Kansas City, or through Kansas City from any other point than St. Louis or Chicago, should address the City Ticket Agent of the Santa Fé Route, No. 1050 Union Avenue, Kansas City.

A committee will be on hand, both at Chicago and at Kansas City, to look after the needs of the party.

Harry Sharp, member of the Transportation Committee for the South, is out with an itinerary. The following lines have been adopted as the official route, tickets to be sold Aug. 10--11, at lowest standard first-class limited fare for the round trip: Leave Atlanta, via Western & Atlantic R. R., 8:20 P. M.; Chattanooga, via N. C. & St. L. Ry., 1:19 A. M.; Nashville, via L. & N. R. R., 7:20 A. M.; St. Louis, via C. & A. R. R., 8:40 P. M.; Kansas City, via Union Pacific R. R., 9:30 A. M. Arrive Denver, via Union Pacific R. R., 4:05 P. M.

Transportation Arrangements for the Denver Meeting.

St. Louis, July 15.—The St. Louis druggists are making creditable arrangements for the entertainment of delegates who will pass through here on their way to the Denver meeting of the A. Ph. A. At a meeting of the St. Louis College of Pharmacy, the other evening, Francis Henm, H. M. Whelpley, Solomon Boehm, Thomas Layton and H. F. A. Spilker were appointed a committee to receive the delegates from the Eastern States, who are expected to reach here at 7.12 A. M. Monday morning, Aug. 12, on the Baltimore & Ohio Railroad. The delegates from the East will be met here by the delegates from the Middle States. They will remain in St. Louis about two hours, and during that time they will be as royally entertained as possible. They will be shown many of the sights, among them the handsome new Union Station. At 9 A. M. the delegations will leave by special train over the Missouri Pacific. The beautiful scenes along the Missouri and Osage Rivers will be well worth noting. Kansas City will be reached at 6 o'clock that evening, where the parties from Chicago and the Western States will be joined. A stop of something like five hours will be made at Kansas City. At 10:30 the entire delegation will leave by special train over the Union Pacific, reaching Denver at 5 P. M. Tuesday, the 13th.

Among the entertainment features coincident with the meeting of the A. Ph. A., at Denver, is a "Grand Tour Around the Circle," a 1,000-mile journey through the State of Colorado, arranged by the Denver & Rio Grande R. R. A special train of Pullman sleeping cars and day coaches will leave Denver on Aug. 22. The first day's travel will take the passengers to Salida; the second to Durango, in the southwestern part of the State; the third to Ouray, and the fourth to Salida, from which point the first day's route will be again traversed. The price for the round trip has been placed at $20, and the entire trip is taken by daylight, the end of each day's journey being fixed at points where first-class hotel accommodations can be obtained. Persons occupying Pullman cars will, however, be permitted to occupy them for sleeping purposes. These accommodations can be secured at the ticket office, 1662 Larimer street, Denver, after Aug. 17, or in advance, by addressing S. K. Hooper, G. P. and T. A., D. & R. G. R. R., Denver, Col.

The following people from Chicago will attend the meeting of the American Pharmaceutical Association in Denver: Louis Wolterdorf, Paul J. Behrens, F. N. Schmidt and wife, W. M. Sempill and family, T. N. Jamieson and wife, Louis Hogan and wife, Carl D. Hallberg and wife, Prof. Oscar Oldberg and wife, Prof. S. E. Hereth, Louis Lehman, Emil Thiele, Otto J. Hartwig and wife, Wm. Bodemann, Wm. G. Morris, J. H. Fry and wife, Henry Biroth and wife, E. von Hermann and wife, J. V. Wooten. Those from Peoria, Ill., will be: Albert Zimmermann and wife, T. S. Beavis and wife. Among those from Indiana will be: Knoefel Bros., New Albany; Geo. W. Haynie, Evansville; Frank Carter, Indianapolis; Geo. W. Sloan, Indianapolis; F. W. Misener, Jr., La Porte; F. D. Warner, New Carlisle; Joseph K. Lilly, Indianapolis; Leo Eliel and sisters, South Bend; D. M. Coonley, wife and friends, South Bend; Ed. G. Waldron, South Bend; T. J. Moffit, Edinburg; Prof. Jno. N. Hurty and wife, Indianapolis. All the following

roads from Chicago are issuing circulars and making efforts to secure attendance at the Denver meeting: The Burlington, Wabash, Rock Island, St. Paul, Northwestern, Santa Fe and Chicago and Alton. The Santa Fe has issued its circular. The others will be out in a few days.

Chicago Retail Druggist's Association.

Chicago, July 12.—The third regular meeting of the Chicago Retail Druggists' Association for 1895 was held Tuesday, July 9, President Thomas V. Wooten in the chair. After the reading of the minutes of the Executive Board, the topics mentioned in the call were taken up and discussed. The committee on the phenacetine cases reported that application for leave to file cross bills had been made in the United States Circuit Court, but that leave had not yet been granted, and the matter would not come up until the fall term of the Circuit in this city. In case leave is granted to file a cross bill, the object of such cross bill will be to find out who are actually the interested parties in the case. L. K. Waldron, chairman of the phenacetine committee, reported further that the committee were encouraged by the prospect of a favorable termination of the litigation.

The prosecution of druggists for the alleged violation of the liquor laws provoked an animated discussion. Mr. Errant, attorney for the Retail Druggists' Association, having been retained to defend the druggists against whom charges have recently been laid in Hyde Park and Englewood, was present, and gave a graphic description of the peculiar methods employed in the prosecution of such cases. Four druggists were arrested in Englewood between 10:30 and 12 o'clock at night, and hurried off to another suburb, where they were brought before a police magistrate, who was up, ready for the occasion. They were arrested both under the State statute and the city ordinance, and the matter was so worked that there were 76 cases against the four men—38 city cases and 38 State cases, each offence alleged thus making two cases. Upon arrival at the justice's court, these men were compelled to put up bond fees of $1 for each case, making $76 paid in to the justice's strong box. The cases were set for trial, and when the day set came, the druggists were on hand with their attorney, but there were 100 cases ahead of them, and no hope of a trial that day. A continuance was taken and a new bond fee of $1 was exacted on the 38 State cases, the bond fee on the city cases being dismissed, as the fees in city cases had to be paid into the city treasury. On the second date set for trial a new justice was on the bench, and it being impossible to try the cases, a bond fee of only 25 cents per case was required on the 38 State cases. These cases have since the last exaction of bond fees been dismissed through an agreement between the druggists and the prosecutors. What the nature of that agreement was cannot be learned. The peculiar injustice of this proceeding is manifest when it is understood that there was no possibility of trying the cases, and the taking of bond fees amounted substantially to the exaction of a penalty before trial. The druggists of the city are inclined to view such abortive attempts at the execution of the law rather as a persecution than as a prosecution.

Mr. Ebert moved that a committee be appointed to wait on the mayor to ask that the city ordinance in regard to the keeping of registry books by the druggists where the name, reason of using, etc., of the buyer of alcoholic liquors was posted, be enforced, to the end that these prosecutions by private individuals be stopped. Mr. Thiele moved as a substitute for this motion that the chair appoint a committee to wait upon the mayor, and assure him that the members of the association were obeying the law in regard to liquor sales. After much discussion Mr. Thiele's substitute was put and lost, and the original motion laid upon the table, thus leaving the matter in status quo.

The legislative committee reported the completion of their labors in the drafting and passage of the new Illinois pharmacy law. Mr. Thiele gave a brief outline of its requirements. On motion the committee was discharged and a vote of thanks was tendered the members for their very excellent work. On motion the secretary was instructed to obtain 1,000 copies of the new law for distribution among druggists and others.

Following is the vote of the House on the Illinois Pharmacy Law. The Senate was unanimous: Yeas: Aiken, Bailey, Barricklow, Beck, Bines, Boyd, Branen, Brignadello, Bryan, Buckner, Burke, Burroughs, Cahill, Callahan, Cavanagh, Cella, Challacombe, Cody, Condo, Curley, Curtis, Daugherty, De Lany, Dudley, Dunham, Eakins, Ellsworth, Ely, Farrell, Fitzsimmons, Fletcher, Gibson, Glade, Gower, Hawley, Ingersoll, Johnson, of Cook; Johnson, of Pulaski; Jones of Iroquois, Jones, of Cook; Jones, of Greene; Kaiser, Kelly, Kileurse, Kitzmiller, Lyman, McFee, McGuire, McLaughlin, Mahoney, Manritzson, May, Mell, Miller, of Cook; Miller, of Fayette; Morris, Muir, Mulac, Mulligan, Noling, Novak, O'Harnett, Olson, Owensby, Payne, Perrottet, Pickrell, Pilgrim, Plotke, Revell, Schubert, Schwab, Selby, Shaffer, Shanahan, Snedeker, Snyder, Stubblefield, Teal, Thiemann, Thompson, Tippit, Wallace, Walleck, Weston, White, of Whiteside; Wilson, Woolsey, Mr. Speaker. Nays: Berry, Green, Hammers, Johnson, of Fulton; Kincheloe, Le Crone, Lowenthal, McDonald, of Williamson; Merriam.

A proposition looking to the betterment of the telephone service was discussed, and Mr. Bodemann, the chairman of the committee, having the matter in charge, reported a proposition which, however, it was decided to hold off for further discussion and investigation.

It was moved and seconded that committees be appointed to attend the meetings of the Illinois Pharmaceutical Association and the American Pharmaceutical Association.

The next order was the report of the committee on National Legislation. This committee reported as follows:

"To the officers and members of the Chicago Retail Druggists' Association:

The undersigned committee on National Legislation respectfully report that according to instructions to your committee, a circular letter and a reprint bearing on Tax Free Alcohol and Trade Marks and Patents was prepared and printed, and copies of the same were mailed to the officers of the American Pharmaceutical Association, to the National Wholesale Druggists' Association and to each of the State Pharmaceutical Associations and to such local Pharmaceutical Associations and Societies the addresses of which we could obtain. Thus far we have received word of the appointment of similar committees from the States of Kansas, Missouri, Minnesota, Wisconsin, Ohio, Indiana and New York, and we have received acknowledgment from nearly all those addressed with word that the same would be brought up before the meetings of their organizations. What is surprising is that although our circular letter was addressed to every pharmaceutical publication of this country, with but few exceptions, no notice has been taken of the same, except to criticise and doubt our motives and work in behalf of the best interests of the Retail Druggists. The question arises: To whom are the pharmaceutical publications catering, to the reader or to the advertiser? However, our cause is a just one, and we can afford to await the decision of the trade. Respectfully submitted,

WM. BODEMANN.
ALBERT E. EBERT,
GEO. P. ENGELHARD.

The secretary read the report of the Atchison Retail Druggists' Association. On motion this report was referred to the committee on National Legislation.

On motion the president was authorized to appoint a committee of three to revise or amend the constitution and bylaws of the association and present the same at the next meeting.

On motion the meeting adjourned.

——Why not "steal away" from business cares for a few days, mingle with your brother pharmacists, and have a good time. The meetings of the Illinois Pharmaceutical Association, July 24, 25, 26, will be interesting, the entertainments enjoyable. Peoria has royally entertained the members of the association on three former occasions, and will do so again this year. The Retail Druggists' Association of Peoria extend to you a hearty invitation to come. Now, don't say you "can't go," but go. Excellent hotel accommodations at reduced rates. Railroad fare, one and one-third, round trip.

——The eighth annual convention of the National Paint, Oil & Varnish Association will occur at Chicago, Oct. 8, 9 and 10. The Auditorium Hotel has been selected as headquarters, and special rates will be extended to those connected with the organization, and the Paint, Oil and Varnish Club, of Chicago, has appointed committees who will arrange for the welfare and entertainment of members and their families while in the city. Efforts are also being made for a one and one-third round trip railroad fare, and particulars regarding this will be announced later.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parenthesis the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Little Rock, Aug. 14.
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Oct. 9.
Colorado (C. H. Wells, Pueblo)—Denver, Sept. 7.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Sept. 3.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Oct. 7.
Florida (Thomas Clarke, Jacksonville)—.
Georgia (H R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—Springfield, July 23.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Aug. 6.
Kansas (H. W. Mehl, Leavenworth)—Wichita, Sept. 11.
Kentucky (Wiley Rogers, Louisville)—
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Aug. 14.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Oct. 8.
Massachusetts Freeman H. Butler, Lowell)—Boston, Oct. 1.
Michigan (F. W. R. Perry, Detroit)—.
Minnesota (H. A. Webster, Minneapolis)—Minneapolis, July 16.
Mississippi (J. C. Means, Natchez)—Jackson, Oct. 1.
Missouri (F. W. Sennewald, St. Louis)—St. Louis, Oct. 14.
Montana (G. W. Shoemaker, Billings)—.
Nebraska (M. E. Shultz, Beatrice—Lincoln, Aug. 14.
New Hampshire (George F. Underhill, Concord)—Manchester, July 24.
New Jersey (Albert S. Elwell, Bridgeton)—Trenton, July 18.
New Mexico (W. C. Porterfield, Silver City)—Albuquerque, Sept. —.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburgh, Rochester, Syracuse and Yonkers.
North Carolina (Wm. Simpson, Raleigh)—
North Dakota (W. S. Parker, Lisbon)—Fargo, Aug. —.
Ohio (W. R. Ogier, Columbus)—Cleveland, Oct. 15.
Oklahoma (C. P. Wickmiller, Kingfisher)—Perry, Oct. 1.
Oregon (Dan J. Fry, Salem)—Albany, Oct. —.
Pennsylvania (Charles T. George Harrisburg)—Williamsport, July —.
Rhode Island (Wm. E. Cates, Providence)—Providence, Oct. 7.
South Carolina (H. W. Hummel, Charleston)—Columbia, July 17 and 18.
South Dakota (I. A. Keith, Lake Preston)
Tennessee (J. O. Burge, Nashville)—Mont Eagle, July 17.
Vermont (J. G. Bellrose, Burlington)—Brattleboro, Sept. 25.
Virginia (E. R. Beckwith, Petersburg)—Richmond, Oct. 15.
Washington (W. H. T. Barnes, Seattle)—.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville) Sheboygan, Aug. 16.
Erie County, N. Y. (C. O. Rano, Buffalo)—Buffalo, Aug. 3.
Kings County, N. Y. (L. T. Perkins, 19 Greene ave., Brooklyn)—Brooklyn, Sept. 17.
New York City (Wm. Balser, M. D., 218 East 13th street)—College of Pharmacy building, Sept. 9.

——The next meeting of the Vermont State Board of Pharmacy will be held at Brattleboro, Sept. 25.

——A. R. Edmonds, of Miami, has been reappointed a member of the Missouri Board of Pharmacy.

——Missouri Board of Pharmacy held its quarterly examination meeting July 8th at Sedalia. Thirty-one candidates presented themselves, of which the following were successful and received certificates of registration: G. L. Blatchley, Fort Scott; Geo. R. Cooper, Mayview; Nat. T. Durham, Excelsior Springs; W. B. Kelling, Savannah; J. H. Kellogg, Bullion; W. E. Kimmons, Republic; R. J. Lyons, G. W. Scott, Kansas City; Elgin Mallett, Trenton; G. S. Moore, Greenwood; J. W. Smith, Slater; A. W. Stiehl, St. Louis; E. W. Taylor, Marceline; L. D. Tisdale, Marshall.

——At the regular meeting of the South Dakota Board of Pharmacy, held at Canton, June 26, the following passed a successful examination: Licentiates—H. P. Pettigrew, Sioux Falls; L. G. Palmer, Vermillion; Esta O. Stow, Montrose; Louis A. Lew, Eureka; Louis M. Hanson, Canton. Assistant—H. H. Legel, Sioux Falls. Elmer W. Fish, of Doland, was registered on his examination in North Dakota, and C. J. Engelson, Brookings, was granted a Licentiate in lieu of his Assistant certificate, based upon his examination before this board, July 11, 1894. The State Association meets at Lake Madison July 17, 18 and 19, at which time board meetings for the ensuing year will be fixed.

——The West Virginia Board of Pharmacy met in annual session at the Hotel Blennerhassett, Parkersburg, June 13th, 1895. The present officers, O. P. Sydenstricker, president, Lewisburg; J. Wm Brown, vice-president, Charlestown; H. F. Pfost, secr.-treas., Jackson, were continued for ensuing year. A class of seven candidates presented themselves for examination. The secretary's report shows that during the year there were 50 applicants registered, 36 on first examination, 5 on second and 9 on third. There were 10 failures. Names and addresses of applicants registered since July 1, 1894: J. S. Cox, Rivesville; W. A. Smith, Pennsboro; D. D. Casto, M. D., Jackson; O. J. Casto, M. D., Evans, U. G. Wriston, Mossy; N. E. Hanger, Charleston; Calvin Jordan, West Union; John G. Ehrle, Wheeling; J. W. Hutchison, Ronceverte; Alex. M. Parsons, Montgomery; Lee Hudson, Parkersburg; J. N Russell, Mason City; Geo. L. Martin, Harpers Ferry; Chas. T. Larkins, Wheeling; W. D. Keister, Huntington; G. S. Flesher, Pennsboro; J. P. Myers, Davis; W. H. Workman, Goodwill; Aber Y. Smith, Clarksburg; S. T. Anderson, Bayard; D. N. Law, Salem; Ernest B. Criss, Clarksburg; W. J. Horner, West Union; F. L. McGee, M. D., Charleston; E. A. Daniels, Parkersburg; J. H. Mavity, Charleston; E. P. Wotring, Keyser; Claude Davis, Williamson; D. Locher Groves, Shepherdstown; A. H. McFarlane, Winona; S. J. Carson, Charleston; H. R. Wild, Parkersburg; M. J. Fraine, Parkersburg; John Lawson Crckett, Welsh; Miss Janie Kingrey, Green Bottom; E. C. Rowand, Shinnston; C. R. Le Blonde, Ohio City, Ohio; A. A. Bebout, Taylorstown, Pa.; D. Earl Musgrave, Ft. Pleasant; A. J. Flowers, Glovers Gap, Clarence M. Dorsey, Pittsburg, Pa.; J. H. McCloskey, Moundsville; Jesse H. Rex, Palatine; G. C. Stone, Monongah; A. M. Armbruster, Wheeling; E. F. Tyler, Charleston; Fred. Bernhardt, Parkersburg; Joe D. Coblentz, Washington, D. C.; S. L. White, Pullman; S. A. Willhide, Elkins.

COLLEGES AND SCHOOLS OF PHARMACY.

——Prof. Edward Kremers, of the Wisconsin University School of Pharmacy, has been spending part of his vacation in this vicinity. He called at the Era office, July 13, on his return trip to Madison.

——Professors Remington, Bastin and Sadtler and Wm. MacIntyre and J. C. Peacock have been chosen by the Philadelphia College of Pharmacy to represent that college at the meeting of the American Pharmaceutical Association at Denver.

——The Cleveland Pharmaceutical Association wants to found a college of pharmacy with authority to confer degrees. For over a dozen years it has conducted a school of pharmacy which has flourished, but no authority was granted it to confer degrees. Twenty-six students were graduated at the close of last term. The association through its committee has taken steps to secure a charter for a college from the State.

——The authorities of the Philadelphia College of Pharmacy are out with the 75th annual announcement of that institution. This announcement not only indicates the three-quarters of a century mark, but at the same time gives the first official notice of the radical change made in the requirements for graduation. Three years' attendance at college are required and laboratory instruction is made obligatory. For this the college will give the degree of Doctor of Pharmacy or Pharmaceutical Chemist, according to whether the student has had four years' store experience or not.

——With a little encouragement, the younger employés of drug houses could get up a very creditable baseball league, but at present the players find difficulty in arranging games. The McCotters, whose last victory was over the McKesson & Robbins' nine, are looking for more nines to conquer, but the victims are slow in coming forward, so the McCotters languish. Dodge & Olcott had a nine last year, but have not assembled one this summer. There are baseball enthusiasts, at Fraser's, Schieffelin & Co.'s, Merck & Co.'s, Whitall, Tatum & Co.'s, and Powers & Weightman's offices, and the boys ought to be given a chance to get the healthful exercise. One player says there are so many changes in drug houses each year that it is hard to keep good nines together.

——The Pacific Coast has a new drug journal, the San Francisco Druggist, published monthly by C. W. Smith, 23 Second street, San Francisco, and edited by W. A. Taylor. The initial number was dated June, 1895, and the subscription price is $1 per year. Redington & Co. seem to be the sponsors.

——The case of Wm. N. Brainard, of Detroit, accused of using the U. S. mails for the purpose of advertising his "Pennyroyal Wafers for Women," has been disposed of. Upon coming into court Brainard filed a plea of "nolo contendere." He was sentenced to pay to the United States a fine of $50. The fine was paid.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ALABAMA.

Roanoke.—W. W. Stevenson & Co., damaged slightly by fire.

ARKANSAS.

Hot Springs.—O. A. Johnston, sold out.

CALIFORNIA.

Coronado.—Ferris & Ferris, discontinued.
Oakland.—J. Calegaris & Co., sold to R. S. Collins.
Penryn.—J. Kaiser & Son, discontinued.
San Francisco.—J. H. Widber, deceased.
Ventura.—Newby & Miller, now J. T. Newby.

COLORADO.

Leadville.—F. Luedke, attached.

CONNECTICUT.

Hartford.—G. E. Myers, sold out.
Moosup.—C. O. Deschennes, new store.
Norwich.—C. E. Gaskell, assigned.

FLORIDA.

Myers.—B. M. Campbell, reported in issue of June 27 as having sold out, should read, "M. Campbell Billings has sold out."
Orlando.—Charleston Pharmacy, succeeds both R. H. Peak and J. N. Butt.

GEORGIA.

Cedartown.—G. A. Lane, sold to E. N. Rice.

ILLINOIS.

Chicago.—W. G. Perlau, 1097 Sheffield ave., has removed to 922 Lincoln ave.
S. P. Rogers, removed from 425 State st. to 63d and Yale.
Elgin.—S. C. Sexauer, sold out.
Reddick.—Boyer's drug store, burned out.
Rockford.—Keeling Bros., now J. H. Keeling.

INDIANA.

Anderson.—H. E. Henderson's New Drug Store, is title of new store.
Bloomington.—H. Lindley's Sons, now W. C. Lindley.
Frankfort.—Dunnington & Hammond, now Dunnington & Klefinger.
Lafayette.—Vawter-Boggs Drug Co., incorporated; capital, $9,000.
Wabash.—A. M. Hipskind, sold out.

INDIAN TERRITORY.

McAlester.—Bishop & Jolly, sold to Bishop & Fendall.

IOWA.

Decorah.—O. A. Strand & Co., now Strand & Duncan.
Eldora.—S. G. Winchester, sold to J. H. Hammond.
Elma.—E. E. Overfield, now Overfield & Farrand.
Keokuk.—E. E. Fuller & Son, sold out.
Marshalltown.—McBride & Will, incorp. under style of McBride & Will Drug Co.
Smithland.—R. C. Rice, sold to Wendel & Co.

KANSAS.

Topeka.—R. B. Kelly, slightly damaged by fire.
Walnut.—Ash & Doggett, dissolved; Mr. Ash succeeds.

KENTUCKY.

Lexington.—Browning-Ringo Drug Co., assigned.

MAINE.

Waterville.—Ira Low, sold to F. M. Cotton.

MARYLAND.

Rockville.—D. F. Owen, deceased.

MASSACHUSETTS.

Chelsea.—F. W. Atkins, 379 Washington st., damaged by fire.
S. A. Epstein, 183 Washington st., new store.
Springfield.—L. Crawford, deceased.

MICHIGAN.

Addison.—Power & Son, now J. O. Power.
Concord.—R. H. Halsted, damaged by fire.
Constantine.—J. H. Eppley & Co., sold to S. J. Heimbach.
Hudson.—Wagner & Johnson, dissolved.
Muskegon.—Bennett Drug Co., sold to I. F. Hopkins.
Saline.—Nichols Bros., sold to Sheider & Liston.

MINNESOTA.

Cokato.—Ilstrup & Anderson, new store.
Little Falls.—Jno. W. Close, sold out.
Mankato.—P. A. Gunders, sold to B. H. Lewis.

MISSOURI.

Frankford.—G. H. Rinker, sold to A. F. Turley.
J. H. Holman & Co., sold to J. C. Hays.
Licking.—Dr. Mitchell's drug store, burned out.
B. F. Cravens, burned out.
Paris.—E. L. Major, now Major & McCormick.
Pattonsburg.—R. E. Maupin, now Maupin & Burris.
St. Joseph.—E. B. Bumps, sold to C. G. Riechler.
Springfield.—P. A. Day, sold to J. C. Squibb & Co.
St. Louis.—Buhl Remedy Co., incorporated.
E. Henm, 3128 Morganford Road, sold to H. P. Thierauft & Co.

NEW JERSEY.

Asbury Park.—South American Medicine Co., incorporated.
Belmar.—F. P. Philbrick, sold to W. H. Jackson.

NEW YORK.

Brooklyn.—Headine Co., incorporated.
N. Y. City.—Pryor & Cameron, sold out.
Oneida.—F. M. Rathbone, sold out.
Oswego.—W. J. Kehoe, burned out.
Syracuse.—Chas. Ives, 540 Hawley, slightly damaged by fire.

OHIO.

Cincinnati.—Wm. Grothaus, cor. 7th and Linn, sold to O. Kistner.
Columbus.—Standard Liquor & Opium Cure Co., incorporated.
E. Liverpool.—Chas. Pancake, deceased.
New Carlisle.—E. C. Miller & Co., sold out.

OREGON.

Newberg.—Walker, Everest & Badley, dissolved; Badley continues.
Portland.—Stark Medicine Co., incorp.

PENNSYLVANIA.

Erie.—Disbrow & Suerken, dissolved.
Philadelphia.—Hastings & McIntosh Truss Co., incorporated; capital, $20,000.

RHODE ISLAND

Pawtucket.—G. S. Morgan, assigned.

SOUTH CAROLINA.

Charleston.—Lakeside Pharmacy, sold out.
Summerville.—P. Wineman, Jr., sold out; opened store in Charleston, S. C.

SOUTH DAKOTA.

Howard.—W. H. Clark, deceased.
Mellette.—E. N. Rice, sold out.
Montrose.—E. O. Stow & Co., sold to Stow & Miller.

TEXAS.

Dallas.—O. E. Saunders, deceased.
W. F. Shook & Co., now the W. F. Shook Co.

VERMONT.

Rutland.—W. H. H. Fisher, now Fisher & McCallen.
Woodstock.—T. Bernard, sold to E. K. Wright.

VIRGINIA.

Lynchburg.—Lynchburg Drug Mill Co., damaged by fire; insured.

WEST VIRGINIA.

Elizabeth.—Dr. Kendall, sold to J. M. Carney.

WISCONSIN.

La Crosse.—H. L. Partridge, sold to Jno. E. Wilson.

BRITISH COLUMBIA.

New Denver.—M. M. Williams, discontinued.

ONTARIO.

Elmwood.—J. Evans, assigned.
Hamilton.—J. W. Sutherland, sold Hannah st. store.

—Druggist Theo. W. Esterly, of Minneapolis, is asked by the court to show why he has not paid the $70 judgment recently entered against him for violation of the State pharmacy law.

—Hugo Satler, said to be a Cincinnati druggist, was taken ill on the street in Chicago a few days ago, and died in a few minutes.

—Druggist L. C. Green, of Kansas City, Mo., was arrested, tried and fined $25 and costs for selling liquor without a license.

A very handsome insert from the R. E. Hitchcock Co., Waterbury, Conn., in this issue, gives a very good idea of the attractive class of printing and box work turned out by them.

PEPTONE.*

It was in the early years of the present century that the most important discovery was made that the secretion of the glands of the stomach is an acid one; and Carl Schmidt was the first to show with analytical certainty that it is hydrochloric acid, is the acid of the gastric juice. The presence of other acids, like lactic acid, is more or less accidental. The absence of putrefaction in the normal gastric contents was noted by Spallanzani, and is caused by this acid. There can be no doubt that the antiseptic action of the juice, which is very great, serves us in good stead by protecting us very largely from the evil results which would otherwise follow the introduction of numerous microbes with every meal. But it is with gastric juice as a digestant that we have now to deal. The first observers were inclined to attribute the solvent power of the juice to its acid; but, as Dr. Beaumont showed, this could not be the case. An acid of the same strength is a less powerful solvent, and therefore the gastric juice must contain a special solvent principle. This Eberle supposed to be the gastric mucus; a supposition easily refuted. It was Schwann who discovered this special principle and called it pepsin. He gave the name albuminose to the product of its action on albumin; Lehmann's name, peptone, however, has since been generally adopted. Lehmann recognized that peptone is not coagulated by heat as albumin is.

The modern conception of the process of proteolytic digestion in the stomach is the following: Gastric juice acts on proteids in virtue of the compound between pepsin and the acid which it contains. This compound may be styled pepsin-hydrochloric acid. Like that of most other ferments, its action is a hydrating one, and similar products may be obtained by other hydrating agencies, such as heating with dilute mineral acids or superheated steam. The final product of this action is called peptone, and this substance, compared to the original albumin, is very diffusible. But between the albumin and the peptone are several intermediate stages of intermediary diffusible substances. One of these produced in small quantities is acid albumin, but the greater number come under the general heading of the proteoses.

The pancreatic digestion of proteids is closely similar; it, however, occurs in an alkaline medium and is more energetic, and, moreover, if long continued, leads to a breaking up of some of the peptone into simpler nitrogenous substances like leucine, tyrosine, aspartic acid and ammonia.

It should be mentioned that though highly diffusible compounds like proteoses and peptone are formed in the alimentary canal, none find their way as such into the circulating blood, even during the periods of most energetic digestion. These substances are, in fact, pretty powerful poisons when injected into the blood stream. The epithelial lining of the alimentary canal normally

* W. D. Halliburton in Science Progress.

protects us from these toxic products by once more dehydrating the peptone in virtue of the peptic activity of the cells. Though lymphoid tissue, which is abundant in the intestinal walls, has been considered by some to have a share in this action, most observers are pretty well agreed that it is the columnar epithelium which is the main agent in the "regeneration of albumin."

But to return to the products of digestion, it was very soon recognized that they are numerous. Meissner described the varieties of peptone as parapeptone, dyspeptone, metapeptone, a, b, and c peptone. Schmidt-Mulheim distinguished between parapeptone, propeptone and peptone. Parapeptone is the acid albumin, and propeptone is a very good name for what we now call the proteoses. Nearly all of our present knowledge of the chemistry of digestion is due to the work of Kuhne and those associated with him in his researches, particularly Chittenden and Neumeister. A most valuable method of isolating peptone was discovered by Wenz, one of Kuhne's pupils. It consists in the use of ammonium sulphate as a reagent; when added to saturation this salt readily precipitates all proteids except peptone. Pure peptone was never obtained previous to this, but always more or less mixed with proteoses.

The earliest of Kuhne's observations showed him that there are two varieties of peptone—hemipeptone, which by the pancreatic juice is further split into leucine, tyrosin, etc., and antipeptone, which resists this action. The corresponding intermediate proteoses may be termed hemialbumose and antialbumose, respectively.

More recent observations have shown that albumoses may be classified in another way, according to their reactions and solubilities, into:

1. Proto-albumose; soluble in hot and cold water and dilute saline solutions, but precipitated by saturation with sodium chloride or magnesium sulphate.

2. Hetero-albumose; insoluble in water and therefore precipitable by dialyzing out the salt from its solutions. Otherwise it closely resembles proto-albumose.

3. Deutero-albumose; soluble in hot and cold water, and not precipitated by saturation with sodium chloride or magnesium sulphate, but it is by saturation with ammonium sulphate. It is thus in its reactions nearest to the peptones.

Peptone itself resembles these albumoses by giving the biuret reaction (pink color, with copper sulphate and caustic potash), but differs from them in not being precipitable by ammonium sulphate nor by nitric acid.

Neumeister has succeeded in discovering the relationship between these two classifications of the albumoses. Albumin may be considered to be composed of hemi-albumin and anti-albumin; the hemi-albumin in the first stage of hydration is split into proto-albumose and hetero-albumose; the anti-albumin yields hetero-albumose and acid albumin. The next stage in hydration is deutero-albumose, and the final step is the conversion of the deutero-albumose into peptone of the hemi and anti varieties.

The albumoses (proto and hetero), formed directly from the albumin, may be called primary albumoses. Deutero-albumose is a secondary albumose, and is thus nearest to the peptones, not only in its reactions, but also in its order of formation.

The similar products formed in the digestion of globulin may be called globuloses; of vitellin, vitelloses; of casein, caseoses; of myosin, myosinoses. There are individual minor differences, but all are closely similar to the albumoses, already described, and the general term proteoses includes them all. The products of digestion of elastin and of gelatin have also a general resemblance to the proteoses and peptone.

Such, briefly, is the summary of our knowledge of proteolysis produced by gastric digestion. But within the last year or two further points of detail have been taken up and worked out, and it is to these that it is the special object of this paper to draw attention. In so doing, it will be necessary to restrict our consideration to those papers in which peptones and albumoses are treated from the digestion point of view. It would lead us too far to take up another branch of this subject which has recently attracted so much attention, namely, the chemical action of micro-organisms and the poisons they produce. Suffice it to say, that in numerous instances the toxines and antitoxines of bacteriologists are proteoses or substances closely allied to them.

Pekelharing has attempted to throw doubt upon the individuality of peptone and upon the ammonium sulphate method of isolation, claiming that proteoses are only partially precipitated by the ammonium salt, and that the so-called peptone is merely a mixture of albumose or proteose, with some unknown substance or substances. In support of this view, he apparently finds it impossible to prepare a peptone which will not yield some proteose by treatment with ammonium sulphate, or which will not show the presence of proteose by such reagents as trichloracetic acid.

This criticism has led to renewed research on the part of Kuhne, in Heidelberg, and of Chittenden, who now works independently of his old master in the laboratory of Yale University.

In his first paper Kuhn states in general terms that a solution containing a mixture of proteoses and peptone gives a precipitate of proteoses when saturated with ammonium sulphate, the peptone remaining in solution. After filtration, the filtrate, if set aside, will subsequently give a further precipitate, if more salt is added. This has been explained by supposing that the saturation was in the first case incomplete, or that the peptone is partially changed back into proteose. He proceeds to show that the former is the more probable explanation. There are many precautions necessary in order to precipitate the last traces of proteose. It is necessary, in the first instance, to use large volumes of the saturated solution in addition to merely adding crystals of the salt to the proteid mixture. Further, it is found that, whereas the greater part of the proteose is precipitated by the salt if the reaction of the mixture is made acid, the residue, which is difficult of precipitation, comes down more readily if the reaction is made alkaline. It is further necessary, after the solution of peptone is obtained, to remove the salt employed; this may be accomplished by the use of barium carbonate after concentration. If pancreatic juice is used for the preparation of peptone, care must be taken to remove leucine and tyrosine also. In drying, concentrating, etc., especially if sulphuric acid is used, a brownish product is formed; this is minimized by care in the manipulations. This substance is precipitated by ammonium sulphate; it is not, however, albumose; it gives no biuret reaction. Further, if a precipitate forms on dialysis, it is not necessarily of proteid nature; if hard water is used it may be calcium sulphate.

Pekelharing does not seem to have recognized the necessity of these and other precautions and details; and, moreover, the differences between peptone and proteose are very striking. This aspect of the subject is considered more fully in Kuhne's second paper. There are not only differences in solubility, but differences in elementary composition, differences in behavior to such reagents as metaphosphoric and trichloracetic acids; and peptone when dry stands alone among the products of proteolysis by hissing like phosphoric anhydride does on the addition of water.

Chittenden takes up the matter from rather a different point of view. He has considered it necessary to repeat his old experiments with as pure a sepcimen of proteid as he has been able to obtain, instead of using white of egg or other similarly impure raw materials. The proteid he has selected is the crystallized globulin or vitellin from hemp seed. He also entirely disagrees with Pekelharing, as under these more astringent conditions he confirms his older work. He, however, makes a few new points, and so a brief resumé of the entire paper may not be unprofitable.

He performed two separate digestions on a large scale, one of which was continued for three, the other for ten days. The products of digestion were carefully separated from one another and analyzed; their reactions are exhaustively described, including their specific rotatory power. In separating proteoses from peptone the difficulties of manipulation are recognized, and so far as is at present possible obviated. The investigation, however, lends no support to Pekelharing's views, but is in complete accordance with Kuhn's contention that peptone is a definite, well characterized substance. Its amount increases, and that of proteose diminishes as digestion progresses, but an artificial digestion in which all proteose is converted into peptone has not yet been obtained. The progressive changes from primary proteose to deutero-proteose and peptone are most marked in the early stages of digestion; the disappearance of deutero-

proteose and the formation of peptone is subsequently a very gradual process.

In the proteolytic process, at least four products of the hydration and cleavage are recognizable, namely, proto-proteose, hetero-proteose, deutero-proteose and peptone. The examination of the percentage composition of these substances shows a gradual and progressive falling off of carbon as digestion progresses. But the tables given show another very noticeable feature, and that is, that the percentage composition of the individual proteoses differs in the two digestions; the substance called proto-vitellose, for instance, in the digestion carried on for three days, cannot be the same as that with the same name in the digestion carried on for ten days, although both give the same reactions, specific rotation of the plane of polarized light alone excluded. This cannot be due to analytical errors; a skilled investigator of Professor Chittenden's eminence could not fall into such a mistake; besides other proteids, egg white, for instance, under the influence of superheated steam gives similar results.

The explanation advanced is that the four substances named merely represent the main steps in the hydration process, but that there are further links in the chain mixed with these, which cannot at present be separated, and which manifest the same general chemical behavior. We cannot hope to understand the steps in proteolysis until the chemists are able to give us some idea of the chemical constitution of the proteids which these digestive juices act upon.

One of the properties alluded to, which the proteoses and peptones agree in possessing is their power of diffusing through membranes, and although these products of digestion do not avail themselves of this to the full, for we never find them in the blood, it can hardly be doubted that the formation of diffusible from indiffusible substances must fulfill some useful end. It appears to be the main object of all digestion, whether of proteids or carbohydrates. It may be held that it enables the substance to be absorbed to start on its journey, though in the progress of that journey bloodward the property in question is lost.

The same two names are associated with the investigation of this point with accuracy. They worked independently and arrived at the same result. To take Chittenden first. He found that the proteoses, though diffusable, were not nearly so much so as peptone. A curious fact which was unexpected was that deutero-proteose is less diffusible than proto-proteose. Proto-gelatose is fairly diffusible, but it has a somewhat lower endosmotic equivalent than the corresponding proteose. Elevation of temperature increases the rate of osmosis, especially of the proteoses. Hetero-proteose is the least diffusible of the proteoses; in neutral saline solutions it is precipitated, and none passes through the dialyzer; dissolved in ammonia it loses 5.22 per cent. Deutero-proteose comes next (loss 24.1 per cent.); then proto-proteose (loss 21.3 per cent.), while peptone loses 51 to 51.8 per cent.

EMULSIONS.

By Frank Blankinship, Ph. G.

This class of preparations being made official, for the first time, in the new pharmacopœia of 1890, fills a long felt want, replacing that list of preparations in the pharmacopœia of 1880, called Mixtures,—which were nothing more nor less than "Simple Emulsions."

This gives the pharmacists a new field in which to exercise his skill and knowledge, with the view of determining which will prove the most valuable agent for general use to present oils, balsams, resins and oleo-resins in the proper form of an emulsion. There exists among pharmaceutists a wide difference as to the material and process which shall best emulsify any given oil. This may be demonstrated by having the same emulsion prepared by six chemists. The products will vary most astonishingly in color or fluidity, and some will not be emulsified at all. This want of uniformity in our art applies not only to emulsions, but to various other preparations, and is often sufficient to create suspicion or distrust in the mind of the patient, to whom no amount of explanation is satisfactory. This is a matter of regret and enables one to make the observation and attach the blame, for much of this can be traced to deficient pharmaceutical education. Emulsions may be defined as liquid preparations in which oily or resinous liquids are suspended by the agency of gummy or viscid substances.

They may be conveniently divided into two classes. (1) "Natural Emulsions" are those which are found in nature ready formed as the milky juice of plants, the milk of animals, yelk of eggs, etc. (2) "Manufactured Emulsions" are those which are made artificially by various processes. The art of producing these is called "Emulsification." Manufactured Emulsions are usually made from two classes of substances. (1) Those which contain an oil or resinous compound, associated with either a gum or some other emulsifying agent. (2) Oils and fatty substances suspended in water by the aid of an emulsifying agent. Gum Resin and Seed Emulsions are included in the first. In the first class these are usually made by simple trituration in contact with water. Gum Resin Emulsions are made by reducing to a coarse powder selected pieces of the gum resin in a mortar, trituration with a small quantity of water so as to form a smooth uniform paste and then adding the remainder of the water, finally straining the emulsion through a cloth strainer or absorbent cotton contained in a funnel, as in Emulsion Asafoetida. Seed Emulsions are so termed because they are made by rubbing the seeds or kernels of fruits, which contain fixed oil with water, the emulsifying agent, being a gummy or albuminous substance found naturally in the seeds or kernels associated with the oil as in Emulsion of Almond, Castor Oil Bean and Croton Oil Bean. Emulsification is based upon the study of the best type of natural Emulsion, namely milk. This liquid is found on being examined to consist of innumerable globules of fatty substances (butter) enveloped in a thin membrane of viscid matter.

Casein suspended in water. Since natural emulsions are made with bodies of this character, it occurred to me to separate out this albuminous substance, casein which is the model emulsion and by which the butter is kept in suspension in a soluble condition and see what sort of an emulsion would result. To effect this separation to the best advantage, take ammonia in the proportion of 60 grammes to 4 liters of milk. After shaking well, the mixture is set aside for 24 hours. Two layers will then be observed. The semi saponified or the oily liquid above, the milky or lactos serum below; the lower liquid is drawn off and treated with acetic acid until the casein is precipitated. To the magma strongly pressed to drive off moisture, 10 grains of bicarbonate of soda is added with trituration, and finally enough sugar to obtain a powder, when dry, representing about 10 per cent. of its weight of casein. This preparation will keep for three years or more in securely stopped bottles.

The use of casein as an emulsifier has been developed by M. Geger, a Parisian pharmacist, who recommends the saccharated casein, a fine white powder which is to be used as an emulsifier just as powdered acacia is used. The advantages claimed for casein are that its emulsions are more readily retained by the stomach and that greater stability and perfection is secured by its use.

Several methods are employed in making emulsions, the most important of which may be grouped under two typical methods named from geographical locations where they are in most frequent use. (1) The English Method. (2) Continental Method. The English Method. In this mode of making Emulsions the emulsifying agent is placed in a dry mortar, and small quantities of oil and water are gradually and alternately added at intervals. The pestle is rapidly and lightly rotated in the same direction, with the effect of dashing the oil into the globules, which are at once enveloped by the viscid emulsifying agent. Rotating the pestle in the same direction continuously is recommended by some authorities. I would like to say here a word in regard to the trituration of the emulsion, that is the direction which is given to the rotary motion of the pestle. I was led into an investigation of the subject from a theory given by one of our most eminent "profs" to whom the question was propounded. His answer was of course given off hand, that so long as you stirred the emulsions in one direction you tended to break up the volume of the oil, but immediately you reversed the motion you forced the oil back upon itself. The theory was so simple and appeared so evident that one was inclined to accept it as conclusive and wonder that he had not thought of it before. On trying the experiment with a magnifying glass, the theory to all appearances was borne out. The oil, on stirring with the emulsifier, was quickly drawn out into long taperings and filaments with off shoots in various direc-

tions and of various forms. On reversing the motion they were driven back upon themselves, and caused the same particles or pilaments of oil to assume once more to a greater or lesser degree the globule form. So much for the theory. Now for the fact. Carrying my experiment one stage farther I found that I could make an emulsion with the same ingredients and in the proportion as in the former experiments with alternate motion from right to left and from left to right without the slightest difficulty, so long as I kept th emulsion well under hands, but that it takes some time longer to complete the preparation.

I have experimented with Castor Oil, Cod Liver Oil, Turpentine, Mucilage Acacia, Gum Acacia, Gum Tragacanth, Mucilage Tragacanth, Sub. Nit. Bismuth, Glycerinum Vitella, etc., etc., as emulsifyers, with the same result.

The only difficulty I experienced with the double motion was towards the end of the process, when the emulsion was approaching saturation. Here certainly the reversing motion tended to throw the emulsion out of gear more quickly than if the motion had been confined to one direction. But that, I think, is easily explained by the fo egoing theo y. Therefore, I am disposed to think a great deal of popular error in regard to the belief that an emulsion must always be stirred in the same direction, and what little elements of truth there is in it is probably explained by the theory given. The English way of making emulsions is the best to use in general prescription practice, as the semi oily resinous substances necessarily vary.

A typical formula would be:

Oil turpentine	30.00
Pulv. acacia	15.00
Aqua	120.00

Place the acacia, which should not be powdered fine (Remington), but granulated in a mortar with one cc. of water.

One word here in regard to the granulated gum acacia. I have found by experimenting that the commercial pure white powder answers the purpose equally as well and much more convenient to use and just as good an emulsifyer. This should be worked until the mucilage is free from lumps and perfectly smooth. The oil should be added first in quantities not greater than half a dram at a time, stirring rapidly with the pestle, applying the double motion process. At each addition care must be taken not to add a fresh supply until the last has been thoroughly emulsified. When the liquid has become too thick to be easily stirred, a quantity of water should be added, and a gradual addition of oil until the whole quantity has been used. Thus the nucleus of the emulsion is formed, and any quantity of water may be added without risk, if the nucleus is once formed properly. If the oil or water is added too rapidly in forming the nucleus or mucilage not thick enough, the accident of cracking the emulsion occurs. This may be known by the pearly appearance assumed by the mixt ure, and on close examination the globules of unenveloped oil may be seen floating about.

If each stage of the process is successful, the emulsion presents to you thoroughly after each addition a smooth opaque glistening appearance like cream.

Success depends entirely upon the care exercised in forming the nucleus at the beginning, and this, therefore, should not be hastily made. When an emulsion is cracked it need not be thrown away, as is done a great many times, but may be restored by placing an additional quantity of the emulsifying ag nt in the mortar and gradually adding the cracked emulsion to it.

Trituration after each addition with the double motion process until finally you will have the satisfaction of seeing the uncombined globules disappear and assume a smooth opaque appearance.

The Continental method has the great merit of never failing to produce a good emulsion, if the proper proportions are used to form the nucleus, and if the directions are strictly followed out. The most satisfactory proportion for the nucleus may be easily remembered. Half as much water taken as oil, and half as much gum as water.

Oil ricini	60.00
Aqua	30.00
Gum acacia	15.00

The two parts of oil may be placed in a dry mortar, and one part of finely powdered gum may be added to it, stirring with the pestle. When a uniform mixture is formed, two parts of water is added, not gradually, but all at once, when upon stirring, the emulsion is quickly made. An addition of water may be added to the nucleus without risk.

The explanation of making an emulsion by this method is that the particles of gum, being insoluble in the oil and surrounded by it are prevented from separating and dissolving in the water, so as to form large lumps. By stirring the mixtures actively the water gradually dissolves the oil, becoming incorporated at the same time and a homogeneous mixture is produced, the quantity of oil, gum and water being in the right proportion to form the emulsion.

In making large quantities of emulsion, some mechanical device must be used to facilitate the rapid stirring and agitation necessary to form the nucleus. Hunter's emulsifying apparatus, or commonly called egg-beater, is the most convenient for pharmaceutical use. The principle is so well known that the description is unnecessary. After experimenting with almost every emulsifying agent that possesses emulsifying qualities, such as Casein, Gum Arabic, powdered and granulated, Gum Tragacanth, Glycerinum Vitella, Quillaia, Amygdala, Senega, Chondrus, etc., with oil of turpentine, castor oil, cod liver oil, and preparing each by the two methods, namely, English and Continental, together with other formulas, will place powdered gum acacia at the head of the list, as an emulsifying agent. Its superior quality is very readily shown in the emulsion of oil of turpentine, which is one of the most difficult emulsions to prepare by the English method.

A typical formula is:

Oil turpentine	3.75
Powdered acacia	1.30
Aqua dest	18.40
Oil turpentine	1.90
Tr. quillaia	2.16
Aqua dest. Q. S.	30.00
Glyceritum vitella	3.75
Oil turpentine	1 25
Aqua dest	30.00

Cod liver oil comes next. This is prepared by numerous formulas for the purpose of disguising its taste.

Cod liver oil	59.20
Gum acacia (powd.)	15.50
Aqua dest	30.00

Place the powdered Acacia in a dry mortar, add the cod liver oil and rub until smooth. Add the water all at once and rub until a perfect emulsion is formed. Then add sufficient water to make four (4) ounces.

Pancreatis	3.90
Cod liver oil	89.00
Simple syrup	30.00

Digest at a moderate heat. This emulsion is mixable with water and may be given in chocolate, milk or water, or both.

Calcium hypophosphite	8.00
Gum acacia (powd.)	60.00
Cod liver oil	240.00
Aqua dest	120.00
Cod liver oil	60.00
Tr. quillaia	3.75
Aqua	67.50

Castor Oil Emulsions.

This oil emulsifies more readily than the other two. Consequently a good emulsion may be obtained by most any emulsifying agent. But the most successful, as stated before, is by using gum acacia as an emulsifying agent.

A typical formula would be:

Castor oil	30.00
Gum acacia (powd.)	124.40
Aqua dest	60.00

Any amount of water may be added after the nucleus is properly formed.

Castor oil	30.00
Mucilage of chondrus	30.00
Simple syrup	15.50
Water	60.00
Castor oil	30.00
Casein	124.40
Aqua dest	60.00

Proceed the same as with Gum Acacia.

Casein	1.50
Cod liver oil	15.00
Aqua dest	30.00
Casein	2.67
Oil turpentine	14.00
Aqua dest	30.00

If a compound emulsion is to be made, the syrup or tincture is to be added last. —(Pac. Dr. Review.)

LYSOLUM BOHEMICUM.—A new coal tar preparation put on the market by Brdlik, of Kalup, Bohemia. It is a dark brown liquid of a not unpleasant odor, which mixes with water in all parts. The solution remains transparent, is yellowish when first made, but grows darker on standing for some time. Used as a disinfectant for instruments, the hands, etc., and in surgical operations, in from 2 parts in 1,000, to 1 or 2 per cent., as the nature of the case may require.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS.
Issued July 9, 1895.

542,403—Peter T. Austen, Brooklyn, assignor to Wm. J. Matheson & Co., Ltd., New York, N. Y.—Making coloring-matter from logwood.

542,429—Eric A. Starke, San Francisco, Cal.—Making neutral alkaline sulfates from bisulfates.

542,524—Llewellyn H. Hutchinson, assignor to M. W., G. A., L. T., and J. A. Cross, Northfield, Vt.—Detergent compound.

542,586—Wm. Eassie and O. Schmidt, Keall, Kauai, Hawaii.—Process of and apparatus for filtering saccharine juices.

542,611—David M. Holbrook, Brooklyn, assignor to W. H. Schieffelin, W. N. Clark, W. S. Merserean, W. L. Brower, H. S. Clark and W. J. Schieffelin, New York, N. Y.—Coating pills.

542,612—David M. Holbrook, Brooklyn, assignor to W. H. Schieffelin, W. N. Clark, W. S. Merserean, W. L. Brower, H. S. Clark and W. J. Schieffelin, New York, N. Y.—Machine for coating pills.

TRADE-MARKS.
Registered July 9, 1895.

26,783.—Liniment. Henry L. Lohmeyer, Pittsburg, Pa. The words "Nancy Hanks."

26,784.—Chemical and Medical products. Vereinigte Chininfabriken Zimmer & Co., Frankfort-on-the-Main, Germany. The representation of a heraldic eagle with an escutcheon on its breast, containing a monogram of the letters "CZ."

26,785.—Pomes. Wm. F. Maass, Brooklyn, N. Y. The word "Apicola."

26,786.—Condition-powders for Horses. Henry L. Lohmeyer, Pittsburg, Pa. The words "Nancy Hanks."

26,787.—Polishing and Cleaning Preparation. Laurence Dana Colony and Benjamin Sargent, Osgood, Keene, N. H. The word "Cando."

26,788.—Disinfectants. Alfred Noback, Rahway, N. J. The representation of a cylinder and the words "The Rapid Cleaning Cartridge."

26,789.—Syringes. The Butler Hard Rubber Co., New York, N. Y. The word "Eureka."

26,794.—Chewing-gum. Frank C. Oberholtz, Washington, D. C. The word "Complexion."

CAUSES OF EPIDEMICS.—The necessary co-operation of certain causes in producing an epidemic is treated at much length in a contribution to The British Medical Jounral, these causes being discussed under four general heads. The first of these named are those which increase the susceptibility of individuals, and about which so little is known; second, those which favor the outside growth and development of the infection, such as heat, moisture, organic impurity of soil and water, aeration of soil, etc.; third, those which favor the fouling of the water, floods or drouths, according to circumstances, varying level of subsoil water, construction of wells, tanks and water supplies—their relation to cesspools and surface pollutions, and social habits of the people by which such pollution is encouraged and carelessness as to drinking foul water induced; fourth, those by which the infection is transmitted from place to place, especially movements of large masses of people, as in pilgrimages and wars, and the rapid distribution of cholera-infected people over large areas, in some part or other of which a suitable nidus for fresh growth of the infection would be likely to be found. There is no doubt, this writer thinks, that cholera is continually being exported from India, but it only occasionally becomes epidemic in those places where it is an exotic—due in such cases not merely to water carriage, which is the mere mechanism of its spread, but to a coincidence of varied and complex causes assisting in the intensification of the disease.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

SHORTER HOURS.

Shirley, Ill., July 9, 1895.

To the Readers:

If New York State is done with her efforts to diagnose the "Drug Clerks" disease and feels unable to prescribe, it is a sad day for them that they commenced. There is surely room in their complaint for considerable action, and it is a matter of interest to every clerk and employer that the question of shorter hours, better pay and Sunday privileges be settled. York is the State to analyze and test the grievance, and it is to her especially the West looks for a leader. They should be made of sterner stuff, or acknowledge the incompatibility of the mixture—throw it out and wash the bottle. If there is anything in this question let us have it out, and if not, we can, at least, hold up our heads and be proud of our martyrdom to such a noble cause. Maybe old heads are needed—maybe our good Era can make a law to which all will live up. We are slaves, we are good-natured pill-rollers and deserve what good could be gained by shorter hours and liberation on Sunday, we surely deserve it, and better pay, and more enjoyment of our homes and our families. Let us root at this earnestly. Some good will be done. Our every hour and every day of tedious toil will endanger the strength of our reputation and run good clerks out of the profession. There is need of courage. There is need of determination to raise the plane of our labor, to make a drug clerk's liberties "equal" to those of the dry goods clerk and mechanics, and other less responsible, less deserving labor.

Come, out with your spatulas and pestles and work this thing up. Fraternally,

DUNCAN JONES.

San Antonio, Tex., July 9, 1895.

To the Editor:

Regarding shorter hours and more pay I would like to say a few words. It seems astonishing to me that so many choose the drug business yearly, if the conditions of clerks in that business are worse than in other walks of life. Let us take Mr. Bruder's figures; he says the average drug clerk gets $60 a month, or $2 a day of 16 hours, and a common laborer gets $1.25 to $1.50 per day of 8 hours. In other words, the laborer gets from $2.50 to $3.00 for the same number of hours of labor for which the drug clerk gets only $2.00. If these figures are correct, it is just as it should be. If I had to choose between running all day and walking, I would choose the latter, and as between working with pick and shovel and sitting in a chair waiting for an occasional prescription to be filled, in a cool laboratory, requiring very little labor and only ordinary skill, I would also choose the latter.

The way out of the dilemma for those who are dissatisfied with their lot in the drug business, would seem to be to change places with the laborer, or go into something that pays better. Another thing, it is lucky for the kickers that they appreciate their responsibility, for if they didn't, no one else would. I have been in the drug business for 20 years, and I can prove that less responsibility is attached to it than to a dozen unlicensed avocations that I can name. The whole question of hours and pay must rest with each individual employer and employee. No set rules can be made. The proprietor with a good paying business can pay more than he with a poor paying one. At any rate, as long as the supply of clerks is 50% in excess of demand, the tendency will be to reduce wages and increase hours. The kickers had better leave well enough alone. Yours truly,

J. PFEIFFER.

Staunton, Va., July 13, 1895.

To the Editor:

Having noticed several articles on "Shorter Hours, etc.," in the recent numbers of your valuable journal, I thought it might be of interest too some of its readers to note our arrangement for Sunday hours. We have five drug stores in our town, and alternate in keeping open all day Sundays, each store keeping open in its respective turn. All of the stores, however, keep open one hour in the morning from 9:30 to 10:30, and one hour in the afternoon, from five to six, and so afford an opportunity for "refills." The front door of each store that is closed bears a card stating the hours it will be open, and the name of the firm keeping open all day. This arrangement has been in vogue about eighteen months, and works admirably. We all thoroughly enjoy our rest on the Sabbath.

Why should not this plan exist in at least all the smaller towns? The druggists would feel more like life is worth living, and would notice very little, if any difference in their week's sales. Very truly yours, P. H. W.

——Liquor was seized the other day at Frederick Brown's drug store, on Washington street, Dorchester, Mass.

——Franklin is the latest Massachusetts town in which the Sunday law cranks are having a beautiful time. The druggists absolutely refuse, under the circumstances, to open their doors at all on the Sabbath.

——Wm. P. Pierce, long a druggist at the corner of Princeton and Meridian streets, East Boston, Mass., is dead, aged 43. For a considerable time he had given his attention to a musical bureau, his son Carl being a famous violinist.

——Two accidents in Massachusetts the past week show that, despite all the care a druggist may take, people will manage somehow to get killed accidentally by means of drug store purchases. In one case, a child in Brockton drank some water in which fly-paper had been standing, and in the other, an aged man in Everett drank aconite, mistaking it for brandy.

LONDON AND ENGLISH AFFAIRS.

London, July 2, 1895.

Capitalised Pharmacy.

At the end of last April a company calling itself "The Chemists' Co-operative Society (Limited)," invited public subscriptions to the extent of £200,000 in order to enable it to complete its contracts to acquire no less than 76 druggists' businesses in Great Britain. The surprise that the announcement of this ambitious scheme created in England was felt as far as the United States, and The Pharmaceutical Era devoted a leader to the consideration of the insidious growth of capitalized pharmacy over here. An outsider, however, would have some difficulty in grasping the lengths to which the evil has gone on this side.

It started years back when the great co-operative companies, numbering thousands of members, added drug departments to their stores. The Pharmaceutical Society promptly prosecuted the unqualified proprietary of these trading concerns and a case was dragged through the courts, until finally the House of Lords, the final judicial court of Great Britain, decided that, as a company could not be examined, it could not be prosecuted for selling poisons, provided always that the person by whom the sale was actually effected was qualified within the meaning of the Pharmacy Act. The next step was the starting of independent capitalized drug companies, as distinct from associations of co-operative buyers, and these companies working for a mere dividend were able to charge much lower prices than the ordinary pharmacist, who had to support himself and his family out of the profits of a small business. These companies have spread all over the land, there is scarcely a town of any size where there are not, or will not soon be, one or more branches of these powerful bodies. The last step has been the formation of what are known as "one-man companies." These are formed with the obvious intention of evading the Pharmacy Act. The law requires a minimum number of six persons to form a limited liability company, but the law does not fix the minimum interest that each person must take in the company so formed. The man, therefore, who cannot, or does not wish to, pass his examinations gets five of his sisters and his cousins and his aunts to take up one £1 share each, he takes the remaining one or two or three or more thousand pounds' worth himself, and thus becomes a legal company entitled to style itself "chemists and druggists." He then engages some half-caste qualified man as his assistant and delegates to this man the serving of articles and compounding of prescriptions containing scheduled poisons.

The Chemists' Co-operative Society promised to belong to the second class, but it now seems doubtful whether it can be taken seriously enough for classification. It found the hearts of the British public very hard and the purse-strings of capitalists very tightly drawn. Instead of £200,000, it got rather more than £16,000 subscribed, and it actually went to allotment in this starveling sum. It will be interesting to see it earn its calculated profit of £34,905 per annum on this small working capital, especially if this capital is further reduced by the claims of the Trust Agency that appears to have inspired the movement.

Cayenne Lozenges and Fun.

There does not seem to be much scope for rollicking mirth in half a dozen cayenne lozenges. Beyond the mere crude substitution of these sweets for a small boy's store of rose lozenges and the subsequent rejoicing over that small boy's discomfiture, there does not seem to be much promise of latent hilarity. Even then it is open to question whether the real laugh is not against the man who can extract merriment from so elementary a joke. Emma Cardy, of Southampton, however, could not see the pathos of the old humor and she accordingly took a few cayenne lozenges for fun. They set up gastric irritation, and later on, with the assistance of four doctors, two nurses, a private in the Medical Staff Corps, a borough analyst, and a handful of lay witnesses, a coroner's jury decided that stomach inflammation caused by the lozenges was the cause of her death.

Hood Not to Be Hoodwinked.

Ever since C. I. Hood & Co., of Massachusetts, started pushing business in a large way over here they have been worried by imitators and substitutors. About a month since they had to expose a Bristol fraud and now they have had to turn their attention to a man running a stall in Fleet street for the sale of "Hood's Sarsaparilla Tablets." The hawker asserted before the Alderman at the London Mansion House that he worked for a man named Hood living at an address in South London, but it was proved that no such man was known at that address and so the petty offender was removed to the cells for seven days.

This firm, by the way, lost six tons of advertising matter through the collision with an iceberg of the freight boat that was bringing it over.

A Beanfeast.

That is, in England, the rather contemptuous name for a day's excursion of a group of employees or a friendly society. The employees of the firm of Burroughs, Wellcome & Co. had their annual beanfeast on Saturday, June 29. Between 400 and 500 strong they went by special train from Dartford and London to Southsea, the pleasant suburb of our great naval station, Portsmouth, and right merrily did they enjoy themselves.

A first-class certificate has been presented to Messrs. Burroughs, Wellcome & Co., at the recent Hobart Exhibition, for their tabloids of compressed tea. This makes the 138th highest award this firm has obtained in the course of sixteen years.

Mr. Geo. Fulford, proprietor of Pink Pills for Pale People, sailed on June 5 for New York, en route for Canada.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

The Jacobs' Pharmacy, Atlanta, Ga., has an overstock of certain proprietary goods which they wish to exchange for others or for cash. See their advertisement.

Gray's Pharmaceutical Quiz Compend, published by Gray & Bryan, Chicago, conforms fully with the new Pharmacopœia. It is for sale by all medical book dealers.

Large buyers of crude drugs and chemicals, who are in the market for cocaine, Rochelle salts, Roman and German chamomiles, should write to C. W. Ferber, 24 Park Place, New York, for prices. He is offering special inducements on these goods.

Weideman, Holmes & Co., of Cleveland, O., have a special lot of pure blackberry wine, home-made, from the fruit only, which they offer at $7 per dozen. As the present season is one which brings a demand for a good article of this kind, druggists will do well to place themselves in a position to supply such demand.

Whole fruits are somewhat of a novelty at the soda fountain, but the demand for them is an increasing one. The soda water dispenser is looking for things with increasing demands in these days, and the Beach & Clarridge Co., of Boston, can tell him something of interest about this new departure. Write to them about it.

The finest summer drinks that are served at any soda fountain are lemon and orange phosphates made from the fresh fruits. There is no mistake about these flavors. Nothing but the fruit—natural color and delicious flavor. Customers like them and want more. Foy's Guide tells you how to make rich, pure soda from all kinds of fruit.

The suspensory bandages manufactured by Flavell's, 1005 Spring Garden street, Philadelphia, have certain qualities of fit and durability which have made them favorites with the medical profession, and the druggist will find that a stock of them is one which meets many prescription demands. A sample line of six bandages will be sent by mail at the nominal price of $1.10.

The Merz Capsule Co., of Detroit, note a gratifying increase in the number of druggists throughout the country who are specifying the Merz brand of empty capsules upon their orders. This they claim is due to the fact that their prices are lower than those of the trust, and is a further evidence that their fight against that organization, preventing a further advance in the price of empty capsules, is appreciated by the trade. Their recent announcements in the Era have also quieted the reports circulated by interested parties that the Merz Co. were unable to manufacture goods and were out of business.

If you want your prescription work to show up to better advantage, if you have something to say and want it said agreeably and neatly, write to Fred N. Burt, Buffalo, N. Y., for samples of his labels and other printing which he does for druggists. His samples will give you a decidedly pleasant impression, and his work for you will act the same way on your customers.

Toilet paper, medicated with one of the best known remedies for hemorrhoids, is one of the special brands made by the Albany P. W. Paper Co., Albany, N. Y. It is put up in perforated rolls and pocket packets, and they also furnish leather pocket cases for carrying it. It ought to be a good seller, and you ought to have the catalogue describing it and giving prices on it.

Schulze-Berge & Koechl, 79 Murray street, New York, are sole agents for two kinds of goods, which are especially seasonable now. They are saccharine and the Lanolin toilet specialties. The former is constantly finding new uses as a sweetener, and the sales of the latter show a steady increase. The druggist should know all about these goods, and a simple request will bring him plenty of descriptive literature.

AVERY L. RAND } PAMPHLETS
Large Edition Printer. } CIRCULARS
Boston, May 31, 1895.

Flag Salt Remedy Co.,
Savannah, N. Y.

Dear Sirs: I thank you very much for your prompt remittance for the yellow circulars as well as for your order for half a million of the same circulars. It does my heart good to see a concern steadily increase their output of advertising matter as you have done, because it means progress, and indicates a measure of success; and I hope you will reap the full reward of all your efforts. Yours very truly, AVERY. L. RAND.

French, Cave & Co., of Philadelphia, exhibited a very full line of perfumes and pharmaceutical products (in charge of Mr. Cave) at the Pennsylvania State Pharmaceutical Association meeting, at Eaglesmere, June 18—20. Their display of perfumes was particularly fine, most of the goods being displayed in imported cut glass bottles of unique design and style. Souvenir sample bottles of "Sweet Chimes," their leading odor, were freely distributed to the ladies and members present. Prominent among their pharmaceutical products displayed were G. E. "Celery and Caffeine-Bromide, a full line of G. E. salts, syrup of Hydriodic acid, Hypophosphites comp., Comp. Ext. Sarsaparilla, Cod Liver Oil Emulsion, Blackberry Cordial," etc. They also exhibited a line of Toilet Water Essences for making toilet waters at moderate cost. Their essence of Violet, Florida, Lavender and Bay Laurel have an immense sale, and are in great demand all over the United States. Root Beer, in several styles of packages and fountain specialties were also features of their exhibit, and as a whole it was one of the most attractive and unique ever shown at any of the meetings.

Fluid Hydrastis (Merrell) is without exception the most convenient preparation of the drug in fluid form. The standard of medicinal strength is exactly the same as the official Fluid Extract, and may be properly and profitably substituted for it in all cases where the latter is specified, and in making tinctures, syrups and other compounds in which the Hydrastis enters, the Fluid Hydrastis is invaluable. The price $1.25 per pound net brings it within the reach of the druggist for all purposes.

The druggist cannot be too particular in selecting his wines, and Duroy & Haines, of Sandusky, O., offer him every possible facility for obtaining the best wines and passing the most critical judgment upon them before buying. Their samples are free to every druggist who wishes to make a comparison with a view to choosing the best, and with all keg orders they send enough samples so that he can convince his customers that they are the best. This double sampling is very convincing. Try it.

Talcott, Frisbie & Co., of Hartford, Conn., some time ago made a "Royal Offer" on a line of pharmaceutical preparations, which attracted considerable attention on account of the exceptionally low prices quoted. In fact they received responses to their offer from nearly every State in the Union, and even Indian Territory. They repeat the offer in this issue, and the prices are worth studying. To give an idea of the quality of their goods they offer to send one pint Bay Rum and one pint pure Extract of Vanilla, made from selected beans—no Tonka—no coloring, for an 85 cent postal order. This firm is an old-established and reliable wholesale drug house, and their representations may be relied upon.

Calalogues, Price Lists, Etc., Received.

Larkin & Scheffer, St. Louis.
J. L. Hopkins & Co., New York.
E. F. Kirwan Mfg. Co., Baltimore.
F. C. Lord, Boston.
Royal Chemical Co., New York.
D. B. Crockett Co., Bridgeport, Conn.
Boston Pen Co., Boston.
H. P. Emerson & Co., Boston.
Williamson Wire Novelty Co., Newark, N. J.
Nicol & Co., Chicago.
McCoy, Howe & Co., Indianapolis.
H. L. Collins Co., St. Paul, Minn.
Cutler & Nelison Paint & Color Co., Kansas City.
Myron E. Meyer Mfg. Co., Milwaukee.
Franklin Educational Co., Boston.
J. F. Lawrence Printing Co., Chicago.
S. A. Isley & Co., Brooklyn, N. Y.
George L. Thompson Mfg. Co., Chicago.
James P. Smith & Co., New York.
Springer Torsion Balance Co., New York.

The J. F. Lawrence Printing Co., Chicago, issue three catalognes, and their latest editions of these are very handsome publications, showing specimens of their labels, prescription blanks, etc., and prices on fine paper boxes.

The Franklin Educational Co., Boston and Chicago, make a specialty of chemical apparatus for college laboratories, schools and manufactories. The catalogue issued by them is very comprehensive and well arranged, listing many articles of their own manufacture as well as standard goods of foreign production.

When a physician prescribes whiskey he usually puts the quantity at 4 ounces, and if he has had experience with a good article he specifies "Clarke's Pure Rye." The druggist can sell this brand easiest and make the most money handling it. It is put up in 4-ounce bottles in handsome cartons, easy to carry and easy to hand out. One-half gross in a case, and it costs $18 per gross. Customers are always willing to pay a good price for Clarke's.

It takes at least two people to produce a first-class advertisement. They are yourself and the printer. It is not far from the mark to say that the printer ought to be the smarter of the two. He has to do his work in such a manner as to attract other people to examine yours. If you write good convincing advertisements, the best printer ought to get your work. If you don't write that kind he ought all the more to have your patronage. If in doubt about printers, look at the advertisement of the Lotus Press in this issue.

At the annual convention of the National Association of Chiefs of Police, the following report was handed in by the Committee on Disinfectants: "In the matter of disinfectants, your committee would recommend their constant use in all public institutions, and especially all places where prisoners are confined, either temporarily or permanently." Chloro-Naphtholeum, manufactured by the West Disinfecting Co., of New York and Cleveland, O., was recommended by the committee as the best adapted for use in station houses and the police departments of the country.

Another St. Louis Injunction Suit.

St. Louis, July 12.—Another injunction suit of importance to the drug trade was filed in the Circuit Court of this city on the 11th inst., by the J. A. Pozzoni Medicated Complexion Powder Company, of St. Louis, against A. F. Hermann, also of St. Louis, who, it is alleged, is manufacturing and offering for sale cosmetics put up in a style calculated to make the public believe it is getting the goods of the Pozzoni Company. The plaintiff also alleges that Hermann advertises himself as the former vice-president and chemist of the Pozzoni Company, whereas, it is claimed, he never was the chemist of the company, and held the office of vice-president only for one month, and then only nominally, in the absence of any suitable person for the place. The plaintiffs further allege that Hermann is selling his goods on the strength of the Pozzoni Company's advertisements, and that they have consequently lost more or less profits which would have accrued otherwise. The company wants Hermann restrained from selling any more goods, and also want him to give an accounting for the losses sustained. The case will come up for trial on July 15.

George C. Paulus, the druggist at Pestalozzi and Indiana avenues, St. Louis, has been rather seriously ill for some time. His illness, however, is not thought to be dangerous.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Ipecac, Oils Cassia, Citronella and Peppermint.
Declined: Alcohol, American Saffron, Guarana, Menthol, Quicksilver.

New York, July 16, 1895.

The general business situation in the various mercantile departments is characterized as seasonably quiet, and the drug trade is no exception, but it would be misleading to state that the market is unusually dull. Considering the time of year and the fact that there is nothing in the way of epidemics to create a demand for remedies, the current movement is very satisfactory and considerably in excess of previous corresponding periods. Semi-annual settlements and stock-taking are practically completed, and everything seems to be in order for the next campaign, which promises to develop a degree of activity that will eclipse any improvement made since the return to prosperous conditions. Meanwhile the consuming trade will probably continue to pursue its conservative policy, thereby keeping the financial end of affairs upon a sound and healthy basis. In a market where everything seems to be running with apparent smoothness, the speculative element is liable to creep in and interfere with legitimate trade; a word of caution is therefore in order, and it behooves all interested to avoid the shoals and quicksands of speculation. The lessons of the past are yet fresh in the memory of many in the drug trade, particularly those who thought they foresaw great returns from investments in opium and quinine, but there are others not so long in business, to whom a timely warning may be of value, and it is to be hoped that they will profit by the bitter experience of their confrères.

OPIUM.—Consumers' wants have been light, and the market has ruled quiet, with the tone rather easy. The prices quoted last week are yet current among the majority of holders, but a concession of 2½ cents per lb. has been granted in some instances, where single cases have been wanted by close buyers. There is no longer any doubt concerning the crop now being harvested, and the most conservative estimates place the extent of the output at figures considerably in excess of the usual average. Rumors are current that an extensive speculative movement is in contemplation, but nothing positive has yet developed. Values at primary markets are slightly above the parity here, and offerings for future delivery are consequently receiving very little attention.

POWDERED OPIUM shows no further quotable change, and the market has been inactive, with the tone easy in sympathy with the gum.

MORPHINE.—The business in progress is of moderate volume, and manufacturers' prices remain unchanged, but the market is somewhat unsettled, owing to the influences effecting all products of opium.

QUININE.—A continued strong market is noted for this article with a fairly active movement into channels of consumption, but the anticipated advance by manufacturers has not yet materialized. The statistical position is being studied with considerable interest and the following facts have been gathered: The arrivals here for the first 6 months of the current year are fully 1,000,000 ounces less than for the same time in either 1894 or 1893, the stock in London on the first inst. was over 800,000 ozs. less than on the same date last year, and there is very little here in second hands, all indicating, from the dealer's standpoint, that the situation is nearer to being controlled by manufacturers than for many years.

ALCOHOL has further declined 1 cent per gallon, partly due to lower quotations for grain, but chiefly the result of continued competition between the various distilling interests.

BALSAMS.—There is a continued quiet market for Tolu and Peru, but prices have a fairly steady support. Copaiba is active, but in a jobbing way only, the parcels recently arrived to first hands being unsold. Canada fir is in better demand for consumption, but the tendency of values continues in buyers' favor.

CHAMOMILE FLOWERS. — New crop German and Hungarian are beginning to arrive, and a good business is reported at steady prices.

CAMPHOR is rather quiet, the active demand having subsided, but local refiners adhere firmly to full previous quotations, although concentrated is offering from Philadelphia at a decline of 4 cents per lb. The crude article abroad has further advanced, and there is nothing in the general situation favoring an easier market.

COD LIVER OIL. — Strictly prime grades are held firmly, but there is said to be some oil of questionable quality offering to unsophisticated buyers, at comparatively low prices.

CASSIA OIL.—The spot stock is very much reduced, and the tone of the market is stronger, quotations showing an advance of 10@15c. per lb.

CITRONELLA OIL continues to improve, owing to increasing scarcity, and prices have been further advanced 5c. per lb.

OIL PEPPERMINT is again 10c. per lb. higher; there is a good inquiry, but business is somewhat restricted by the extreme views of holders.

AMERICAN SAFFRON.—This article has developed a decidedly unsettled and irregular condition, owing to unexpected large arrivals. A new competitor has entered the field, and the first move was to drop the price 7c. per lb. The former principal holders are meeting the competition, and it is claimed that they will shade any figure named by the new seller. It is also stated that the high prices realized during the past two years have stimulated production, and that the shipments from Mexico are likely to be in excess of consumers' requirements.

GUARANA is easier, and 2½c. per lb. lower, but the decline has not resulted in increased activity.

LAUREL LEAVES are fractionally higher, owing to an advance in the primary market due to a lessened output by reason of frost damage during the early spring.

MENTHOL is in limited demand, and easy, with values about 10c. per lb. lower.

QUICKSILVER has declined in London, and prices here have been reduced 1c. per lb.

IPECACUANHA has further improved under the influences noted in our last issue, and all desirable grades are fully 5 cents per lb. higher, but there is no demand of consequence and the change in prices is wholly in sympathy with the movement in London.

London Market Report.

London, July 6, 1895.

There is a sound undercurrent of business being done, but the approach of the general election will naturally depress things for a month or so. Very little change of any sort is to be chronicled this week.

CAFFEINE is scarce as ever. 27s. is the spot price, but it could be bought only in 1-lb. parcels at that rate.

CAMPHOR, crude, still firm. Formosa and Japanese for September delivery 155s. to 157s. 6d. c. i. f. The English and foreign refiners have split, and the Germans are now offering at a 1d. reduction—bells and flowers, 1s. 8½d.

COCAINE.—Makers are still fighting each other. 14s. 6d. to 15s. per oz. is the probable price.

COD LIVER OIL. — Lofoden 170s. per bbl. of 25 gals.

COLOCYNTH.—Fair to good pale apple 2s. to 2s. 3d.

COPAIBA.—Good bright Maranham 1s. 10d., Para, 1s. 8d.

ETHER.—Advanced. Sulphuric, .725, 30s. 6d. per cwt., f. o. b., Hamburg.

IPECACUANHA.—Rio higher at 4s. 3d. per lb.. Fair Carthagena 4s. per lb., and supplies seem low.

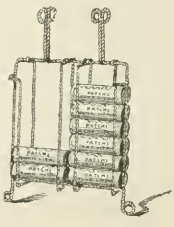
JALAP.—Fair Vera Cruz, 1s. per lb.

KOLA.—Fresh nuts, 5½d. per lb.

POTASH PERMANGANATE.—Firm at 54s. for small, and 59s. per cwt. for large crystals.

QUININE.—Shading down. B. and S. 12½d. per oz.

This is just the thing upon which to display dozens of things which the druggist must keep. It gives the customer a better chance to inspect the goods. It is made of bright wire, can be kept clean, and will last indefinitely. It is made by the Philadelphia Ornamental Wire Co., 18 N. Sixth street, Philadelphia, who also make dozens of other designs. Send for their catalogue.



OF PHARM.
RAFO ST. E.
TORO

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NEW EDITION OF THE ERA DRUGGISTS DIRECTORY.

In answer to many inquiries, we beg to advise the trade that we are now at work upon the revision of the names for a new edition of the Era Druggists-Directory, which will be issued in a few months, the exact date to be announced later.

Since the last edition of this Directory was issued (January, 1894) there have been an unusually large number of changes in proprietors of drug stores, many stores discontinued and many new ones opened. The names for this new edition will be compiled by a direct canvass of the entire trade, and no efforts or expense will be spared to make it the most reliable Directory of this trade as yet issued. The present classification of material will be continued, viz.:

Part 1. Wholesale Druggists only.

Part 2. Retail Druggists in United States and Canada.

Part 3. Manufacturers.

Part 2 of this Directory is used very largely by Manufacturers and Jobbers for sending out their announcements to the trade. We are particularly anxious to have the list complete and accurate in every particular, and especially desire to prevent any names of persons or firms from getting into the list who are not entitled to buy goods at retail druggists' prices. This refers particularly to physicians and dealers in other lines. We hope for the hearty co-operation of the drug trade, to enable us to make this part a reliable list of these retail drug dealers.

Manufacturers, Jobbers and others, who will require copies of this new edition, are requested to send in their orders promptly. The price will be as usual, $5.00 per copy, postage paid.

D. O. HAYNES & CO., Publishers.

DECISIONS BEARING ON FREE ALCOHOL CASES.

Section 61, Act of Aug. 28, 1894, reads as follows:

"Any manufacturer finding it necessary to use alcohol in the arts or in any medicinal or other like compound, may use the same under regulations to be prescribed by the Secretary of the Treasury, and on satisfying the Collector of Internal Revenue for the district wherein he resides or carries on business that he has complied with such regulations, and has used such alcohol therein, and exhibiting and delivering up the stamps which show that a tax has been paid thereon, shall be entitled to receive from the Treasury of the United States a rebate of payment of the tax so paid."

So much interest is being aroused, though tardily, among retail druggists regarding the probability of securing the rebate of tax paid upon alcohol used in the manufacture of medicinal compounds, in accordance with the provisions of the act above quoted, that it seems desirable to make a brief presentment of the laws, precedents and arguments which will undoubtedly be instanced in the trial of the test cases to come before the Court of Claims in the third week of October next. Hundreds of claims for rebate have been filed with the Court of Claims owing to the failure of the Secretary of the Treasury to prescribe the regulations referred to. Two cases, those of Sharp & Dohme, and Dunlap, in which the evidence has already been heard and which covers quite completely all phases of the law, will undoubtedly be heard among the first as test cases. There is a possibility, however, that the case of Huyler, the confectioner, will be heard first, to determine the question whether it is necessary to present the revenue stamps either to the collector before making a claim, or to the Court of Claims as a part of the evidence.

Arguments on Failure to Make Regulations.—The attorneys for the various claimants have of course done much work in collecting precedents and authorities which may have a possible bearing upon the cases. To show that claimants' rights are not impaired through failure of the Secretary to formulate regulations, one claimant cites the case of Campbell vs. the United States, wherein claim was made for a drawback allowed by statute, and regulations had been made by the Treasury Department, but payment was ordered withheld by the Secretary of the Treasury. The defense was that the United States was not obliged to pay until the customs officers complied with all the regulations of the Secretary, and until the collector had issued the drawback certificates. In its reply the court said:

"It would be a curious thing to hold that Congress, after clearly defining the right of the importer to receive drawback upon subsequent exportation of the imported article on which he had paid duty, had empowered the Secretary by regulations which might be proper to secure the Government against fraud, to defeat totally the right which Congress had granted. If the regulations of themselves worked such a result no court would hesitate to hold them invalid as being altogether unreasonable. Neither the act of Congress nor any rule of construction known to us makes the claimant's right, when the facts on which it depends are clearly established, to turn upon the view which the collector or the Secretary, or both combined, may entertain of the law upon the subject, and much less upon their arbitrary refusal to perform the services which the law imposes on them."

While the facts in this case differ from those in the one under consideration, it is held that the decision of the court covers the case.

But the principle is upheld in another decision relative to overflowed and swamp lands. The law required the Secretary of the Interior to make lists of such lands, transmit them to the Governors of the several States, and at their request to grant a patent vesting the fee in the State. This duty was neglected by the Secretary, but in subsequent litigation over the title to such land it was held that the grantees of the State had a right to identify the lands by any other appropriate mode which would effect that object.

The claimants in the alcohol cases aver as a deduction from these decisions that,

"If the Secretary has not made regulations, and the collector has not had oversight of the manufacture as contemplated by law, the action of these officers can only be construed as a waiver of the rights given them by law, and as leaving the manufacturers free to conduct their business according to their own judgment, and to recover in this court all the rebate they are entitled to. We hold that the failure of the Secretary to make regulations cannot have affected the rights of the claimant, for the reason that those rights are legal rights, granted by law and only to be taken away by the law-making power."

The Old Stamp Law.—The old law upon the matter of revenue stamps, which was not repealed by the enactment of section 61 of the new tariff act, reads as follows:

"Sec. 3324. Every person who empties or draws off, or causes to be emptied or drawn off, any distilled spirits from a cask or package, bearing any mark, brand or stamp, required by law, shall, at the time of emptying such cask or

package, efface and obliterate said mark, stamp or brand. Every such cask or package from which said mark, brand or stamp is not effaced and obliterated as herein required, shall be forfeited to the United States, and may be seized by any officer of internal revenue wherever found. And every railroad company or other transportation company, or person who receives or transports, or has in possession with intent to transport, or with intent to cause or procure to be transported, any such empty cask or package, or any part thereof, having thereon any brand, mark or stamp required by law to be placed on any cask or package containing distilled spirits, shall forfeit $300 for each such cask or package, or any part thereof so received or transported, or had in possession with the intent aforesaid; and every boat, railroad car, cart, dray, wagon or other vehicle and all horses and other animals used in carrying or transporting the same shall be forfeited to the United States. Every person who fails to efface and obliterate said mark, stamp or brand, at the time of emptying such cask or package, or who receives any such cask or package, or any part thereof, with the intent aforesaid, or who transports the same, or knowingly aids or assists therein, or who removes any stamp provided by law from any cask or package containing, or which had contained, distilled spirits, without defacing and destroying the same at the time of such removal, or who aids to assist therein, or who had in his possession any such stamp so removed as aforesaid, or has in his possession any canceled stamp, or any stamp which has been used, or purports to have been used, upon any cask or package of distilled spirits, shall be deemed guilty of a felony, and shall be fined not less than $500, nor more than $10,000, and imprisoned not less than one year nor more than five years."

Are Stamps Necessary?—In the case of Hayler, the claimant will endeavor to show that the previous refusal of internal revenue collectors at several points in the country to receive stamps when tendered, and the published official utterances of the authorities, relieve claimants from further necessity of either presenting stamps to collectors or to the Court of Claims. The attorneys in the case will cite the case of the United States vs. Lee, 16 Otto, 196-251 In this case, United States commissioners, acting under special statutes, promulgated a regulation that they would thereafter receive taxes on certain lands in Virginia only from the owners of the land, and from no one else. As the result of this ruling the taxes on what is now known as the Arlington estate, then in the possession of the Lee family, were not paid, and the property was sold under due process of law, and bought in by the United States. Subsequently the Lees brought suit to recover their property, and the Supreme Court of the United States decided the case in their favor. In delivering the opinion in this case Justice Miller said:

"The commissioners themselves having established and acted upon a rule that payment of the taxes after advertisement would be received from no one but the owner of the land appearing in person to pay them, that if offered by his tenant, his agent or his attorney in fact duly appointed, it would be rejected, it would be an idle ceremony for any of these to make the offer, and an actual tender by such persons, as it would certainly not be accepted, need not be made. That the commissioners having, in the execution of the law, acted upon a rule which deprived the owner of the land of an important right, a right which went to the root of the matter, a right which has in no instance known to us or cited by counsel been refused to a taxpayer, the sale made under such circumstances is invalid, as much so as if the tax had been actually paid or tendered."

As a result of this decision the court evolved the following general proposition:

"It is a general rule that when the tender or performance of an act is necessary to the establishment of any right against another party this tender or offer to perform is waived or becomes unnecessary when it is reasonably certain that the offer will be refused."

In another case, that of the United States vs. Knox, 128 U. S. 230, the Supreme Court said:

"Under revised Statutes 846, requiring accounts of commissioners and others to be examined and certified by the District Judge before they are presented to the Treasury Department for settlement and making no provisions for a refusal by the court to act upon such claims, on such refusal the claimant is not required to present his claim to the Treasury Department before bringing suit in the Court of Claims."

Position of Treasury Department.—The following extract from a letter from Commissioner Miller to Secretary Carlisle published in the Finance Report for 1894, gives the reasons which may be assumed to have influenced the Secretary in his failure to formulate regulations. Mr. Miller says:

"Section 61 provides that where alcohol is used under regulations to be prescribed, the manufacturers using the same shall be entitled to a rebate on 'exhibiting and delivering up the stamps which show that the tax has been paid thereon.'

"Section 3324 provides that every person who empties or draws off any distilled spirits from a cask or package bearing any mark, brand or stamp required by law shall, at the time of emptying such cask or package, efface and obliterate the said mark, stamp or brand. . . In view of these provisions of law the question has arisen, how are the stamps essential to the payment of the tax on the alcohol used by the manufacturer to be exhibited and delivered, as required by Section 61?

"The provisions of sections 3322 and 3324 are relied upon more than any other sections of the internal revenue law for protection against the fraudulent use of packages containing distilled spirits and of the reuse of the tax-paid stamps affixed thereto. Any exemption from the provisions of these sections in favor of persons using or pretending to use alcohol under section 61 would greatly impair these necessary safeguards. Indeed, if the use of alcohol under section 61 extends over a large section of the country, as will undoubtedly be the case, such exemption would, in my judgment, render such safeguards practically useless so far as the tax on alcohol is concerned.

"In view of this fact, and the dangerous opportunities which the manufacturers or other persons applying for such rebate of tax would have for fraudulently disposing of the spirits on which such rebate is claimed, and the further fact that no appropriation appears to have been made by Congress for the payment of such rebate, I would suggest whether it would not be advisable to delay the issuing of the proposed regulations until the attention of Congress has been called to this matter, with a view of securing either a repeal of said section 61 or additional legislation on the subject."

From the above it may be judged how knotty are the questions to be decided by the Court of Claims. The methods pursued in taking evidence in the Sharp & Dohme and Dunlap cases indicate that the Government will insist upon a most complete identification of the stamps, also a clear and absolute identification of the alcohol used, and it is suggested that the prospective claimant take all precautions in handling alcohol upon which he intends to make a claim, in such a manner as to present an unbroken chain of evidence and identity which will satisfy an ordinary court at law. It is impossible to tell what evidence will be needed to win cases in the Court of Claims until these test cases are decided, and with our legal facilities it may be possible for the Government to stave off a final decision for a year or two. The methods which ordinary legal prudence would suggest were very fully detailed in our last issue.

In view of the probability that the law will be upheld and its enforcement ordered, the retail druggists should no longer delay taking such steps as will put them in a position to claim and to receive the rebate of tax.

COLLEGE DEGREES.

A short time since we had something to say regarding the institution by several colleges of pharmacy of new degrees for their graduates, and specially criticised their action in granting the degree of Pharmaceutical Chemist to students as a title lower than the customary Ph. G. degree. Ph. C. has been conferred for many years by certain University schools of pharmacy, and represents hard work several times greater in amount than that which is now prescribed by the colleges of pharmacy indicated. The present holders of the Ph. C. degree therefore protest, and very justly, against the cheapening of their honors resulting from granting the degree for far less attainment. The graduate of a college of pharmacy is not a "pharmaceutical chemist," in fact, he knows but very little about practical chemistry, and could not make a reliable qualitative analysis, to say nothing of quantitative estimations and proximate and ultimate organic determinations. He cannot do this, because he has not been taught, and it is not right that he should possess a title which is so misleading with respect to his qualifications. In this connection we find very pertinent the remarks of Prof. A. B. Prescott, who says, in a paper read last week before the Michigan Pharmaceutical Association:

"A college of pharmacy course with but slight laboratory training, and that taken, or not taken, wholly or mainly at the option of the student, can never confer a Ph. C. of repute, in comparison with the degree given by the university schools of pharmacy. It is the solid laboratory training, holding the student from morning to night through college years of full nine months, that has made the college diploma of pharmaceutical chemist a coveted title in the United

States. The university schools need have no fear that the honor and practical credit of this title can be borrowed by schools who propose to graduate pharmaceutical chemists upon three winters of lectures, mainly in the evening, the laboratory being about as "advisory" as the Latin for entrance in an old-time medical college, and the commencement coming in March. Where the work that has given meaning to the degree is taken out of it, there it will have no more value than another degree in pharmacy. To be sure, it is an acceptable proof of the value the title has gained that it is even so tardily appreciated, but it must surely be known by this time that it takes something besides the absence of the apprenticeship requirement in college to make a 'pharmaceutical chemist.'"

Department Store Buying.

As an illustration of the extraordinary buying powers of department stores the following circular sent out by one of those doing business in this city is quoted:

"To Manufacturers and Importers: At the end of every season we close out the stocks of hundreds of manufacturers. This year our buildings and business are more than twice last year's size, and we are willing to buy three or four times more stocks than ever before in the history of our business.

"Conditions.—First—Goods offered must be all this season's production, of standard quality and perfect. Second—It is useless to offer us complete stocks unless you are willing to sacrifice prices. Our fifty experienced buyers will look at samples every forenoon. If so disposed, you may begin negotiations at once."

There is nothing illegitimate or unbusinesslike about the circular, although the words "sacrifice prices" are quite significant when their effect upon ordinary competition, and the manufacturer who is pressed for ready money, is considered. This is cutting from the fountain head, and who can withstand it?

Spiritualism and Patent Medicines.

The alliterative title "Rogers' Royal Remedies" is recalled by a recent story in the New York Herald, which gives a very strong hint of the amount of faith necessary to float a patent medicine concern, both on the part of users of the medicines and those who furnish the means for exploiting them. From a report coming from Easton, Mass., it appears that H. A. Rogers, the former head of the defunct R. R. R. Co., was able to "call up" a spirit who represented himself as the friend and companion in the spirit world of a Mr. Draper, of that village, who died ten years ago. Through the advice of this spirit, who called himself "Esmond," the widow of Mr. Draper was prevailed upon to part with $95,000 for the purpose of manufacturing and selling the "Royal" remedies. The old story of success at first, soon followed by mortgages and bankruptcy, was repeated in this instance, and at present the widow is penniless, and Rogers is reported to be living "out West" somewhere in quite comfortable style.

O. E. Thomas, Ph. G., Columbia, S. C.—Your weekly is a valuable contribution to the pharmaceutical literature of the present day, and no druggist who desires success can afford to neglect reading it. Your course of lectures now being printed from week to week are admirable and merit the attention of all educated pharmacists.

PRACTICAL HINTS.

Most of the following hints and suggestions are gleaned from the columns of our exchanges. They are worth consideration:

——A druggist may think he can wait upon two or three customers at once, charge their accounts and keep everything straight, but it takes a wonderful head to do it.

——Careful attention to the details of business contributes a great deal to the success of the retail druggist. A neglect of these is often one of the causes of failure.

——In your plans for next year, include the excellent purpose of increasing your current literature, and add new books to your library of reference. There is no way in which you can better invest twenty-five or more dollars.

——Many druggists lose hundreds of dollars annually through a defective memory. A failure to make a charge at once for goods is often likely to result in loss or an error, and a disputed account is something a good merchant invariably endeavors to avoid.

——Fraud entirely destroys all agreements. Misrepresentation of important facts by one party entitles the other to refuse to be bound. When agreements are made for the sale of goods by sample, the goods delivered must correspond with the sample, or the buyer is not bound. An alteration in the date of an agreement destroys it.

——If a druggist does not have time to go to his desk and charge up the goods sold to each customer, he should have a small memorandum book always at hand, in which to make a note of the things purchased and price paid for them. It is not very much trouble for him to do this, and it will repay him many times the extra labor it imposes on him before the end of the year.

——It is not only important to find out exactly what a customer wants, but it is quite as necessary to find out how it is wanted. This is especially the case with drugs which the pharmacist designates as crystals, ground, powdered, etc. These terms do not always have the same significance with the laity as with the drug trade, and nothing can exceed the indignation of the former when a package of some ground drug or chemical is received when a finely powdered product is wanted, or vice versa. It is better from a financial standpoint to find out just what a customer wants, even at the risk of losing a sale because the article in stock is not in the exact shape wanted.

——A bad policy is to forget to deliver goods at specified hours. Often, by trusting to his memory, the druggist or clerk overlooks the matter, and the customer is put to great annoyance and inconvenience because the goods fail to materialize. It taxes the patience of the housekeeper to be compelled to send twice for goods. A merchant or clerk should never promise to do anything at a given time unless he knows very well he can perform it, and when he agrees to perform any office of the character referred to he should not allow it, under any circumstances, to slip from his memory. Therefore, in writing out an order which is to be delivered, make a memorandum of the time of delivering, and have the goods at their destination on or before the hour when they are expected.

Making and Advertising Inks.

Of course the druggist can make ink. But everybody does not know this. Most people think it has to be made in an ink factory and hauled by a railroad company before it is fit to use. The druggist who wishes to counteract this impression has simply to tell people that he can make ink, and while he is about it he might tell them by way of emphasis that he can furnish a bigger bottle of his own ink than can be furnished for the same money by dealers in factory ink. He can use some of the latter in figuring on the cost of bottles, ink, corks and labels, and then compare the prices with those he pays for the proprietary brands. He need not count his labor in manufacturing, for his spare moments cost him just as much in idleness as in ink making. The druggist who has no time to "fuss" with such things should not, of course, neglect

INK — BLACK RED VIOLET BLUE YELLOW GREEN

INK — WRITING, INDELIBLE, COPYING, MARKING, SYMPATHETIC, ETC.

INK — FOR RUBBER STAMPS, STENCILS, MARKING LEATHER, TIN, GLASS, PACKAGES, SHOW-CARDS, ETC.

Ink is a result of chemical action Our drug stock includes all kinds of chemicals, therefore we make all kinds of ink.

Our common school ink sells at the common price, 5 cents, but the bottle is the largest in town.

Our document ink is of the unchangeable kind. If you want a permanent record, use it. 4-oz. bottle, 25 cents.

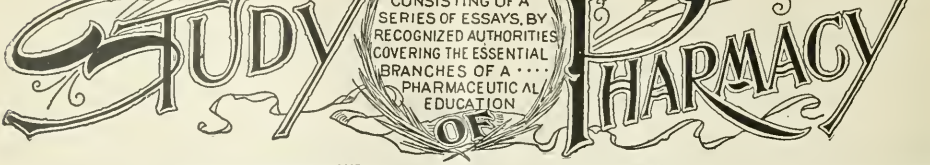
In case of mistakes or accidents use our Chemical Ink Eraser—10 cents.

Special prices on inks in pints, quarts and gallons, and to School Boards.

KNIGHT & DAY, Druggists.

regular business for ink business, in fact, with this class, it does not make much difference whether they sell ink or not.

There are plenty of ink formulas in existence with which first-class inks can be made, competing in quality with any of the cheap goods upon the market. The retailer can make these cheaper than he can buy them, and thus increase his regular profit, or he can give a larger quantity of ink, with a view of attracting trade. The same rule applies to the finer qualities of inks and the profits are greater in proportion. As regards the expense (advertising) of telling people that he can make ink, the druggist can consistently charge part of it to the value received in having one phase of his chemical ability made known in the neighborhood. A few sales of fine inks to particular people will aid his general business, and other sales to large users, such as schools, etc., will in time yield a return for the expense of advertising. Formulas which will aid the druggist in carrying out any of the suggestions contained in the sample advertisement are presented on another page of this issue.



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[Continued from page 73, July 18.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XIX. INORGANIC PHARMACY.

(Continued.)

By Virgil Coblentz, Ph. G., A. M., Phil. D.

THE ALKALIES AND THEIR COMPOUNDS.

Potassium, Sodium, Lithium and Ammonium.

The alkalies possess the following general characteristics:

They combine with acids to form salts, which may be of acid, neutral or alkaline reaction, according to the proportion of the combined acid. They turn red litmus paper blue, change vegetable blues to green and yellow to brown. Their hydrates possess very strong basic properties, are very soluble in water; also combine with fats and oils to form compounds called soaps (saponification), and are known as "caustic alkalies." Their salts are crystallizable and as a rule soluble in water. Only the more important official compounds of the alkalies will be taken up.

The Potassium Compounds.

The chief sources of potassium compounds are the Stassfurter mines, where they are found in various combinations, as potassium chloride (sylvin), potassium magnesium chloride (carnallite), etc.

POTASSA, U. S. P. (Potassium Hydrate or Hydroxide), KOH.—Obtained by decomposing a solution of potassium carbonate by means of freshly slaked lime ($K_2CO_3 + Ca(OH)_2 = 2KOH + CaCO_3$), filtering off the precipitated calcium carbonate, evaporating the filtrate down to dryness, fusing and moulding into cakes or sticks. It is extremely deliquescent, hence should be kept in well closed bottles hermetically sealed. The principal impurities are calcium carbonate, silica and soda. Potassa by Alcohol is a term employed to designate pure caustic potassa, obtained by solution of the commercial article in alcohol, whereby the insoluble impurities, as silica, calcium salts, etc., remain undissolved. The presence of more than 1.5 per cent. of soda is ascertained according to the U. S. P., by first exactly neutralizing 0.56 gm. of the sample with tartaric acid T. S., forming neutral potassium tartrate ($2KOH + H_2C_4H_4O_6 = K_2C_4H_4O_6 + 2H_2O$). The addition of a second like quantity of tartaric acid followed by alcohol causes the acid potassium tartrate to precipitate while the corresponding sodium salt ($NaHC_4H_4O_6$) remains in solution ($K_2C_4H_4O_6 + H_2C_4H_4O_6 = 2KHC_4H_4O_6$). This is filtered off and to the filtrate, which contains all of the sodium as acid tartrate, normal potassium hydrate is added, requiring not more than 0.2 cc. for neutralization if not more than 1.5 per cent. of the sodium salt be present, for as $KOH + NaHC_4H_4O_6 = KNaC_4H_4O_6 + H_2O$, then

1 cc. $\frac{N}{1}$ KOH V. S. (0.0559 gm.) = 0.040 gm. NaOH.

2 cc. KOH V. S. (2 × 0.0040) = 0.008 gm. NaOH.

0.008 gm. NaOH = 1.5 per cent. of 0.56 (0.0085), the quantity of KOH selected for experiment.

Potassa is used as a caustic and for preparing the volumetric solution of the U. S. P. For assay see "Estimation of Alkali Hydrates," also "Alkalimetry."

LIQUOR POTASSÆ, U. S. P.—Contains about 5 per cent. of the hydrate. This solution should be kept in glass-stoppered bottles, the stoppers of which should be well greased with petrolatum, otherwise they become tightly cemented in the neck of the bottle. Cork and rubber stoppers cause staining of the liquid. Liquor Potassæ is incompatible with solutions of the metals, alkaloids, acid solutions, etc. When swallowed accidentally the best antidotes are mild acids, as vinegar or lemon juice.

POTASSA CUM CALCE, U. S. P.—Made by rubbing together equal parts by weight of potassa and lime. Used as a caustic, preferable to the stick potassa.

POTASSA SULPHURATA, U. S. P. (Liver of Sulphur).—This is a mixture of various potassium sulphides, obtained by fusing together sublimed sulphur and potassium carbonate. This preparation should be dispensed in fresh condition, for on standing it readily decomposes into potassium sulphate and hyposulphite. The assay value of this preparation is based upon the proportion of sulphur combined as soluble potassium sulphides. One gramme of the preparation when triturated with 1 gm. of cryst. copper sulphate and water should yield a filtrate free from copper, showing that there is sufficient combined sulphur (12.85%) present to precipitate all of the copper added. Sulphurated potassa is employed externally in the preparation of lotions, ointments, etc.

POTASSII BICARBONAS, U. S. P. ($KHCO_3$).—Obtained by saturating a solution of the carbonate (K_2CO_3), with carbonic acid gas, evaporating and crystallizing ($K_2CO_3 + CO_2 + H_2O = 2KHCO_3$). This salt is employed in the official solution of magnesium citrate and other effervescing draughts. Because of its purity it is employed as a source of various potassium compounds used in pharmacy. For assay see "Estimation of Alkali Carbonates."

POTASSII BICHROMAS, U. S. P. ($K_2Cr_2O_7$).—Obtained from chrome iron ore ($FeOCr_2O_3$) by first roasting, then heating strongly with potassium chromate and lime, leaching out the potassium chromate ($KCrO_4$) formed, and converting into bichromate by treating with sulphuric acid ($2K_2CrO_4 + H_2SO_4 = K_2Cr_2O_7 + K_2SO_4 + H_2O$). Employed in preparing potassium dichromate V. S. (vide); also as an oxidizing agent in the preparation of various organic acids; also used in the preparation of chromic acid (CrO_3). Internally it is poisonous (above 0.013 gm.); as antidotes, soap, magnesia or chalk are suitable.

POTASSII BROMIDUM, U. S. P. (KBr).—This may be prepared by interaction between solutions of ferrous bromide and potassium carbonate ($FeBr_2 + K_2CO_3 = FeCO_3 + 2KBr$), filtering and evaporating to crystallization; or by adding bromine to a solution of potassa, producing potassium bromide and bromate ($KBrO_3$). The solution is evaporated to dryness and heated with charcoal to redness, whereby the bromate is deoxidized and converted into bromide ($2KBrO_3 + 3C_2 = 2KBr + 6CO$). The salt should be free from bromate, shown by absence of yellow color (Br), when diluted sulphuric acid is dropped upon crystals of the salt. Absence of more than 3 per cent. of chloride is ascertained by trituration with decinormal silver nitrate V. S., 0.5 gm. of the salt should not require more than 42.85 cc. of the silver solution. Since 118.8 gm. of KBr are required to precipitate 169.5 gm. of $AgNO_3$, 0.485 gm. (0.5 gm. less 0.015 (3%)) of KBr will require 0.692 gm. of $AgNO_3$ for complete precipitation. Also 0.015 gm. of KCl (3% of 0.5 gm.) require 0.034 gm. of $AgNO_3$ for precipitation, hence the sum of 0.692 gm. and 0.034 gm. will give the total amount of silver nitrate (0.726 gm. = 42.85 cc. $\frac{N}{10}$ V. S.) required under above conditions. The bromine and iodine in the alkali bromides and iodides may also be estimated gravimetrically, by adding a solution of silver nitrate to the boiling aqueous solution (slightly acidulated with nitric acid) until no further precipitation occurs. The precipitated silver bromide or iodide is col-

lected, washed and dried (105°-110° C.) on counterbalanced filters, until it ceases to lose weight. Then from the weight of the silver salt, the quantity of iodine or bromine is readily ascertained by calculation.

Potassium bromide contains about 67 per cent. of bromine.

The bromides are incompatible with solutions containing free chlorine, nitrous or nitric acid, bromine being liberated; if the solution is shaken with chloroform the bromine will be dissolved with a yellow color (test of identity).

POTASSII CARBONAS, U. S. P. (K_2CO_3).—Known commercially as "Sal Tartar," being made from pearl ash (impure potassium carbonate) by lixiviation, evaporating and granulating the product. The Pharmacopœia allows the presence of about 5 per cent. of impurities, such as sulphates, chlorides, silica, etc. Where a pure article is desired, the bicarbonate is heated, driving off water of crystallization and a portion of the carbon dioxide, thus: $2KHCO_3 = K_2CO_3 + CO_2 + H_2O$. For assay see "Estimation of Alkali Carbonates."

POTASSII CHLORAS, U. S. P. ($KClO_3$).—This is now prepared by interaction between solutions of potassium chloride and calcium hypochlorite with the assistance of heat, potassium chlorate crystallizing out, while the calcium chloride remains in solution. $3Ca(ClO)_2 + 2KCl = 2KClO_3 + 3CaCl_2$. Lately magnesium chloride has been substituted for calcium chloride, as the $KClO_3$ is less soluble in the former. When heated, the salt fuses and first decomposes into oxygen and potassium perchlorate ($2KClO_3 = KCl + KClO_4 + O_2$), finally at higher temperature, it resolves itself into oxygen and potassium chloride ($KClO_4 = KCl + 2O_2$). When heated with hydrochloric acid, chlorine gas is evolved, a convenient source for this gas ($KClO_3 + 6HCl = KCl + 3H_2O + 3Cl_2$). It should not be heated with sulphuric acid. For dispensing purposes the granulated salt is preferred, prepared from a hot solution, which is stirred constantly while cooling; when cold the granular precipitate is filtered off and carefully dried. The filtrate on evaporation to low bulk will yield a further portion of the salt. If it is necessary to filter the solution, it should be done in a hot jacketed funnel, otherwise the liquid becomes rapidly cold and crystallizes, thus impeding filtration.

Potassium chlorate should under no circumstances be triturated with readily oxidizable (organic) or combustible substances. When such a mixture is to be made, the substances should be separately powdered and then carefully mixed by means of a wooden or horn spatula without pressure.

POTASSII IODIDUM, U. S. P. (KI).—Upon treating a solution of potassa with a slight excess of iodine and evaporating to dryness, potassium iodide and iodate result ($6KOH + 3I_2 = 5KI + KIO_3 + 3H_2O$). In order to remove the iodate, which is poisonous, the dry mass is mixed with powdered charcoal and heated to dull redness, whereby the iodate is deoxidized ($2KIO_3 + 3C_2 = 2KI + 6CO$). The mass is exhausted with water, evaporated and crystallized. Potassium iodide usually contains a slight excess of alkali (as allowed by U. S. P.), because it is necessary on the part of the manufacturer to avoid discoloration of the product from the separation of free iodine. The presence of iodate is ascertained by adding to the solution, starch paste followed by a few drops of diluted sulphuric acid, a blue-colored solution resulting, the diluted acid liberating iodine from the iodate. For assay see "Decinormal Silver Nitrate V. S." Potassium iodide is sometimes adulterated with the bromide; this may be distinguished by the difference of solubility in alcohol or water, or more accurately Flückiger's test (U. S. P., p. 1101). This salt is a valuable solvent for iodine where it is necessary to employ it in aqueous solutions. It enters into Liquor Iodi Compositus and Unguentum Iodi. Potassium Iodide is incompatible with mixtures containing free chlorine, nitrous and nitric acids, salts of the metals, etc.

POTASSII PERMANGANAS, U. S. P. ($KMnO_4$).—Obtained by fusing together potassa, potassium chlorate and manganese dioxide, potassium manganate being formed; this on boiling with water is converted into potassium permanganate. This compound contains a large percentage of oxygen, with which it readily parts when brought in contact with organic or readily oxidizable substances; in many instances this takes place with explosive violence (glycerin, alcohol, etc.). Also because of this property of oxidizing organic matters it is a valuable disinfectant. It is administered internally in pill form with kaolin and petrolatum or similar non-oxidizable material as excipients. Chemically potassium permanganate is employed as an oxidizing agent and volumetric test solution (see "Decinormal Potassium Permanganate").

POTASSII ACETAS, U. S. P. ($KC_2H_3O_2$).—Prepared by nearly neutralizing acetic acid with potassium bicarbonate or carbonate, observing that the solution has a slight acid reaction before evaporating to dryness. This salt is very deliquescent, hence should be kept in securely closed receptacles. The impurities, such as silica, sulphates, chlorides, etc., arise from the employment of commercial potassium carbonate. When heated with sulphuric acid, the vapors of acetic acid are evolved; if alcohol be added before heating, then the odor of acetic ether ($C_2H_5C_2H_3O_2$) will be detected. Ferric chloride when added to its solution in water, causes a deep red color, due to the formation of ferric acetate.

For the assay of this salt, see "Estimation of Organic Salts of the Alkalies and Alkaline Earths."

POTASSII BITARTRAS, U. S. P. ($KHC_4H_4O_6$), Cream of Tartar.—This salt is prepared from argols, an impure acid potassium tartrate which is deposited in wine casks during the fermentation of grape juice. The argols are treated with boiling water, the impurities filtered off, the solution evaporated and crystallized. The commercial cream of tartar is very liable to be adulterated, hence the pharmacopœial qualitative tests and assay should be applied. For the latter see "Estimation of Organic Salts of the Alkalies." This salt is employed as the source of tartaric acid, also used in preparing tartar emetic, tartrate of iron and potassium, Rochelle salt and potassium tartrate. It enters into Pulvis Jalapæ Compositus.

POTASSII CITRAS, U. S. P. ($K_3C_6H_5O_7 + H_2O$).—Prepared by neutralizing a solution of citric acid with potassium bicarbonate, evaporating and granulating ($3KHCO_3 + H_3C_6H_5O_7 = K_3C_6H_5O_7 + 3H_2O + 3CO_2$). The presence of silica (when made from K_2CO_3) causes its solutions to deposit a gelatinous precipitate on standing. The presence of tartrate is ascertained by adding to its solution acetic acid, which causes the precipitation of acid potassium tartrate ($KHC_4H_4O_6$).

The Liquor Potassii Citratis is a 6 per cent. solution of citric acid saturated with potassium bicarbonate.

Potassii Citras Effervescens, U. S. P., is prepared by triturating in a warm mortar, a mixture of citric acid, potassium bicarbonate and sugar in powder form, drying and powdering.

POTASSII CYANIDUM, U. S. P. (KCN).—This is made by fusing together a mixture of potassium ferrocyanide and carbonate, pouring off from the precipitated iron and moulding into cakes or sticks.

$$\underset{\text{Potassium Ferrocyanide.}}{K_4Fe(CN)_6} + \underset{\text{Potassium Carbonate.}}{K_2CO_3} = 5\,KCN + \underset{\text{Potassium Cyanate.}}{KOCN} + CO_2 + Fe.$$

By this process potassium cyanate is formed; this may be avoided if charcoal is added before fusing.

$$K_4Fe(CN)_6 + K_2CO_3 + C = 6KCN + CO_2 + CO + Fe.$$

Only the granulated purified salt should be employed in medicine. Its fumes are poisonous when inhaled, likewise it is poisonous when taken internally, the dose being 0.008 gm. Because of its stability it is occasionally used as a substitute for hydrocyanic acid. For assay see "Estimation of Hydrocyanic Acid."

POTASSII FERROCYANIDUM, U. S. P. ($K_4Fe(CN)_6 + 3H_2O$), Yellow Prussiate of Potash.—This is made by adding to pearlash, fused in an iron pot, refuse animal (nitrogenated) matter such as leather scraps, horn, etc. The fused mass is lixiviated, evaporated and crystallized. This salt is employed as the source of the various cyanogen compounds. It is nonpoisonous if pure. It is employed as a test for ferric salts, producing the well known precipitate of Berlin blue.

$$\underset{\text{Potassium Ferrocyanide.}}{3K_4Fe(CN)_6} + \underset{\text{Ferric Chloride.}}{2Fe_2Cl_6} = \underset{\text{Ferri-ferro-cyanide.}}{Fe_4(Fe(CN)_6)_3} + 12KCl.$$

POTASSII ET SODII TARTRAS, U. S. P. ($KNaC_4H_4O_6 + 4H_2O$), Rochelle Salt.—This is made by saturating a solution of sodium carbonate with potassium bitartrate, evaporating and crystallizing $2KHC_4H_4O_6 + Na_2CO_3 = 2KNaC_4H_4O_6 + H_2O + CO_2$. It enters into Pulvis Effervescens Compositus. The method of assay is the same as that employed under potassium acetate, or acid potassium tartrate.

Preparations of the Halogens.

Chlorine.

AQUA CHLORI.—U. S. P. This is an aqueous solution of chlorine containing at least 0.4 per cent. of gas. It should be freshly prepared when required for use, since it rapidly undergoes decomposition; thus, $2Cl + H_2O = 2HCl + O$. As a ready means of ascertaining whether this decomposition has begun, or not, the pharmacopœia directs agitation of the sample with mercury, which unites with the free chlorine, leaving any hydrochloric acid which may be present free to be detected by litmus paper.

Chlorine water is employed in medicine as an antiseptic and disinfectant. It is incompatible with alkalies, silver and lead salts, tannin, infusions, emulsions, and tinctures, and liberates iodine and bromine from their salts. When prescribed in mixtures it should be added last. (In combinations containing alkali iodides and bromides it should not be dispensed.)

The chlorine strength of this preparation is ascertained indirectly by volumetric estimation. This is based on the fact that chlorine displaces an equivalent amount of iodine from potassium iodide, according to the equation:

$$\underset{\text{Potassium Iodide.}}{2KI} + \underset{\substack{\text{Chlorine.}\\ 2\times 35.3}}{2Cl} = \underset{\text{Potassium Chloride.}}{2KCl} + \underset{\substack{\text{Iodine.}\\ 2\times 126.5}}{2I.}$$

The liberated iodine is held in solution by the excess of potassium iodide. In order to ascertain the amount of liberated iodine, decinormal solution of sodium hyposulphite is run into this dark-colored solution until it is decolorized, according to the following equation:

$$\underset{\substack{\text{Iodine.}\\ 2\times 126.5\text{ pts.}\\ 126.5\text{ pts.}\\ 0.01265\text{ pt.}}}{2I} + \underset{\substack{\text{Sodium Hyposulphite.}\\ 2\times 247.6\text{ pts.}\\ 247.6\text{ pts.}\\ 0.0247\text{ pt.}}}{2(Na_2S_2O_3 + 5H_2O)} = \underset{\text{Sodium Tetrathionate.}}{Na_2S_4O_6} + \underset{\text{Sodium Iodide}}{2NaI} + \underset{\text{Water.}}{10H_2O.}$$

Since 1 c.c. of decinormal solution of sodium hyposulphite containing 0.0247 gm. of the salt, is equivalent to 0.01265 gm. of iodine, therefore 20 c.c. of the hyposulphite solution will be equivalent to $20 \times 0.01265 = 0.253$ gm. of iodine. Hence if one molecule of iodine is equivalent to one molecule of chlorine, 0.253 gm. of iodine will be equivalent to x grammes of chlorine. That is,

$$\begin{array}{ccccccc} I & & Cl & & I & & Cl \\ 253 & : & 70.6 & : : & 0.253 & : & x. \end{array}$$

$$x = 0.070 + \text{Gm. of Chlorine.}$$

If 17.7 gm. of aqua chlori, after having been subjected to the above test, yield 0.070 gm. of chlorine, it would then contain of the gas 17.7 : 0.07 : : 100 : x; x = 0.4 per cent. (approximately).

CALX CHLORATA. — U. S. P. — [Chloride of Lime, incorrect.] A compound obtained by the action of chlorine on calcium hydrate, and containing not less than 35 per cent. of available chlorine. The commercial article contains a mixture of calcium hypochlorite, chloride and hydrate. When treated with an acid chlorine gas is evolved. The assay value of chlorinated lime is determined in the same manner as that given for chlorine water. Care should be exercised in mixing this with ammonium chloride, for the explosive NCl_3 may be developed. Because of its available chlorine, it is employed chiefly as a disinfectant.

LIQUOR SODÆ CHLORATÆ (Solution of Chlorinated Soda.—Labarraque's Solution).—The value of this solution depends upon the amount of sodium hypochlorite present, which should yield, according to the U. S. Pharmacopœia, 2.6 per cent. by weight of available chlorine.

The reaction which takes place on mixing the solutions of chlorinated lime and sodium carbonate is most probably as follows:

$$\underset{\text{Chlorinated Lime.}}{Ca(OCl)_2} + CaCl_2 + \underset{\text{Sodium Carbonate.}}{2Na_2CO_3} = \underset{\text{Sodium Hypochlorite.}}{2NaOCl} + \underset{\text{Sodium Chloride.}}{2NaCl} + \underset{\text{Calcium Carbonate.}}{2CaCO_3}$$

Hot water is used for the purpose of rendering the precipitate of calcium carbonate as dense as possible, so that it may rapidly settle.

Labarraque's Solution is a superior disinfectant, but it is also employed as an antiseptic. When used as a wash it should be diluted with 5 to 10 parts of water. The addition of acids or acid salts to the solution causes it to give off chlorine gas.

It is incompatible with the iodides and bromides, causing a liberation of iodine or bromine; likewise incompatible with many metallic salts and many organic substances. A preparation analogous to this in every respect is the Liquor Potassæ Chloratæ, or Javelle water.

Assay.—The assay method is based on the fact that the chlorine liberates an equivalent amount of iodine from potassium iodide (the chlorine itself being set free by the addition of HCl); this liberated iodine is then estimated by means of decinormal sodium hyposulphite, V. S. If, then, we know how much iodine has been liberated, the amount of chlorine present is readily calculated.

On adding the hydrochloric acid to the solution, all of the available chlorine is liberated:

$$2NaOCl + 4HCl = 2NaCl + 2H_2O + Cl_2.$$

Then for every atom (35.3) of chlorine liberated, one atom (126.6) of iodine is set free from its combination in the potassium iodide; thus:

$$\underset{\substack{\text{Chlorine.}\\ 2\times 35.3}}{2Cl} + \underset{\substack{\text{Potassium Iodide.}\\ 2\times 126.6}}{2KI} = \underset{\text{Potassium Chloride.}}{2KCl} + \underset{\text{Iodine.}}{I_2}$$

Starch, added to the solution, is colored blue by the free iodine. To this solution is added, drop by drop, the decinormal solution of sodium hyposulphite, until the blue color disappears; thus:

$$\underset{\substack{\text{Sodium Hyposulphite.}\\ 2\times 247.6}}{2(Na_2S_2O_3.5H_2O)} + \underset{\substack{\text{Iodine.}\\ 2\times 126.6}}{I_2} = \underset{\text{Sodium Iodide.}}{2NaI} + \underset{\text{Sodium Tetrathionate.}}{Na_2S_4O_6} + \underset{\text{Water.}}{10H_2O}$$

Since 247.6 parts of hyposulphite are equivalent to 126.6 parts of iodine, and this is liberated by 35.3 parts of chlorine, one molecule of the hyposulphite is equivalent to one atom of chlorine.

$$\frac{2Na_2S_2O_3.5H_2O}{2\times 247.6} = \frac{2I}{2\times 126.6} = \frac{2Cl}{2\times 35.3}$$

or 247.6 p. = 126.6 p. = 35.3 p.

hence 247.6 p. . . . . 35.3 p.

1000 cc. of the Sodium Hyposulphite, V. S. = 24.76 gm. 3.53 gm.

1 cc. of the Sodium Hyposulphite, V. S. = 0.2476 gm. 0.03953 gm.

50 cc. = 50 × 0.03953 = 0.1765 gm. of Chlorine.

If 6.74 gm. of the solution were taken, and it were found to contain 0.1765 gm. of chlorine gas, then the per cent. of available chlorine would be [(0.1765 ÷ 0.74) × 100] = 2.6 + per cent.

Iodine.

LIQUOR IODI COMPOSITUS. — U. S. P.—(Lugol's Solution). This is a solution of iodine in potassium iodide and water. It is the best preparation adapted to the internal administration of iodine, as it does not precipitate when added to water. This solution is a valuable reagent in testing for the presence of alkaloids in solution, since the latter unite with the iodine, forming insoluble double salts. This fact should be remembered when Lugol's solution is directed to be added to any preparation containing an alkaloid.

Assay. — The amount of free iodine contained in this solution is estimated by titrating with decinormal solution of sodium hyposulphite in the presence of starch; the end of the reaction being known by the disappearence of the blue color. The reaction is given under decinormal Sodium Hyposulphite Solution.

TINCTURA IODI.—U. S. P.—What has been said concerning the incompatibles, and assay of the above preparation may be likewise applied here. Decolorized tincture of iodine is prepared by the addition of aqua ammoniæ and sodium hyposulphite to the alcoholic solution of iodine; the resulting solution contains no longer free iodine, but it is combined as ammonium and sodium iodide ($I_2 + Na_2S_2O_3 = 2NaI + Na_2S_4O_6$). On standing sodium tetrathionate ($Na_2S_4O_6$) separates and should be filtered off.

UNGUENTUM IODI.—U. S. P. The use of potassium iodide and water in this preparation is to bring the iodine into a state in which it can be thoroughly incorporated with the lard.

SYRUPUS ACIDI HYDRIODICI.—U. S. P. The hydriodic acid is developed by the reaction between the potassium iodide and tartaric acid ($KI + H_2C_4H_4O_6 = KHC_4H_4O_6 + HI$). The dilute alcohol is employed as a solvent and for assisting the precipitation of the potassium bitartrate, which is insoluble in this menstruum. The potassium hypophosphite serves as a preservative agent, preventing the decomposition of the hydriodic acid and the separation of iodine, brought about by the influence of light and air ($2HI + O = H_2O + I_2$). The reaction between the hypophosphite and the liberated iodine is as follows:

$$\underset{\substack{\text{Potassium}\\ \text{Hypophosphite.}}}{KH_2PO_2} + 4I + 2H_2O = \underset{\substack{\text{Phosphoric}\\ \text{Acid.}}}{KI + H_3PO_4} + \underset{\substack{\text{Hydriodic}\\ \text{Acid.}}}{3HI}$$

This syrup is incompatible with potassium chlorate, mineral acids and salts of the metals, because these liberate free iodine.

Assay.—In the U. S. P. process 31.88 gm. of the syrup are first neutralized exactly with ammonia water, ($HI + NH_3H_2O = NH_4I + H_2O$). This is done to avoid the liberation of free nitric acid, which would prevent the precipitation of

the silver iodide upon the addition of decinormal silver nitrate, V. S., thus: $AgNO_3 + HI = AgI + HNO_3$. After neutralization the reaction is,

$AgNO_3$ Silver Nitrate 165.5.	+	NH_4I Ammonium Iodide.	=	
AgI Silver Iodide.	+	NH_4NO_3 Ammonium Nitrate.		

Yellow potassium chromate is used as indicator, to show the end of the reaction. Since one molecule (169.5 p.) of silver nitrate is equivalent to one molecule (127.5 p.) of hydriodic acid, we have,

$AgNO_3$ Silver Nitrate		HI Hydriodic Acid
16.95 gm. (1000 cc. $\frac{N}{10}$ V. S.)	=	12.75 gm.
0.01695 gm. (1 cc. $\frac{N}{10}$ V. S.)	=	0.01275 gm.

25 cc. (U. S. P.) = 25 × 0.01275 = 0.3188 gm. of hydriodic acid = 1 per cent. of 31.88 gm. Therefore if 31.88 gm. of the sample required 25 cc. of the $\frac{N}{10}$ silver solution, the syrup is of the strength (HI) of 1 per cent.

Sulphur – Phosphorus.

Sulphur.

ROLL SULPHUR, or brimstone, is moulded impure sulphur.

SULPHUR SUBLIMATUM.—U. S. P.—(Flowers of Sulphur). This is obtained by sublimation. It is usually contaminated with small amounts of sulphur dioxide, occasionally traces of arsenic are found. The former is detected by acid reaction when shaken with water, the latter by washing the sulphur with ammonia water, acidulating with hydrochloric acid, and adding hydrogen sulphide T. S., yellow sulphide of arsenic separating.

SULPHUR LOTUM.—U. S. P. This is prepared by washing sublimed sulphur with ammonia water and water in order to remove the above-named impurities.

SULPHUR PRÆCIPITATUM.—U. S. P. On boiling together sulphur, slaked lime and water, the sulphur combines with the lime to form soluble polysulphides of calcium, which upon the addition of hydrochloric acid are decomposed, with the precipitation of free sulphur. The so-called "Milk" or "Lac Sulphur" is often prepared in a similar way, employing, however, sulphuric acid instead of hydrochloric, hence the product will be largely contaminated with calcium sulphate. This latter product should not be employed internally. Sulphur lotum enters into pulvis glycyrrhizæ compositum and unguentum sulphuris.

Phosphorus.

PHOSPHORUS.—U. S. P. This is obtained by distilling a mixture of calcium metaphosphate (from calcium phosphate + H_2SO_4) and charcoal, and collecting the distillate under water. Owing to its inflammable nature, it must always be kept in a strong bottle and well covered with water. To avoid danger of fracture, the bottle should be placed in a stone jar in a safe place. When wanted, it should be cut under water.

SPIRITUS PHOSPHORI.—U.S. P. This contains 0.12 per cent. of phosphorus dissolved in absolute alcohol.

ELIXIR PHOSPHORUS.—U. S. P. This is made from the spirit, and contains about ¼ of a milligramme of phosphorus in each cubic centimeter (about 1-64 grain to each fluid drachm).

OLEUM PHOSPHORATUM.—U. S. P. A 1 per cent. solution of phosphorus in expressed oil of almond.

PILULÆ PHOSPHORI.—U. S. P. Each pill contains 6-10 milligramme (1-100 grain) of phosphorus. The pills are coated with an ethereal tolu solution to protect the phosphorus from oxidation.

Carbon—Boron—Silicon.

Carbon.

CARBO ANIMALIS.—U. S. P.—(Animal Charcoal). This is prepared by subjecting bones to a red heat in closed vessels. It appears either as a fine powder called "Bone Black" or in granular condition, consisting of about 90 per cent. of calcium phosphate and carbonate and 10 per cent. of carbon. It is employed as a decolorizing agent (see Decolorization).

CARBO ANIMALIS PURIFICATUS—U. S. P. For many operations it is necessary that the calcium carbonate and bone phosphate be removed; this is accomplished by boiling with hydrochloric acid and water, leaving a residue of nearly pure carbon.

CARBO LIGNI. — U. S. P. (Wood Charcoal). This is obtained by heating wood to a high temperature in closed vessels, a by-product in the manufacture of acetic acid from wood. Powdered charcoal is employed as an absorbent and disinfectant, because of its property of absorbing gases (170 times its volume of NH_3; 55 times its volume of H_2S, etc.). For this reason it should be preserved in tightly-covered containers.

CARBONEI DISULPHIDUM.—U. S. P. Prepared by passing the vapors of sulphur through cylinders containing charcoal heated to redness, the resulting product being purified by agitation with mercury and redistillation. The unpleasant odor may be effectually removed by agitation with lead nitrate. Great caution should be observed in handling this, because of its extreme inflammability. Carbon bisulphide is used chiefly as a solvent for sulphur, phosphorus, rubber, fats, oils, resins, etc.

Boron.

Boron occurs in nature as boric acid (H_3BO_3).

ACIDUM BORICUM. — U. S. P. H_3BO_3.—The lagoons of Tuscany furnish the supply of boric acid, which is obtained by evaporation and crystallization. As test of identity the alcoholic or glycerin solution burns with a flame tinged with green. It is chiefly employed as an antiseptic and anti-ferment. When used as an antiseptic for dusting over sores, wounds, etc., only the finest impalpable powder should be employed. Salts of boric acid and the alkaloids, such as atropin, pilocarpin, cocaine, etc., are employed largely by ophthalmologists. When heated with glycerin (62 : 92 p.) until aqueous vapors cease to rise, a compound called boroglyceride results, this on cooling, forms a hard transparent mass. A solution of it in glycerin is the glyceritum boroglycerini, U. S. P. It is used extensively as an antiseptic dressing.

Silicon.

Occurs in nature in combination with aluminum, magnesium and calcium, forming the class of minerals, called silicates; among these we find pumice stone, asbestos, talcum, kaolin, soapstone, etc. Its uses in pharmacy are very limited, chiefly as the

LIQUOR SODII SILICATIS.—U. S. P.—(Soluble Glass). (Na_2SiO_3). This is made by fusing together sand and dried sodium carbonate, then boiling the mass with water. This solution contains about 20 per cent. of silica (SiO_2) and 10 per cent. of soda. It is used in surgery in preparing mechanical dressings.

Sodium Compounds.

The principal sources of these salts are sodium chloride, Chili saltpetre, and Cryolite ($AlFl_3 + 3NaFl$). The sodium salts are frequently preferred to the potassium, because of their more ready solubility and cheapness.

SODA.—U. S. P.—Sodium Hydrate—"Caustic Soda." NaOH. The method of manufacture is similar to that for potassa, that is decomposing a solution of sodium carbonate with slaked lime. A very pure caustic soda is made from the metal, by bringing it in contact with water ($Na + H_2O = NaOH + H_2$), evaporating and fusing. Its properties and uses are like those of potassa. The usual impurities of silica, carbonates, sulphates, metals, etc., occur. For assay see "Alkalimetry." Soda is employed in making liquor sodæ by the alternative process; this solution should contain about 5 per cent. of the hydrate. What has been stated under Liquor Potassæ answers for this solution

SODII ARSENIAS. — U. S. P. — ($Na_2HAsO_4 + 7H_2O$). This is made by first fusing together sodium nitrate, carbonate and arsenous acid, whereby sodium pyroarsenate ($Na_4As_2O_7$) is formed ($As_2O_3 + Na_2CO_3 + 2NaNO_3 = Na_4As_2O_7 + N_2O_3 + CO_2$). This is dissolved in water and crystallized, yielding sodium orthoarsenate (Na_2HAsO_4, $7H_2O$) according to the following equation; $Na_4As_2O_7 + 15H_2O = 2\ (Na_2HAsO_4, 7H_2O)$. As a test of identity the U. S. P. employs Reinsch's test, consisting in mixing some of the solution with concentrated hydrochloric acid (converting the arsenic into trichloride), and dropping upon a bright piece of copper, whereby a dark steel-gray film of an alloy of the As and Cu will be deposited. The presence of arsenic compounds (less active) is demonstrated by the reduction of ammoniacal silver nitrate solution. The properties of this salt are similar to those of Fowler's Solution.

SODII BICARBONAS. — U. S. P. — ($NaHCO_3$).—Obtained by passing carbonic acid gas over sodium carbonate ($Na_2CO_3 + CO_2 + H_2O = 2NaHCO_3$), also prepared by the ammonia-soda (Solvay) process. The commercial article may be purified by washing with cold water (see U. S. P., 1880), which removes the readily soluble sodium carbonate, chloride, sulphate and ammoni-

um salts. The quality of sodium bicarbonate is readily ascertained by titration with normal sulphuric acid V. S. (see "Estimation of Alkali Carbonates"), the Pharmacopœia requiring that the salt be at least 98.6 per cent. pure. Sodium bicarbonate enters into Mistura Rhei et Sodæ, Pulvis Effervescens Compositus and Trochisci Sodii Bicarbonatis.

SODII BISULPHIS. — U. S. P. — ($NaHSO_3$).—This is prepared by passing sulphurous acid gas (SO_2) into a solution of sodium carbonate until saturated, then evaporating and crystallizing. ($Na_2CO_3 + 2SO_2 + 2H_2O = 2NaHSO_3 + H_2O + CO_2$.) This salt should be kept in well-closed bottles, for exposure to air converts it into sulphate and carbonate. On adding an acid to the salt, sulphur dioxide is liberated ($NaHSO_3 + HCl = NaCl + H_2O + SO_2$) which may be recognized by its odor, also by its blackening paper moistened with mercurous nitrate T. S. ($Hg_2(NO_3)_2 + H_2SO_3 + H_2O = H_2SO_4 + 2HNO_3 + Hg_2$). The salt should be 90 per cent. pure, as shown by estimation with decinormal iodine V. S. (see "Estimation of Sulphurous Acid, etc."). It is employed as an anti-ferment and antiseptic.

SODII BORAS.—U. S. P.—Borax.—($Na_2B_4O_7 + 10H_2O$). This salt occurs in immense quantities native in California, also Thibet and Persia. Obtained artificially by neutralizing boric acid with sodium carbonate. It is employed in various analytical operations and in the arts. In medicine it is used as a detergent antiseptic wash, also for preparing boric acid; pharmaceutically it is frequently used to whiten ointments. The salt when moistened with glycerin and alcohol and ignited, gives a green tinged flame. The addition of a slight excess of sulphuric acid to the hot aqueous solution causes the separation of crystals of boric acid on cooling ($Na_2B_4O_7 + H_2SO_4 + 5H_2O = Na_2SO_4 + 4H_3BO_3$).

SODII BROMIDUM. — U. S. P. — ($NaBr$).—Obtained by interaction between solutions of ferrous bromide and sodium carbonate, filtering off the precipitated ferrous carbonate, evaporating and crystallizing. ($FeBr_2 + Na_2CO_3 = 2NaBr + FeCO_3$.) This salt contains 77.6 per cent. of bromide. For impurities and tests see Potassii Bromidum.

SODII CARBONAS. — U. S. P. — ($Na_2CO_3 + 10H_2O$). This is obtained by the Leblanc, Solvay or Cryolite process. Readily effloresces when exposed to the air, falling to a white powder. It is largely employed as the source of other sodium compounds. Only the whole unefflorescd crystals should be used. For its assay see "Estimation of Alkali Carbonates." The official Sodii Carbonas Exsiccatus is made by allowing the crystals to effloresce, then drying at about 45° C.; theoretically, the crystallized salt contains about 63 per cent. of water of crystallization, of which 50 per cent. is removed in this exsiccated salt. This salt is used in analytical operations. In medicine, it is employed internally in phate ($CaH(PO_4)_2 + Na_2CO_3 = CaHPO_4 +$ its lesser bulk and greater uniformity.

SODII CHLORAS. — U. S. P. — ($NaClO_3$).—Obtained by a process analogous to that for potassium chlorate. This salt possesses advantages over the potassium salt in its greater solubility.

SODII HYPOPHOSPHIS.—U. S. P. —(NaH_2PO_2, H_2O).—Usually obtained by interaction between solutions of calcium hypophosphite and sodium carbonate, calcium carbonate being precipitated, the filtrate is evaporated at a low temperature and granulated. [$Ca(H_2PO_2)_2 + Na_2CO_3 = 2NaH_2PO_2 + CaCO_3$.] Heating at too high a temperature (near 100° C.) frequently causes violent explosions from sudden decomposition of the salt, with the formation of phosphoretted hydrogen and free hydrogen. On triturating or heating this salt or any of the hypophosphites, with nitrates, chlorates, permanganates or other oxidizing agents, it detonates violently, likewise it should not be triturated in dry condition with tannic acid or other organic substances. The same precautions regarding storing and handling should be observed as given under Potassii Chloras. Solutions of the hypophosphites reduce mercuric and silver salts from their combinations. (See Hypophosphorous Acid).

SODII HYPOSULPHIS.—U. S. P.—($Na_2S_2O_3 + 5H_2O$). Sodium Thiosulphate. Obtained from calcium thiosulphate (a waste product) by decomposing with sodium carbonate ($CaS_2O_3 + Na_2CO_3 = CaCO_3 + Na_2S_2O_3$). In medicine it is employed as an anti-putrefactive. In photography it is used as a solvent for bromide and chloride of silver. This salt is used in preparing the official volumetric solution of sodium hyposulphite, which is used in the quantitative estimation of iodine, iodides, etc. (vide).

SODII IODIDUM.—U. S. P.—(NaI). Made by interaction between solutions of ferrous iodide and sodium carbonate ($FeI_2 + Na_2CO_3 = 2NaI + FeCO_3$). This salt contains about 84.6 per cent. of iodine. For tests, impurities, etc., see Potassii Iodidum.

SODII NITRAS.—U. S. P.—($NaNO_3$). —This occurs extensively in Chili and Peru, the commercial article being known as "Chili Saltpetre." When heated to high temperature oxygen is given off, sodium nitrite resulting ($NaNO_3 = NaNO_2 + O$). This salt is employed as the source of nitric acid and is also used in preparing sodium arsenite.

SODII NITRIS.—U. S. P.—($NaNO_2$). —Obtained by heating sodium nitrate with organic substances or fusing it with lead. Sodium nitrite is introduced into the U. S. P., solely because of its use in preparing spirit of nitrous ether. It should contain not less than 97.6 per cent. of the pure salt. For assay, see Spiritus Ætheris Nitrosi.

SODII PHOSPHAS, U. S. P. ($Na_2HPO_4 + 12H_2O$).—Boneash, which consists of neutral calcium phosphate ($Ca_3(PO_4)_2$), is converted into acid calcium phosphate ($CaH_4(PO_4)_2$) on treatment with sulphuric acid, this latter compound on being saturated with a hot solution of sodium carbonate yields sodium ortho phosphate and calcium phosphate ($CaH(PO_4) + Na_2CO_3 = CaHPO_4 + Na_2HPO_4 + H_2O + CO_2$). The sodium phosphate is removed by washing and filtering. Employed in the preparation of Sodium Pyrophosphate, Iron Phosphate, etc.

SODII PYROPHOSPHAS, U. S. P. ($Na_4P_2O_7 + 10H_2O$).—Obtained by heating sodium phosphate to 300° C. ($2Na_2HPO_4 = Na_4P_2O_7 + H_2O$). This salt is used in preparing ferric pyrophosphate.

SODII ACETAS, U. S. P. ($NaC_2H_3O_2 + 3H_2O$).—Obtained by saturating acetic acid with sodium carbonate, evaporating and crystallizing ($2HC_2H_3O_2 + Na_2CO_3 = 2NaC_2H_3O_2 + H_2O + CO_2$). This salt is not deliquescent like the potassium salt, but is slightly efflorescent. For reactions and tests, see Potassii Acetas.

SODII BENZOAS, U. S. P. ($NaC_7H_5O_2$).—To a hot solution of sodium carbonate, benzoic acid is added until effervescence ceases, then evaporating and crystallizing ($2HC_7H_5O_2 + Na_2CO_3 = 2NaC_7H_5O_2 + CO_2 + H_2O$). The addition of acids to the aqueous solutions of this salt causes the precipitation of the benzoic acid. It is also incompatible with solutions of the metallic salts. As test of identity the addition of a few drops of ferric chloride T. S., will cause a flesh colored precipitate (ferric benzoate). For assay see "Estimation of Organic Salts of the Alkalies."

SODII SALICYLAS, U. S. P. ($NaC_7H_5O_3$).—A mixture of salicylic acid and water, heated on a water bath, neutralized by carefully adding sodium bicarbonate in small portions. As soon as the effervescence is over, the reaction of the liquid should be ascertained by means of litmus paper—should it be alkaline, a little more of the acid should be added; also during the subsequent evaporation of the solution it should be observed that it remains slightly acid, otherwise the resulting product will be of a dark color. If it is necessary to filter the solution after neutralization, it should be passed through absorbent cotton, for ordinary paper contains traces of iron, which will cause discoloration of the product. For this same reason it is best to employ distilled water in carrying out the reaction. Sodium salicylate is incompatible with acids, salts of the metals, solutions of many alkalies, etc. As test of the identity, the addition of ferric chloride to its dilute solution will give rise to a violet blue color, also when heated with methyl alcohol and sulphuric acid the odor of oil of wintergreen will be perceptible ($CH_3OH + NaC_7H_5O_3 + H_2SO_4 = CH_3C_7H_5O_3 + NaHSO_4 + H_2O$).

SODII SULPHOCARBOLAS, U. S. P. ($NaSO_3C_6H_4(OH) + 2H_2O$).—On mixing sulphuric and carbolic acids, sulphocarbolic acid is produced ($C_6H_5OH + H_2SO_4 = C_6H_4{<}^{OH}_{HSO_3} + H_2O$). This is diluted with water and neutralized with barium carbonate, the solution of barium sulphocarbolate is filtered off from the precipitate of barium sulphate, and decomposed by adding a solution of sodium carbonate. The precipitated barium carbonate is filtered off and the solution is evaporated and crystallized. It is used as an antiseptic for the same purposes as carbolic acid.

Lithium Compounds.

The chief source of the salts of this metal is the carbonate, which is obtained from certain minerals, as lepidolite, spodumene, etc.

LITHII BROMIDUM, U. S. P. (Li Br).—This may be obtained by interaction between solutions of lithium sulphate and potassium bromide ($Li_2SO_4 + 2KBr = 2LiBr + K_2SO_4$); or by dissolving lithium carbonate in hydrobromic acid ($LiCO_3 + HBr = LiBr + H_2O + CO_2$); or by decomposing a solution of ferrous bromide with lithium carbonate ($FeBr_2 + Li_2CO_3 = 2LiBr + FeCO_3$). This salt contains about 92 per cent. of bromine—it is probably the most efficient of all the bromides.

LITHII BENZOAS, U. S. P. ($LiC_7H_5O_2$.—Made by neutralizing the carbonate by benzoic acid. What has been said about tests and incompatibles of the corresponding sodium salt applies here.

LITHII CITRAS, U. S. P. ($Li_3C_6H_5O_7$).—Lithium carbonate is neutralized with citric acid and evaporated to dryness ($3Li_2CO_3 + 2H_3C_6H_5O_7 = 2Li_3C_6H_5O_7 + 3H_2O + 3CO_2$).

LITHII CITRAS EFFERVESCENS, U. S. P.—This is an effervescing mixture of lithium carbonate, citric acid, sodium bicarbonate and sugar. A convenient and elegant form of administering lithium salts.

LITHII SALICYLAS ($LiC_7H_5O_3$).—This is prepared in like manner to the corresponding sodium salt. Its tests and incompatibles are likewise the same.

Ammonium Compounds.

The various ammonium compounds are obtained from the sulphate, which is made from the ammoniacal gas liquor.

AQUA AMMONIÆ. — U. S. P.—(NH_3H_2O).—A solution of ammonia gas (10%) in water, the gas being obtained by heating a salt of ammonia with slaked lime. Ammonia water is employed pharmaceutically for preparing ferric hydrate, washing sulphur, etc., possessing the advantage that its acid salts, owing to their solubility, are easily removed by washing, also any excess can be readily detected by its odor. It is commercially known as 16° Baumé; the so-called aqua ammoniæ f.f.f., being 20° B., or about 17 per cent. by weight of NH_3.

AQUA AMMONIÆ FORTIOR contains 28 per cent. by weight of gas. Ammonia water is incompatible with acids and most metallic salts; it should be preserved in well-stoppered bottles in a cool place. Its strength is ascertained by specific gravity or by titration with a standard acid solution. (See "Alkalimetry.")

SPIRITUS AMMONIÆ.—U. S. P.—This is an alcoholic solution of ammonia gas (10%).

AMMONII CARBONAS.—U. S. P.—(NH_4HCO_3, $NH_4NH_2CO_2$). This salt is a mixture of acid carbonate (NH_4HCO_3) and carbamate of ammonia ($NH_4NH_2CO_2$), obtained by dry sublimation of ammonium chloride or sulphate with calcium carbonate. The salt should be preserved in well-closed bottles, for by exposure to air it is soon converted through loss of ammonia into acid carbonate or bicarbonate ($NH_4HCO_3NH_4NH_2CO_2 + H_2O = NH_4HCO_3 + NH_3$). The bicarbonate is converted back into the carbamate by the addition of ammonia water ($NH_4HCO_3 + NH_3H_2O = NH_4NH_2CO_2 + 2H_2O$). The principal impurity in the commercial salt is empyreuma. The salt enters into Spiritus Ammoniæ Aromaticus and Liquor Ammonii Acetatis. In the former preparation the addition of ammonia water serves the purpose of converting any of the bicarbonate present in the salt into the carbamate which is soluble in alcohol. The latter preparation should always have a slight acid reaction, otherwise when added to solutions containing salts of the metals or alkaloids, precipitation results.

AMMONII CHLORIDUM.—U. S. P.—(NH_4Cl).—Sal Ammoniac. — The pure granulated form which is recognized by the U. S. P., is obtained from the impure commercial article by dissolving in hot water, adding a little ammonia water, continuing to heat awhile, then filtering off the precipitated ferric hydrate, evaporating and granulating. This salt enters into Trochisci Ammonii Chloridi.

AMMONII IODIDUM. — U. S. P. — (NH_4I).—This is best obtained by interaction between solutions of potassium iodide and ammonium sulphate, adding alcohol to facilitate the precipitation of the potassium sulphate, which is formed as a by-product ($2KI + (NH_4)_2SO_4 = 2NH_4I + K_2SO_4$). This is a deliquescent salt, which turns yellow on exposure to light and air, due to the separation of free iodine. A yellowish-brown salt should not be dispensed. The free iodine may be removed by washing with ether.

AMMONII NITRAS.—U. S. P.—(NH_4NO_3).—Obtained from the carbonate by neutralizing with nitric acid. This salt on heating is converted into nitrous oxide (laughing gas) and water ($NH_4NO_3 = N_2O + 2H_2O$).

(To be continued.)

New Remedies and Chemicals.

From various sources, Nat. Dr. has collected this information:

SALAZOLIN.—Synonym for salipyrin.

SALIPYRAZOLIN.—Synonym for salipyrin.

ALKASOL.—Trade name for salicylate of aluminum and potassium.

THIOTINE.—A new secret chemical used in photography for toning. It is a solution of ammonium sulphide.

UNA.—A proprietary preparation, consisting of crude lead tartrate in solution, carrying free citric acid and traces of acetic acid. Used in photography.

VERNOLITH. — Trade name for a mixture, according to the Pharm. Cent. of 1 part of coal tar and 4 parts of slaked lime. Used as a disinfectant.

DISSOLVANTINE. — Name given a preparation for purifying drinking water. According to l'Union Pharm., it consists of sulphide of sodium, 60 parts; pulp of potatoes, 30 parts; raw wool, from which the suint has been removed, 5 parts; oxalate of ammonium, 5 parts. From 8 to 20 pounds are said to suffice for the purification of 1,000 gallons of water.

DEGREES IN PHARMACY AT THE STATE UNIVERSITY.*

By Albert B. Prescott.

At the May meeting of the Board of Regents of the University, there was established in the School of Pharmacy a course of four years of study for graduation, in addition to the present course of two years for the degree of Pharmaceutical Chemist, the latter being left in all respects without change. The interest of the Michigan State Pharmaceutical Association in the School of Pharmacy has been so beneficial, both to the State and to the University, that it seems desirable to render some account at this time of the relations of the new course and of the reasons that have led to its establishment, so that this step should not be left open to any misunderstanding.

In the first place, this new course makes no immediate change and creates no increase of expense in the University. It needs no new studies, nor any additional classes, because all the studies of the new course have been given for some years in the University. The chemical studies of the new course have been given by teachers in the School of Pharmacy, and given to students of the Department of Pharmacy as well as to larger numbers of students of other departments of the University. There are studies that must be provided for the several departments. The exclusively pharmaceutical work lies mainly in the two years' course and in the margin of advanced work needful thereto. Graduates of the School of Pharmacy, and students of other departments have been taking all these additional studies, either while working for degrees in other departments, or when working without registration for any degree. The new course, therefore, has gradually organized itself, out of the educational elements of the University, under the wants of a limited number of individual students from all parts of the country, without the inducement of a distinctive pharmaceutical degree. And this last step in the evolution is but the authorizing of a name for certain university children already being born of legitimate conditions.

There have been fifty of the graduates of the School of Pharmacy, bearing the degree of Pharmaceutical Chemist, who have taken college and university degrees in literature and science. The number who have taken a degree in science and literature before taking their degree in pharmacy is twenty-seven, after taking their degree in pharmacy twenty-three. These are of course aside from the larger number of Ph. C. graduates who have taken a degree in medicine, whereby in most cases they leave the pursuit of pharmacy altogether. Larger numbers than those just given have taken advanced studies, after graduation in pharmacy, without taking another degree. Now, to illustrate the de-

* Read at the Detroit Meeting of the Michigan State Pharmaceutical Association, July 17, 1895.

mand there is for men of advanced training, let me cite the seven men who in the last eight years have first obtained the degree of Ph. C. and afterward continued work in the University and graduated as B. S. in chemistry. For both these degrees fully five years of work is necessary. Of the seven graduates, four are now professors in schools of pharmacy, one is the chemist for a manufacturing drug house in Philadelphia, one is analytical chemist for large works in Canada, and the remaining one holds a fellowship for chemical research in the University of Chicago. For five of the seven their practical pharmacy is a necessity, and for the two others it is a resource liable to be wanted at any time.

There are at present a considerable number of families who desire to give their sons, and perhaps their daughters, the advantage of full college education for the benefit of liberal culture, provided that the son or daughter can be fitted for a pursuit within the college four years, a pursuit, we will say, other than that of a teacher in a high school. The question is not how to get the shortest professional school training for a pursuit, that question is a different one and comes from very different persons. This question is how to get good professional training, with the discipline of liberal studies, and within the four years of college. To these four years the high schools give introduction, beyond the extent of these many people do not want to go in college, and within about this habitual period of college work they want to gain a professional equipment. They may look toward engineering, civil, electrical, or mechanical. Of course they may look to ordinary business after college, as many college-bred men do, and with good success. They may look to pharmacy, with a view in part to its mercantile aspects. The poor jokes about the college graduate as a helpless snob, stuffed with the conceit of learning, but really unfitted for business will continue to have currency in the newspapers, a currency favored by callow writers who have never done good work enough to get through the high school. People know better. There are many hard-working young men and women earning their money for college who know better. Well grounded scientific training, so far from unfitting men for the realities of industrial life, compels the student to meet these realities. If he cannot meet them, he fails in college, he is sifted out beforehand.

On this point the united chemical industries of Germany, in their corporate authority at the World's Fair in 1893, expressed their judgment from experience as follows: "The practice known in other branches of manufacture, of taking apprentices, has never obtained, even experimentally, in German chemical factories. On the contrary, the kind of preparatory training, required for admission into a chemical factory, has always been that of the scientific investigator. Manufacturers only require of their assistants a thorough scientific education, taking upon themselves their initiation into the technicalities of their special branch of business, a task at all times rendered the easier by the fact, that from the very first day the young chemist finds occupation and the means of gradually becoming acquainted with his duties in the laboratory never wanting in a chemical factory. If confronted in his future career with new problems, he falls back for their solution upon those methods of strict scientific investigation, so familiar to him in his student days. It may be asserted that, not only is the strength and productive power of German chemical industry based upon the intimate connection between science and practice above described, but in that intimacy lies the surest safeguard that German industry will long continue to hold the prominent position which, with such strenuous exertion, it has ultimately achieved."

This German declaration is applied to chemical manufacture, which of course practically includes manufacturing pharmacy, subject to the same laws of success. In dispensing pharmacy the same economy is applicable so far as this, that the "initiation into the technicalities of their special branch of business" is a task rendered easier by the fact that the learner is already habituated to precise obedience to direction, and close attention to detail, in laboratory work, also that he has an intelligent understanding of the materials of pharmacy, and the authorities upon their manipulation. In all professions and pursuits of skill, the training of the technical school is coming more and more to precede the initiatory practice, instead of following it. However, for my own part, I am not a stickler for any one set order in the succession of studies in the school, or of practice and study in a profession. To get both, practice and study, sooner or later, in any order, is the main thing. The eager determination of the man is worth more than any logical sequence in his studies. Men who have that steadfast will for education, that they mean to get it if they have to take it all wrong-end-foremost, are the men who are sure to succeed.

These considerations apply both to the course of four years, and to the more commonly applicable course of two years, at this School of Pharmacy. The two years' course is by no means disparaged, by the addition of another course. It will continue to be the regular course for the large majority of those coming to the University for pharmaceutical studies. Its alumni list gives sufficient proof of its adaptation to the public service in all the branches of pharmacy. As a college course its four semesters are crowded to the utmost. Each of its semesters is worth much more than a short-term college-year. A college of pharmacy course with but slight laboratory training, and that taken, or not taken, wholly or mainly at the option of the student, can never confer a Ph. C. of repute, in comparison with the degree given by the university schools of pharmacy. It is the solid laboratory training holding the student from morning to night through college years of full nine months that has made the college diploma of Pharmaceutical Chemist a coveted title in the United States. The university schools need have no fear that the honor and practical credit of this title can be borrowed by schools who propose to graduate pharmaceutical chemists upon three winters of lectures, mainly in the evening, the laboratory being about as "advisory" as the Latin for entrance in an old-time medical college, and the commencement coming in March. Where the work that has given meaning to the degree is taken out of it, there it will have no more value than another degree in pharmacy. To be sure, it is an acceptable proof of the value the title has gained that it is even so tardily appreciated, but it must surely be known by this time, that it takes something besides the absence of the apprenticeship requirement in college to make a "pharmaceutical chemist."

In adding an extended course in the School at Ann Arbor, it is found that in making the course higher, it must be made broader as well. In giving more advanced science, the languages of scientific literature, and a better command of English writing, as well as the support of physics and mathematics must be supplied, all in keeping with the bachelor's degree. Consequently the course of four years is a logical step next beyond that of two years.

On a footing then with university departments of technology, if pharmacy is to have a full college course, it must naturally receive a bachelor's degree. In agreement with the usage of the State universities, and the majority of other American universities, the degree must be that of bachelor of science. In accordance with a custom which began in the east, and has become general, a degree in specialized science may be followed by a clause defining its specialty, this definiton being seldom written but always at command of the recipient. In accord with B. S. in civil engineering, in biology, in chemistry, etc., we have B. S. in pharmacy.

The evolution of a four years' course in pharmacy at university schools of pharmacy, and the adoption of the B. S. degree in pharmacy for such a course, are so natural that it is not strange, though certainly noteworthy, that the same extent of course, with the same title for graduates, has been announced in four State universities, at about the same time, although without conference together upon this matter. And the influence of the university schools of pharmacy upon the trend of pharmaceutical education can be apprehended from the history of events, and from the demand for experts in places of responsibility.

The diversities of title for college degrees are commonly mentioned just now as a matter of regret. Some educators are exercised because we have bachelors of arts, of philosophy, of letters, and of science. I am content that these titles all have the leading term in common, they are all bachelors in learning. Doubtless this is enough of uniformity, for there is great diversity of college worth to be

represented. But let us hold on to the custom that the graduates of the first degree in colleges of science and literature are all entitled bachelors. Likewise the second degree in a college of science and literature is a master's degree, whether of arts, science, philosophy, or letters. And again the third degree, following the first and second just named, is a doctor's degree, whether of philosophy, science, or other variation. But at this point there appears the American discrepancy, for there are medical doctors and dental doctors, not following the bachelor's degree. This, however, agrees with the established vernacular, in addressing the physician as the doctor, irrespective of his college education. The word doctor is an established synonym of the word physician, in the English language of this country. As the address of the physician it means, not so much learning or teaching, as helper and counselor against disease, the family defender against the dread destroyer. This meaning gives the greater honor. That this meaning has become deep rooted in our tongue is shown by its secondary application, thus, according to Webster's fourth definition of the noun doctor, it may be "any mechanical contrivance intended to remedy a difficulty or serve a purpose in an exigency, as the doctor of a printing machine, which is a knife to remove superfluous coloring matter." To the public ear the word doctor means one thing in one case and another thing in another case. We have a more extreme disparity of meanings for the noun drug. As a medicine it is choice, and frequently rare. As an indeterminate article of merchandise it is something that no one can be induced to buy. And this perversity of definitions for the name drug is very much older than the modern state of the drug business.

Whether or not pharmacists may come to be addressed as doctors, and what would be the effect of this courtesy of address upon pharmacy as a pursuit, are questions for individual judgment and preference. At all events, any title of address acquires its honor from the class of persons to whom it belongs. Man is not the creature of terms, but terms are the creatures of man.

University of Michigan School of Pharmacy. July, 1895.

FORMOSA CAMPHOR AND ITS FUTURE.*

From the Formosa Correspondent of the Kobe Chronicle.

As Formosa is destined to play an important rôle in the commerce of the East, and the manufacture of camphor is a most important industry on the island, I trust I may be excused for writing this rather lengthy description of the past, present and future of this most valuable export.

Originally the camphor tree practically grew over the whole island, and to this day in the agricultural regions of the north and west we find young camphor trees in little patches that have escaped the farmer's axe and the characteristic hill fires of the Chinese. But so thoroughly have the Chinese destroyed forests to make the land yield more crops that the camphor trees are now confined to the virgin forests in the mountainous districts in the eastern half of the island.

The camphor tree, which is a species of laurel, attains an enormous height and girth in Formosa, often having a diameter at its base of 12 or 15 feet. The industry is carried on as follows: As soon as the hill men have arranged with the savages, and a suitable location been found in the camphor districts for the erection of a still, a shed of sufficient size to cover the number of stoves it is intended to construct is built. In the center of the floor is constructed the stove, an oblong structure made of sun-dried bricks, having fireplaces at each side, raised a foot or so above the floor. If the plant is expected to be one of 10 condensers and accordingly needs 10 fireplaces, it would measure about 4 feet high, 10 feet long, and 6 feet broad. The fireplaces are so built that an earthenware pot can easily be inserted in each hole above the fire, and a wooden mud-plastered cylinder connects the mouth of each pot with the surface of the stoves. Between the pot and the lower end of the cylinder is a thin piece of wood filling both the mouth of the pot and the lower end of the cylinder, and punctured so as to allow the steam from water placed in the pot to pass into the cylinder during distillation. The top of each cylinder is usually about a foot in diameter and level with the surface of the stove. Large earthenware jars are then inverted and placed over the upper ends of the cylinders on top of the stoves, and act as condensers.

To work the still, the pots are filled with water, and the cylinders with chips from the camphor trees, and a fire is built in the fireplaces under the pots. As the water boils the steam passes up through the perforated wood into the cylinders, heats and moistens the chips, and ascends to the condensing jars, carrying with it the fumes of the camphor chips. The steam then condenses on the outside of the jars, and when the latter are removed, a layer of white camphor crystals is found adhering to them. This is taken off two or three times a month. The chips are replaced fresh usually twice a day, water added to the pots, and with replenished fires the distillation continues night and day.

It is difficult to ascertain which trees contain the most camphor that will crystallize, trees of like appearance varying greatly in their yield, and until the chips have been subjected to distillation it is impossible to judge. At present only the roots and about the lower ten feet of the tree are used, the rest being often left to rot. The yield is greater in the winter, and the roots and lower portion possess the camphor desired, which in summer seems to run higher in the tree. Young trees are of no value, for until they have attained the age of forty or fifty years very few will yield camphor that will crystallize when distilled.

Camphor distilling is principally carried on by the Hakkas, but as the camphor laurel grows in territory occupied by savages only, they experience great difficulty in carrying on the industry. Monetary or other arrangements have to be made with the savage chiefs to protect or refrain from destroying the stoves or stills which the farmers set up in the country. These arrangements are usually very uncertain and very unsatisfactory, for as soon as trouble arises, regardless of the cause, the savages proceed at once to show their displeasure by destroying the stoves. It must be admitted that usually the fault is with the Hakkas or with the Chinese officials. Contracts are made which are never intended to be fulfilled, and deceitful trickery seems to be the rule rather than the exception.

Of late years there has been some attempt at official regulation by appointing an officer for every district, called a Bu Kung-Kiok, through whose office all trades and negotiations with the savages pass. But, as is customary in China, officials who are expected to protect are ofttimes the first to abuse, and the squeeze accordingly takes first place, as the poor savages are obliged to trade through them. An unauthorized commission is taken out both ways, and even little articles of food, as salt for instance, are subject to a most unreasonable squeeze.

A few officials by fair treatment have succeeded in securing the confidence of these simple savages, and in such cases all goes well until, according to the Chinese custom, a change of officer is made; then trouble commences, and unless the savages are approached with fair and just terms, the camphor trade has to be given up entirely in that district.

I will cite a few cases as examples of the many more or less similar which occur in the camphor country. In one district resided a Bu Kung-Kiok who, by fair and just treatment had succeeded in winning the friendship of the savages, who referred to him as Great Father, and in consequence no head-hunting had been indulged in. The Government replaced him by an officer who succeeded in arousing great hatred among the savages by unfair treatment. As a large amount in taxes had been lost in a certain district owing to warfare with the savages, it was decided to open the camphor forests. The savages consented and were rather pleased at the prospect of receiving rent as compensation for allowing the industry to be carried on upon their lands, but the new official not only squeezed but pocketed the rents which justly belonged to the savages. This enraged them, but they were quiet for some time until the small-pox broke out in the tribe and carried off the wife and child of a chief. According to their superstition, the death of this man's family was meted out to him as punishment by the devils for his sins. It was convenient for the chief to think the devils were angry because he allowed himself to be imposed upon and cheated by the Chinese into giving up his lands, therefore the chief and his son went out to see if they could not bag a few Chi-

* Reprint furnished by Stallman & Fulton, New York.

nese heads. They were successful, and the Chinese coolies and workmen were so terrified that they left their work and assembled at a town near by. A meeting of the officials with the savage chiefs, in which the former made new promises and paid up a few of the past dues, succeeded in quieting affairs, and work was resumed again, followed by the same old squeezes and broken promises which enraged the savages and eventually again resulted in warfare and head-hunting. As the Bu Kung-Kiok could not talk the savage language, he was obliged to do his business through the few Hakkas that are familiar with it and can act as interpreters. In consequence there was great rivalry among the latter that each might possess more influence and authority with the savages and thus be able to obtain a greater squeeze. A foreigner who was interested in the camphor trade visited the savage chiefs with the hope of discouraging the destruction of the camphor stoves. An interpreter who was enraged at being deprived of this opportunity to squeeze, reported to the Chinese official that the savages were planning to make trouble, so about 300 soldiers were sent to the border, and while seven of the leading savages were on their way to the prearranged place of meeting, they were fired upon and two killed. It was first thought by the savages that it had been a trick of the foreigner, but when the truth was heard head-hunting and savage warfare commenced and has continued to this day until nearly fifty Chinamen have been killed and 1,000 stoves destroyed, thus depriving the Government of about $8,000 in taxes every month. The two lives of these savages have cost the Chinese dear, but I am barbarian enough to consider the savages almost justified in their revenge.

An interpreter by fair treatment, which is rather exceptional among men of his class, had succeeded in being accepted as a true friend by the savages. As his influence was accordingly great, and was not always exercised in a manner calculated to please a local general who was interested in the camphor trade the latter was desirous of breaking the friendship existing between the savages and the interpreter, and thus place the savages more in his power. Thereupon he ordered the interpreter to bring the four leading chiefs to his yamên, that he might consult with them. Fearing conspiracy, the interpreter at first refused, but was finally persuaded, and by guaranteeing the savages perfect safety, returned with four of the chiefs, who were promptly beheaded by the general. The tribe naturally considered they had been tricked by the interpreter, and two of his sons, who were near the savage territory, were promptly murdered, and general head-hunting ensued. The cases where savages have been invited to dinners, or offered drink and then killed or poisoned, are very frequent, and it is their custom now to refuse to taste the drinks given them by Chinese, until the giver has himself first taken a draught from the same cup.

The constant trouble with the savages is one of the chief factors causing the fluctuations in cost of camphor. At present, the chief production is from the central districts, but owing to the savage warfare which has existed since 1891, the north, although naturally the richest, has yielded but very little, and is now at a standstill. The savages never forgive or forget, and as long as the "Mahgah-pa" (man with head tail) is in control, they will be regardless of his promises and sweet words, and never trust him, so that the production of camphor must decrease. As on the mainland, the head officials come in for their squeeze, and the few figures following will show that they get their share. The Government tax is eight dollars a stove, counting 10 jars a stove. This is unequal and therefore unjust, for if a stove is badly located and only yields half a picul of camphor, the tax is proportionately twice as much as the stoves yielding one picul which is about the average, while those possessing stoves so situated that the yield is two piculs are only taxed one-quarter of the amount. If the tax was only on the production the stoves of small capacity could afford to run, and the coolies could work on the farms during the harvest and then go back to the camphor, whereas now, if the work ceases even for a few weeks, the tax must be paid or the stove given up altogether.

According to the amount produced by the average stove at a good estimate, it would require 16 jars to produce 125 catties of camphor, which dwindles down through loss of weight, etc., and allowance made for water, so that it is considered a picul weight upon being shipped from the island. At the rate of taxation on a 10-jar stove, this picul would be subject to a tax of $12.80, and as the total output for 1892 was 17,540 piculs, the tax would amount to $224,500, whereas only $95,000 was reported to Peking as the income for camphor tax.

I have not the exact figures for 1893, but it was about $426,000 collected, against $160,000 reported.

The average price at present paid for camphor is $21 to $25 per picul, but, as I stated above, from 120 to 125 catties are sent from hill stations as a picul, which allows for loss of weight, as well as for the water which the coolie usually puts into it by resting his load in a neighboring creek, that it may be of good weight. In delivering the camphor to the railroad stations, if the station master does not carry it for rates considered satisfactory, the owner often goes to another station, and the railroad agent there, practically running in opposition to the agent first called upon, will carry it a few cash cheaper. The same system characterizes the management of the whole railroad.

If the natives could pursue the industry without paying taxes, the average price at the hill station would be about $10 per picul, and allowing for transportation, loss of weight, and deducting exporters' commission, camphor could be sold at $20 per picul in Hongkong, whereas at present the price ranges at from $40 to $65.

In some districts during the present year the Chinese have refused to pay any taxes whatsoever, and the mandarins, owing to the interior disturbances, have not dared to enforce payment. In consequence a great many stoves have been built up, but still very little has been produced owing to the present warfare with the savages.

If the island is turned over to the Japanese they will control the camphor market of the world, and by treating the savages fairly and squarely, the Formosa forests can furnish enough camphor to supply the world for the next generation, unless some new use for the article should create a much greater demand than at present. It has been estimated that by careful distilling and by the use of more improved appliances, the annual yield could be made 100,000 piculs, of course taking for granted that the savages did not object.

These aborigines are not naturally deceitful, and live up to their promises, which is more than can be said for the Chinese. In arranging for camphor privileges, the savages make a condition that the ground they rent will not be taken away from them or their heirs—a promise which the Chinese make, but as readily break. If the savages are not deceived and the foreigners friendly, their land can be easily rented, and if desired to be purchased, the negotiations should be conducted through a protector appointed by the Government, who should see that the terms and conditions of the agreement are carried out to the letter. At present none but Chinese heads with queues are considered desirable by the savages when head-hunting, and all short-haired people are exempt from their attacks, but if the Chinese were driven away, they might decide that short hair would do on a pinch.

When the Japanese gain complete control of the camphor, they could tax it heavily without decreasing its production, and thus place Formosa on a partially paying basis. Or they may deem it advisable not to impose any tax whatever, with the object of inducing the Japanese engaged in the camphor trade in Japan to come to Formosa, and form a line of settlements from north to south between the Chinese or foreign borders near the coast and the savage borders in the interior. When that occurs we may expect to see camphor selling at $20 per picul in Hongkong, against $40, which has been the average during the last few years, or the present rate of more than three times as much. The following are the statistics of the world's production since 1890:—

	Japan. Piculs.	Formosa. Piculs.	Total. Piculs.
1890	35,120	7,242	42,362
1891	43,905	18,881	62,786
1892	28,720	17,540	46,260
1893	23,821	33,320	57,141
1894	——	39,552	

The above figures show the remarkable increase of camphor production in Formosa during the last few years as well as the decrease of production in Japan, and although unfortunately I have been unable to obtain Japan's camphor production for 1894, I understand from good authority that it has decreased 15 per cent. since the previous year.

PHARMACY OF THE PAST, PRESENT AND FUTURE.*

By Wm. A. Robinson, Auburn, Me.

The trade or profession of the apothecary has the dignity of years resting upon it, for we read in the book of Exodus that a certain ointment should be prepared according to the act of the apothecary. What that art was 3,500 years ago we do not know, but it is evident that some skill was required to prepare the Holy Ointment used in anointing the priests and the vessels used by them in the tabernacle worship.

From the time of Moses until now there has been a necessity and place among all nations for the workers in our honorable if not always honored calling.

The changes, however, in remedies and methods of their preparation and administration have been marked, so that many of the drugs of former days are wholly unknown to us, having long ago been dropped from the list of curative agents. The food we eat, the clothes we wear, the medicine we take and the houses we live in, in these latter days of the 19th century have undergone so many changes and alterations that the large and once seclusive word evolution is now a part of every intelligent man's vocabulary, and applicable all along the line of life.

No trade or occupation has escaped the general, and what seems to be, natural law of change, named by scientists "evolution."

The question I have asked myself, and which in part I will try to answer is, Has this law affected our trade in recent years?

A young man entering a store in 1860 to learn the business found certain conditions peculiar to the trade and the period; what were they, and what are some of the changes that have come with advancing years? Drug stores were not as numerous then as now, if stores showing a line of shelf bottles, a gilded mortar, a colored show bottle in the window, backed up by cigar signs and a few fly-specked patent medicines for stock and fixtures, with the additional fixtures of a double partition and plank door separating the front from the back, and a young man lolling at the door watching for customers or the constable, are to be counted as drug stores.

As a representative store in a large, growing country town, I remember one which was in every way the best in the town, and doing the largest business of any drug store in the country. The proprietor was young, ambitious and enterprising. The general arrangement and furniture of the store were not unlike those of to-day. There were no glass labels for bottles and drawers, neither was there a prescription counter with the many conveniences. The soda fountain was the old goose-neck pattern, surrounded by a few syrup bottles containing the old standbys of lemon, pineapple, vanilla, ginger, etc. The back room opened into the front store with a broad arch; there was no room to be dignified by the name of laboratory, all the work of compounding and bottling of essences, ink, castor, oil etc., being done in the one back room. The stock was large, consisting of a full line of drugs, chemicals, dyes, trusses, toilet goods, patent medicines, etc. Of the 200 or more patent medicines and proprietary articles which I find enumerated in the Guide Board published by this man in 1858 as an advertising medium, only about 60 are still on our shelves, and many of these have a very limited sale. A few remain in the front rank and hold their place as household remedies in many families; among the number are Ayer's, Schenck's and Kennedy's goods, Perry Davis' Pain Killer, Johnson's Liniment, True's Elixir, Russia Salve, Atwood's Bitters, Tarrant's Aperient, Thompson's Eye Water, Yankee Soap and the wonderful Harlem Oil, in the use of which, it is claimed by the proprietors, the grace of the Omnipotent God is experienced to admiration. We think the phenomenal patent medicine advertisers of to-day would find it beyond their marvelous ability to frame a sentence so comprehensive in praise of their respective cure-alls. In this connection I remember an all-round remedy called Smith's Magic Compound. Mr. S., not satisfied to put up a remedy sure to clean the body from every ill, assured the public that it was also the best preparation on the market for removing tar, pitch, paint, oil, etc., from clothing. Surely Mr. S. was a public benefactor.

The Maine liquor law had been on the statute books a few years, but in those days the druggist was not debarred from keeping a full line of wines and liquor in stock for legitimate sale. If possible, liquors were considered more essential for the preservation of life then than now. Strong doors, secret closets and underground reservoirs were not necessary to hold the stock. In the store we are describing, at the end of the back counter was housed up a barrel of Medford rum, while behind the counter in plain view were barrels of whisky, and half barrels of brandy, gin and wines. In addition to goods in bulk there was a full stock of bottled goods, which were well advertised by large colored signs representing fair women in the act of quaffing these delicious nectars, and this was the leading drug store in the county, and a temperance store for those days. The evolution in this particular branch of the drug and medicine business in Maine is clearly recognized. For, now, while all druggists are expected to carry more or less liquors, there are some in the State who do not take out a United States license, which means that they sell no liquors except as they are legitimately compounded.

The standing of the trade has suffered very much in recent years. It has come to pass that in the minds of many good people the words "druggist" and "rum-seller" are interchangeable terms. How much of this is due to the acts of the trade, or to the operation of the law, or rather the failure of the officers to enforce the law, I will not try to determine. A pertinent question, it seems to me is, How can this stain upon our standard be removed? In the theoretical and practical departments of our business the change has been very marked. The mortar and sieve, which so many of us remember as implements of daily use, have been superseded by the drug mill and patent sifter; and still later even these advanced methods have been pushed aside by the larger houses who, in their eagerness to make the life of the apothecary and his apprentice as free from drudgery as possible, present to the trade all kinds of drugs in every degree of fineness, to meet the needs of the seemingly decreasing number of druggists who are old-fashioned enough to believe that it is better pharmacy, if not always more economical, to manufacture every preparation they can.

By thus surrendering to our friends the manufacture of pharmaceutical preparations, the making of goods we can as well prepare ourselves, we lose at three points: (1) The prestige of compounding and presenting to the medical profession and our general trade preparations of our own manufacture. (2) The loss to the young men in our store who are with us to learn the business. (3) The loss of profit. There are many articles and compounds which go to make up a drug stock in these days that it would not be practicable for the retail druggist to prepare, and he must keep the special preparations demanded. But there can hardly be an excuse for purchasing the common tinctures, syrups, ointments, etc., as I am informed some apothecaries do. Whether this is owing to indolence, or to the persuasive arguments of our genial friends, the traveling salesmen, who so artfully introduce their wares, I do not know. I believe this practice tends to degeneration, and if generally followed would make of most of us a body of men who would be only dealers in medicine, or simply purveyors of pills. This would be involution, instead of evolution.

Formerly, the doctors procured their supplies of medicine from the local druggist, thereby adding materially to the annual business. Now, many physicians, both in the city and country, finding it to their advantage to use tablet triturates, keep themselves well stocked with these goods, and so the druggist has come to be a convenience instead of a necessity. In 1860 the large pharmaceutical laboratories had not been established, with their almost nameless semi-patent compounds and proprietary preparations, in the form of elixirs, cordials, pills, triturates, worm syrups, etc., heralded to the profession and trade by an army of skillful and technically trained salesmen, who, on every returning round, have some newer and more valuable mixture with which to interest the doctors and capture the susceptible druggist. Another change not to be overlooked is the growth of the great department stores in almost every large town and city in the land. While the druggists of Maine have not suffered in their business so severely as in some of the States, we have not escaped wholly the evil growing out of these compound

*Prize paper read before the Maine Pharmaceutical Association, at Kineo, June 26, 1895, and contributed to the Era for publication.

mixtures of business, where you can be shod and hatted, overalled and velvet-gowned, fed and drugged, soaped and perfumed, all at cut prices. The time was when the apothecary was looked to not only to supply medicine for suffering humanity, but also toilet articles, perfumed soaps, sponges, chamois, etc. But now he has to divide the demand for these goods and quite a good many medicines as well, with his neighbors, the dry and fancy goods dealer, the shoer, bookstores and grocers, and generally at prices that do not yield a legitimate profit.

However, notwithstanding the many disadvantages growing out of these conditions of trade, a great advance has been made, both in the theory and practice of pharmacy, so that never in the history of the profession has there been a greater demand for thoroughly efficient men than now. Let us remember that ours is more than a trade, and while we who are older may not hope to cope with the younger men in all respects, who have had the privileges of the scientific training in the schools, we can, while remembering the advantages of the past and experiencing the annoyances of the present, look into the future with a strong faith that the druggist who is true to the highest opportunities of his calling will not only merit, but receive, from a just and discriminating public the rewards due to skillful and faithful service.

ADULTERATION OF CARMINE.—S. Feitler recently published some rather strange remarks regarding this coloring substance. His experiments demonstrated that the adulteration of carmine is very common. He analyzed six samples designated by the following commercial names: (1) Superfine naccarat carmine; (2) superfine natural carmine; (3) superfine natural carmine; (4) ordinary carmine; (5) antique carmine; (6) superfine naccarat carmine. The last three samples were adulterated. No. 4 contained 88.5 per cent. of ash, consisting of oxide of lead, alumina and sulphate of lead. This product has, no doubt, been prepared with rosin of a blue tint, by precipitation with acetate of lead and alum. No. 5 was very similar to that called superfine natural carmine, but the proportion of ash amounted to 74.56 per cent. The ash chiefly contained carbonate and sulphate of baryta. According to Borath, it was a barytic corallin lake. Analysis of No. 6 demonstrated that this sample was a mixture of two lakes—one pure cochineal, the other a coloring substance extracted from coal tar. It contained 15.28 per cent. of ash, 16.09 of water, 17.31 of nitrogenized substances and 51.38 of coloring substances (by difference). The coloring substance was recognized as phloxin. In the samples called natural, the proportion of ash amounted to 7.09-9.18 and 7.24 per cent. This ash was composed of 35-25 and 43 per cent. alumina, and 44-31 and 36 per cent. of lime. These results agree with those already obtained by Dechan. Natural carmine should not contain more than 10 per cent. of ash. Whenever such ash contains salts of lead or of baryta, the sample should be considered as suspicious. (Le Mercure Scientifique, Food & Sanitation.)

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(J. H. B.) See rules at head of this department.

Carbolic Acid Salve.

(J. G. P.) See formulas in Feb. 21, 1895, Era, page 238.

Phenacetine and Brooklyn Druggists.

(E. F. P.) We do not remember the publication of any such article as that you name.

Dressing for Tan Shoes.

(J. G. P.) See formulas Mar. 21, 1895, Era, page 367. Also June 13, 1895, Era, page 748.

Antilupia.

(T. O. M.) Antilupia is a proprietary preparation manufactured by the Norwich Pharmacal Co., Norwich, N. Y., and 140 William street, this city. It is advertised as an anodyne, antipyretic and antalgic.

Kidney "Snicks"?

(E. M. M.) Inquiry at several jobbing houses in this city fails to reveal any information concerning this article. One party to whom the above-named was shown thought it was a case of either bad spelling or the foundation for a joke. Maybe some one of our readers can throw a little light on the subject.

Blood Versus Egg Albumen.

(G. L. B.) In place of blood albumen directed in the formula "Dressing for Russet Leather," April 11, 1895, Era, page 462, egg albumen may be made to answer all practical purposes. Blood albumen is manufactured in large quantities in Chicago and other western cities, notably Omaha.

Saccharine in Castor Oil.

(L. J. S.) The manufacturers state in their literature that saccharine is soluble in castor oil and most fatty oils. Only the refined saccharine (not that combined with sodium bicarbonate) should be used, the oil being warmed on a water-bath to facilitate solution. About ¼ to ½ per cent. of saccharine is the quantity necessary.

Mustard Stains on Silk.

(W. M. G.) The treatment necessary to remove stains from silk caused by mustard depends entirely upon the color of the fabric. Some silks are dyed colors which water alone will injure and others which it will not. With many stains, too, nothing can be done, all attempts to remove them only making matters worse. However, if the color of the silk will admit of it, we suggest you try washing with weak, warm soapsuds or a diluted solution of ammonia, and at the same time, rubbing gently and carefully.

Gold and Sodium Chloride and Fluid Extract of Nux Vomica.

(Sig.) In the following prescription:

Chloride of gold and sodium	2 grains
Fluid extract of nux vomica	35 minims
Nitrohydrochloric acid, dilute	2 drams
Syrup of lemon	2 ounces
Water, enough to make	4 ounces

Chloride of gold and sodium is incompatible with fluid extract of nux vomica, the alkaloids of that preparation being precipitated. Another incompatibility is that between the nitrohydrochloric acid and the sugar in the syrup of lemon. This prescription should not be dispensed.

Suppositories Made by Hand.

W. T. Buchanan, Horton, Kansas, writes: "I would suggest that in making suppositories by hand, the dispenser use a very small quantity of vaseline. The physicians in this locality insist on having suppositories made by hand, and I find it easier to make them in this way than by using molds. After triturating the solid ingredients with the cacao butter, a small amount of vaseline should be triturated with the mass, making the use of heat unnecessary. The mass is then rolled on a tile like a pill mass, cut into the desired lengths and molded into shape with the fingers. Lycopodium powder may be used for dusting purposes. Place on ice for thirty minutes, and the result is a surprise in neatness and dispatch."

Cosmetic Cream.

(A. C. R.) We cannot give the formula for the proprietary article. The following, however, are formulas for typical preparations of a similar character:

1.) Melt together 265 grains petrolatum, 50 grains white wax and 30 grains spermaceti. While cooling incorporate 40 grains bismuth oxychloride and ½ grain mercuric chloride, the latter previously dissolved in a little alcohol, and finally, when nearly cold, stir in 20 minims spirits of rose (4 drs. oil to 1 pint alcohol) and 1-16 minim oil of bitter almonds.

2.) White wax	3 drams
White petrolatum	5 drams
Boric acid	10 grains
Tincture of benzoin	30 min.

Melt the wax and petrolatum in a porcelain dish on a water-bath, add the acid and tincture of benzoin, and stir until cold with a glass rod.

Some Examination Questions.

(J. S. S.) wants the following questions answered:

1) How many grams of chlorine water represent 0.02 gram of chlorine? Answer.—5 grams. The official aqueous solution of chlorine must contain at least 0.4 per cent. of chlorine. If this be true then 0.02 gram must be 0.4 per cent. of some quantity. If 0.02 gram be 0.4 per cent., 100 per cent. or the whole quantity will be $(0.02 \div 0.4 \times 100)$, 5 grams. Proof, $5 \times .004 = 0.02$ gram.

2.) Mention all of the official solutions of arsenic? How much arsenic will 1 cc.

of each represent? Answer.—Liquor acidi arsenosi, liquor arseni et hydrargyri iodidi, liquor potassii arsenitis and liquor sodii arsenatis. Each contains about 1 per cent. of arsenic. (See formulas for the various solutions in the U. S. Pharmacopœia.)

3.) Mention the three classes of inorganic compounds? Answer.—This question is rather obscurely stated, but we interpret the answer desired to be bases, acids and salts. If a base be defined as a metal, then the above answer will hardly apply, as in this particular sense a base cannot be considered a compound. If a base be considered as an element combined with oxygen, or a "positive hydrate, containing hydrogen linked by oxygen to an electro-positive element," then the above answer will apply, a base in this sense being a compound.

Salicylate of Iron Mixture.

(Salol.) In the prescription:

Tincture ferric chloride. 3 drams
Citric acid .....10 grains
Oil wintergreen .....10 drops
Sodium salicylate ..... 4 drams
Glycerin ..... 2 ounces
Solution ammonium acetate, enough to make. 4 ounces

A chemical reaction takes place between the tincture of iron and the sodium salicylate, salicylate of iron being formed. A similar reaction occurs with the oil of wintergreen (methyl salicylate). This prescription is a modification of one brought into extended use by the medical profession upon the recommendation of Dr. S. Solis-Cohen. This physician used it extensively in his practice, especially in the Jefferson Medical College Hospital at Philadelphia, as a remedy for chronic rheumatism. His prescription is the following, and as solution of ammonium citrate makes a better combination than the solution of ammonium acetate, we suggest, if the prescriber will allow, you use it in the above:

Sodium salicylate ... 4 drams
Glycerin ..... 2 fl. ounces
Oil of wintergreen...20 minims
Tincture of iron..... 4 fl. drams
Citric acid .....10 grains
Solution of ammonium citrate (Brit. Ph.), enough to make.. 4 ounces

A clear mixture results.

Ferrous Sulphate and Fowler's Solution.

(J. S. W.) In the following prescription:

Syrup calcium lactophosphate ..... 3 ounces
Strychnine sulphate.... 1 grain
Quinine bisulphate.....10 grains
Solution potassium arsenite ..... 1 dram
Ferrous sulphate..... 2 drams
Dilute phosphoric acid... 7 drams
Syrup, enough to make. 8 ounces

One teaspoonful three times a day.

Several reactions may occur, each one depending upon the order in which the various substances are put together. One reaction would be that between the syrup lactophosphate of lime and the ferrous sulphate and another one that between the dilute phosphoric acid and the ferrous sulphate. Then, too, if the ferrous sulphate was brought into contact with the solution of potassium arsenite a precipitate of iron would occur. A precipitate will also occur if the solution of potassium arsenite be mixed directly with the quinine bisulphate or strychnine sulphate. These alkaloidal precipitates are likely to be dissolved when brought in contact with the phosphoric acid. Upon allowing the resulting mixture to stand, however, they will probably be again precipitated. The ferrous sulphate should be omitted.

Shellac Leather Dressing.

(J. C.)

1.) Alcohol ....1 gallon
White turpentine ....1½ pounds
Venice turpentine....4 ounces
Shellac ....4 pounds
Sweet oil.... .....4 ounces
Lampblack .....2 ounces

2.) To 1 gallon rectified spirit is added 21 drams blue aniline and 31 drams Bismarck brown aniline, the solution of the last two being effected by agitation for eight to twelve hours. After the solution is completed the mass is allowed to settle, and the liquid portion is drawn off by spigots above the sediment and filtered, if necessary. The alcohol is placed in the apparatus first, then the colors, and the mixture agitated every hour for a space of ten or fifteen minutes. Of this liquid ¼ gallon is added to 1 gallon of rectified spirit, and in this are dissolved 11 ozs. of camphor, 16 ozs. Venice turpentine, 36 ozs. shellac. To 1 qt. benzine add 3½ fl. ozs. castor oil and 1 3-5 fl. ozs. boiled linseed oil. The two solutions are then united by agitation, but should not be allowed over two days in any vessel of iron or zinc, as in the presence of the gums the colors will be decomposed by contact with zinc in eight days, and with iron in eighteen to twenty-four days.

3.) Shellac ....50 grains
Venice turpentine...40 grains
Solid blue-black "B".15 grains
In a mixture of
Alcohol.... .. .. 2 fl. ounces
Gasoline ..... 6 fl. drams

Harness Dressing.

(J. C.) We cannot give you the formula for the proprietary article. Possibly one of the following may answer your purpose:

1.) Best glue .....4 ounces
Good vinegar.. .....1½ pints
Best gum arabic.....2 ounces
Good black ink..... ½ pint
Best isinglass.....2 drams

Dissolve the gum in the ink, and melt the isinglass in another vessel in as much hot water as will cover it. Having first steeped the glue in the vinegar until soft, dissolve it completely by the aid of heat, stirring to prevent burning. The heat should not exceed 180° F. Add the ink and gum, and allow the mixture to again rise to the same temperature. Lastly, mix in the solution isinglass, and remove from the fire. When used, a small portion must be heated until fluid, and then applied with a sponge, and allowed to dry on.

2.) Laundry soap, shavings .. .. 300 parts
Starch ..... 150 parts
Nutgalls, bruised..... 150 parts
Green vitriol ..... 150 parts
Water .. ..10,000 parts

Boil together for one hour, filter and add:

Animal charcoal.... 500 parts
Extract logwood ..... 100 parts
Brown molasses..... 1,000 parts
Carbolic acid .....125 parts

3.) Prussian blue, in fine powder, ¾ oz.; lampblack, 4 ozs.; molasses, 2 ozs.; soft soap, 2 ozs. Mix together in a large mortar, previously warmed, and add: Vaseline, 6 ozs.; ceresin, 5 ozs.; yellow resin, ½ oz.; melted together, then sufficient turpentine to give the composition the proper consistency. Mix thoroughly.

4.) Put into a glazed vessel 2 ozs. of black resin, which is melted over a fire. When dissolved add 3 ozs. of beeswax, and when this is melted remove from the fire, then add ½ oz. of fine lampblack, ½ dr. of Prussian blue, in powder. These are stirrred well together, and enough turpentine is added to form into a thin paste. Allow to cool, apply with a sponge, and finally polish with a soft brush.

Aromatic Fluid Extract of Cascara Sagrada.

(S. S. L.) Try the following:

Cascara sagrada (No. 40 powder) .....100 parts
Calcined magnesia .... 1 part
Alcohol ....100 parts
Water, quantity sufficient.

Mix the alcohol with the water in the proportion of 2 to 3 of water; moisten the mixed powders thoroughly with the menstruum, and let stand until the bitterness disappears; then pack in a percolator and percolate, adding more water, if necessary, until 200 parts extract is obtained. To every fourteen ounces of the percolate thus obtained, add:

Spirit cinnamon .... ½ dram
Spirit nutmeg .....15 minims
Fluid ext. licorice... 1 ounce
Glycerin .... 1 ounce

Another formula is this one, taken from a paper read before the Kings County Pharmaceutical Association a short time ago:

Cascara sagrada, No. 40 powder .....500 grams
Calcined magnesia .... 50 grams
Water .....550 cc.
Alcohol .....400 cc.
Glycerin .....120 cc.
Purified extract of licorice .....120 grams
Saccharin ..... 2 grams
Oil of fennel.....0.31 gram
Dilute alcohol ..... enough

Mix the first two ingredients very intimately, moisten with water and macerate for several hours. Then pack the mixture in a percolator and allow to macerate for another period of about 48 hours; then add the alcohol and allow to macerate 12 hours longer. Now start percolation with dilute alcohol, and continue until the drug is exhausted. The percolation is allowed to go on very slowly at first, the heavier portion being reserved to the amount of about 400 cc. and the remainder in succession to about 500 cc. Recover the alcohol, commencing with the most dilute of the liquors, and evaporate until the whole is reduced to 380 cc., including the glycerin; to this product, add the extract of licorice, saccharin and oil of fennel, the whole to measure 500 cc.

See also formula for "Bitterless Extract Cascara," Nov. 1, 1894, Era, page 395.

INKS.

Black.

1.) Sulphate of iron.....1 ounce
Logwood .....1 ounce
Gall nuts .....3½ ounces
Gum arabic .....1 ounce

Pulverize each separately, mix, and add:

White wine vinegar (or acetic acid) .....1 quart

2.) Pulverized gall nuts .. 100 parts
Sulphate of iron..... 250 parts
Gum arabic ..... 200 parts
Water .....6,000 parts
Creosote, a few drops.

3.) Extract logwood ..... 15 parts
Carbonate of sodium, crystallized ..... 4 parts
Neutral chromate potassium ..... 1 part
Water .....1,000 parts

Dissolve the extract in 900 parts of the water, allow it to deposit, decant, heat to boiling, and add the carbonate of sodium; lastly, dissolve the chromate of potassium in the remainder of the water, and add to the logwood solution drop by drop with constant stirring.

Blue-Black.

Tannic acid .....200 grains
Gallic acid ..... 50 grains
Protosulphate of iron.. 1 ounce
Indigo carmine (neutral) .....320 grains
Powdered cloves ..... 5 grains
Water ..... 1 pint

Dissolve the tannic and gallic acids in water. To this solution add the iron salt, and filter through cotton. Then add the indigo carmine, and lastly the cloves. One good copy can be obtained from this ink.

Violet Copying.

1.) Methyl-violet .....½ ounce
Water .....16 ounces
Glycerine .....½ ounce

Dissolve the violet in the water and add the glycerine. A few drops of creosote should be added to make the ink keep.

2.) Extract logwood, French, extra fine .....100 parts
Oxalate of ammonium.. 30 parts
Sulphate of aluminum.. 30 parts
Oxalic acid ..... 8 parts
Bichromate of potassium 1 part
Salicylic acid ..... 1 part
Pure water ..... q. s.

Reduce the first four ingredients to a coarse powder and heat the mixture with 800 parts of water to boiling in a copper vessel. Then add a solution of bichromate of potassium in 150 parts of hot water; next add the salicylic acid, and set the whole aside for 14 days. Pour off the clear liquid and put it in ¼ or 1-pound bottles. In thin layers this ink has a fine red tint and writes with a violet-red color, which copies dark violet, and also assumes the last mentioned shade when drying. It is one of the best copying inks in existence. Writing done by it can be copied many weeks afterward.

Purple.

Logwood extract ..... 15 parts
Crystallized verdigris .. 10 parts
Alum ..... 50 parts
Gum arabic ..... 30 parts
Water .....800 parts

Dissolve the logwood extract by itself in water and to the solution add the boiling solutions of the verdigris and alum and of the gum arabic. If the color of the fluid should be too much inclined toward blue, add drop by drop strong vinegar or a quantity of dark red (carmine) ink.

Purple Carthamin.

Safflower carmine (carthamin) ..... 7 ounces
Gum arabic .....26 ounces
Cream of tartar..... 1 ounce
Sugar ..... 2½ ounces
Water ..... 6 quarts
Carbolic acid ..... 2½ drams

Yellow.

Gamboge, pulverized ..1 ounce
Hot water .....5 ounces

Dissolve, and when cold add:

Alcohol .....½ ounce

Red.

1.) Ammonia .....1 dram
Gum arabic .....4 grains
Carmine, No. 40.....6 grains
Carmine, No. 6 or 8.....5 grains
Soft water, to make....1 ounce

2.) Brazil wood ..... 2 ounces
Muriate of tin .....½ dram
Gum arabic ..... 1 dram
Water .....32 ounces

Boil down to one-half and strain.

3.) Dissolve 25 parts, by weight, of saffranin in 500 parts of warm glycerine, then stir in carefully 500 parts alcohol and an equal quantity of acetic acid. It is then diluted with 9,000 parts of water, in which is dissolved a little gum arabic.

Blue Aniline.

Dissolve water-soluble aniline blue in water and dilute the solution so that writing executed with it shows, when dry, a pure blue color without metallic luster; then add sufficient gum arabic solution to give the ink the required degree of fluidity. By an addition of glycerin the ink may be made suitable for copying.

Stein's Green.

Mix indigo carmine, 1 ounce; gum, 1⅔ ounces; water, 26 ounces, with picric acid, 2 drams, and boiling water, 6 ounces.

Green.

1.) Rub 3½ drams of Prussian blue and 3 drams of gamboge with 2 ounces of mucilage, and add ½ pint of water.

2.) A solution of recently precipitated hydrated oxide of chromium in liquor of ammonia, diluted with a sufficient quantity of water. This produces a beautiful dark green liquid, perfectly anti-corrosive.

School.

Japanese nut galls ....15 pounds
Water .....80 quarts
Dextrin ..... 6 pounds
Ferrous sulphate ..... 5 pounds
Wood vinegar ..... 1 pound

Mix with logwood extract, 14 pounds; dextrin, 12; water, 100 quarts.

Black Copying.

Rain water .....2 gallons
Gum arabic .....¼ pound
Brown sugar .....¼ pound
Clean copperas .....¼ pound
Powdered nut galls....¾ pound

Bruise all and mix, shaking occasionally for 10 days, and strain. If needed sooner, let it steep in an iron kettle until the strength is obtained.

Black Leather.

(A) Nut galls ..... 10 parts
Gum arabic ..... 1 part
Water .....100 parts

(B) Ferrous sulphate ..... 1 part
Gum arabic ..... 2 parts
Indigo carmine ..... ½ part
Water ..... 10 parts

Apply solution A to the portion of the leather to be written on, and when dry write with solution B. The writing produced in this manner has a beautiful black color and penetrates deeply into the leather, especially if the lower side of it haa been thoroughly moistened.

Marking for Packages.

An excellent and very cheap ink is made by mixing ¼ ounce of bichromate of potash and 4 ounces extract of logwood in a stone jar or demijohn with 2 gallons of hot water. Shake well and let it stand for about two weeks, shaking occasionally.

For Rubber Stamps.

Aniline (violet or crimson).1 part
Water .....4 parts
Methylic alcohol .....4 parts

Dissolve, then add:

Treacle .....1 part
Glycerin .....1 part

Stencil.

Take of snellac, 2 ounces; borax, 2 ounces; water, 25 ounces; gum arabic, 2 ounces, and of Venetian red a sufficiency. Boil the borax, shellac and some water until they are dissolved; add the gum arabic and withdraw it from the fire. When the solution has become cold, complete to 25 ounces with water, and add more red to bring it to a suitable consistency.

Ink Eraser.

Mix equal parts of oxalic acid and tartaric acid in powder. When to be used, dissolve a little in water. It is poisonous.

Green Hectograph.

Aniline blue, soluble in water, by weight.....10 parts
Picric acid .....10 parts
Alcohol (90 per cent.)....30 parts
Glycerine .....10 parts
Water .....30 parts

By decreasing or increasing the quantity of picric acid, various shades of yellow are obtained.

Hectograph.

Paris violet .....1 part
Water .....3 parts

PAINLESS TOOTH EXTRACTION.—The Med. Standard states that the following has been found of value by many dentists: Oil wintergreen, 2 drams; Chloroform, 1 dram; Sulphuric ether, 1 dram; Chloral hydrate, 2 drams; Oil of cloves, 4 drams; Alcohol, 12 drams. Apply with cotton pressed on each side of the tooth.

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ALCOHOL CLAIMS.

The Era's article on alcohol rebates has stirred up the retail druggists of the country, and every mail brings to this office applications for blanks. It only needed a word or two to convince the pharmacists that they stood on the same footing in law with the wholesale manufacturer of medicines, and that they would lose nothing by preparing their claims. There is still some misunderstanding about one or two points. A retail druggist asks if he cannot buy a 20-gallon package of alcohol and draw out 10 gallons for counter sales, keeping an account of the remainder, which he intends to use for manufacturing purposes. If he wishes to have his claim without a flaw he should not do so. The package upon which a stamp is placed must be entirely used for manufacturing purposes. Not a drop should be drawn for sales. Again, buy more than 5 gallons in a package, if you desire to keep a record for claims. On such packages the alcohol dealer will affix the stamp.

In New York City the retailers expressed their appreciation of the Era's good work in bringing this matter to their attention. They have begun to keep a record, and will watch the proceedings at Washington in October with great interest. Previous to the publication of the retailers' rights in the matter, the small pharmacists paid little attention to the suits. It is different now, for if the test case is decided in favor of the petitioner, every druggist whose claim is in good order is $2.06 richer for every gallon of alcohol he has used for manufacturing, and has kept track of. The out-of-town druggists have also come forward enthusiastically, and have asked to have blanks sent them right away. As will be seen by the list printed below, the requests for only a few days come from pharmacists all over New England, and from as far West as Michigan.

Among the requests received from retail druggists for blanks during three week days following the issue of last week were the following, showing that the retail trade has already begun to put itself in line with the wholesale trade in this matter: Shumway & Beekman, Fort Plain, N. Y.; the Kalish Pharmacy, 23d street and Fourth avenue, New York City; F. P. Schweizer, 517 Sixth street, New York City; H. E. Heebner, Lee, Mass.; F. A. Kattman, 50 Bushwick avenue, Brooklyn; Heintzelman's Pharmacy, 2000 Ridge avenue, Philadelphia; F. L. Wilson, Berlin, N. H.; H. Gauss, Highland Pharmacy, Louisville, Ky.; A. J. Smith & Sons, Richfield Springs, N. Y.; J. A. Tilton, Springfield, Ohio; F. M. Harris & Co., Worcester, Mass.; Dr. H. C. Porter & Son, Towanda, Pa.; Willis G. Gregory, Buffalo, N. Y.; Warren Street Pharmacy, Beverly, N. J.; Williams' Drug Store, Jericho, Vt.; W. F. Maulick, Columbia, Pa.; F. S. Stevens, Bridgeport, Conn.; B. F. Kennard, Dover, N. H.; N. S. Whitman, Nashua, N. H.; C. E. Bardwell, Holyoke, Mass.; P. B. Knapp & Son, 362 Hudson street, New York City; Fifth Avenue Drug Co. (Limited), Brooklyn, N. Y.; Herman Graeser, 40 Stanton street, New York City; Albert Spies, Newark, N. J.; S. Schmidt, 1097 Park avenue, New York City; Preston's Pharmacy, Portsmouth, N. H.; William C. Fuller, Providence, R. I.; A. E. Wallace, Nashua, N. H.; Miller's Pharmacy, Chambersburg, Pa.; L. B. Downing, Hanover, N. H.; A. W. Huntley, Saranac, Mich.; Jesse W. Sargent, Malden, Mass.; A. H. Covell, New Bedford, Mass.; R. H. Dimock, New Haven, Conn.; A. C. Taylor, Vineland, N. J.; Arthur G. Smith, Ellenville, N. Y.; William O'Donnell & Co., Riverpoint, R. I.; Sheldon's Pharmacy, Willsborough, N. Y.; College Pharmacy, Northampton, Mass.; George F. Sanborn, Meredith, N. H.; John H. Lakin, Boston, Mass.; R. B. Stearns & Co., Burlington, Vt.; Preston Greene, Fishkill-on-Hudson, N. Y.; George S. Russell, Easthampton, Mass.; J. G. Godding, Boston, Mass.; D. F. Rundell, Little Valley, N. Y.; Le Roy Bostwick, Maine, N. Y.; West Side Drug Store, Malone, N. Y.; E. R. Crandall, Winooski, Vt.; F. T. Whiting & Son, Great Barrington, Mass.

The Retail Druggist is a Manufacturer.

Upon the question of what constitutes a "manufacturer" under section 61 of the tariff law relating to free alcohol, Internal Revenue Commissioner Miller is reported as saying: "There is no question but that the law intended to put all users of alcohol, other than those using it in beverages, on an equality. If a big manufacturer is to be allowed rebate, there is so much the more reason why the little one should be permitted the same privilege. It is because of the fact that the retail druggists have as complete rights under the law as the big manufacturers that the problem of framing regulations to protect the Government's interests is so serious a question."

Upon another point raised by users of alcohol, who club together to buy alcohol in quantities and divide the product among themselves, the commissioner advises a discontinuance of the practice upon the ground that the possession of the stamps and identity and amount of alcohol used by the different parties causes a confusion in the evidence which might be presented with the claim for rebate.

Bureau for Collection of Alcohol Rebates.

Philadelphia, July 22.—The Bureau of Retail Apothecaries for the collection of alcohol rebates is making considerable progress. Nearly every druggist in this city has been communicated with, and about fifty have entered into the scheme. This Bureau has been getting druggists to save stamps, and those who were buying alcohol in small quantities or less than five gallon lots have been induced to purchase more at a time, so that with each lot they will secure a stamp.

It is the intention of the committee to begin work in earnest this month, and not only will druggists in Philadelphia be seen, but those in the nearby towns. Mr. Doyle, the Collector of Internal Revenue in this city, was seen by the Era's representative, and was asked if there had been many claims filed. He said they were constantly coming in and that a separate place had been set apart for the filing of them. Not only the druggists, but all people who use alcohol have employed counsel to look after their interests, and a few days ago a prominent mince meat manufacturer had his lawyer apply to Mr. Doyle for the filing of a number of stamps. Mr. Doyle said to the lawyer that mince meat was one of the arts. The mince meat maker's claim was taken along with the rest and filed away to be acted upon later.

Minnesota Melange.

St. Paul, Minn., July 22.—Minnesota is bent upon maintaining its claims as an entertainer of national conventions, and St. Paul and Minneapolis, and indeed the whole State, will exert all possible efforts to secure the convention of the A. Ph. A. in 1896. A strong delegation from the Twin Cities will go to Denver next month while the druggists are in session there, and bring all its blandishments to bear upon that body to the end that the next national gathering may be held in the North Star State. The campaign originated with the Minnesota pharmacists at their recent State convention, and is being organized by the Minneapolis and St. Paul commercial clubs, working with Chas. T. Heller, secretary of the State pharmaceutical organization. The meeting, if captured for Minnesota, will be held principally at Lake Minnetonka, with perhaps some sessions in St. Paul and Minneapolis.

A representative of the Eclipse Drug Co., of this city, appeared before the county board of equalization the other day, and worked upon that autocratic body so effectually that it reduced its personal property assessment from $3,250 to $1,000.

During a tremendous rain and thunder storm recently F. W. Faber's drug store, at 10th and Wabasha streets, was badly damaged by water pouring in through the skylight.

L. W. KADLEC.

L. W. Kadlec, of 179 West 12th street, the well known druggist and Democratic politician of Chicago, died in that city on Saturday, July 20. The cause of his death was apoplexy.

Mr. Kadlec was quite prominent in Democratic circles in Chicago, having been one of the delegates from that city to the Democratic National Convention at which Cleveland and Stevenson were nominated. He was also a member of the Chicago Board of Education for two terms. A comprehensive sektch of his career was presented in this paper, July 15, 1893.

In the death of Mr. Kadlec, Chicago has lost a loyal friend, an upright man and a valuable citizen.

Wholesale Rejection of Applications for Licenses.

Boston, July 20.—Rather astonishing is the statement made by a member of the State Board of Registration in Pharmacy concerning the granting of liquor licenses this year to the druggists throughout Massachusetts. It may be remembered that, owing to a new law, all druggists desiring to dispense liquors were required to obtain the approval of the pharmacy board before the local authorities—license commissioners, police boards, aldermen or selectmen, as the case might be—would grant licenses; and that in anticipation of this additional responsibility, the State Board took extraordinary care to collect all possible knowledge about the way in which the druggists have been conducting their business. Now comes the amazing fact that in 25 per cent. of the cases the board was actually obliged to deny its approval of the applications. This is a straw showing how the wind blows. It is stated that in Boston the conditions were not nearly so bad as in some other parts of the Commonwealth, for instance, Fall River. If the board were to publish a summary of the facts obtained it would be "mighty interesting reading."

Sunday Soda Sales.

NO DOUBT THAT PRESIDENT ROOSEVELT WILL STOP THEM SOON.—HOW DRUGGISTS FEEL.

Just because President Roosevelt, of the Police Commission, gave out no orders last Sunday for the arrest of druggists who sold soda water on that day, the drug store proprietors must not feel secure for all time. Mr. Roosevelt has announced that he would deal with the big criminals first, as much as to say that he regarded the druggist as a criminal also. The Sunday is not far off, probably, when every soda fountain in this city will be covered with cloth like the inclosed bars of saloons. It is evident that the commissioners mean to compel druggists to stop selling anything but medicines on the Lord's Day.

There were many inquiries put to policemen by pharmacists last Sunday in regard to whether they had orders to stop the sale of soda water. The answer was that no orders had been given out, so the dispensing went on. All over the city remarks were made that were not complimentary to that Kingsbridge druggist who escaped a fine the Sunday previous by saying that he had given away soda instead of selling it. Had he made the case a test one the whole matter would have been settled then and there.

The Sunday sales of soda water in this city exceed those of any other day, and if the privilege is to be taken away the druggists will lose quite a sum. When a test case comes the highest court in the State will be appealed to without doubt.

Better 'Phone Service for Druggists.

Chicago, July 20.—The scheme which was broached at the meeting of the Retail Druggists' Association on July 9 in regard to a change in the telephone service, and which was referred to a committee for further investigation, at last bids fair to be consummated. Under the method now in vogue, much inconvenience has arisen, not alone from the fact that the service is practically free so far as the public is concerned, but because it is unreliable, patrons often having to wait an inconvenient length of time to get the wire.

The new 'phone is automatic. It is an ingenious combination of the slot machine idea and is known as the long-distance copper metallic circuit 'phone. It bids fair to be better than its name. The manner in which this new device is worked may be thus described: The person desiring to use the 'phone rings up Central and calls the number. If the connection can be made the customer puts a dime in the slot, the automatic attachment being so arranged that when the dime is deposited it is reported at the Central, whereupon the operator immediately makes the connection desired. If, however, the customer calls up Central and the wire of the number called is busy he is at once given notice of it; in other words, he need not pay until he can get the proper connection; then, however, if he would talk he must pay, for no connection will be made before the dime is put in. Not even the druggist himself can use the 'phone without payment of the fee, but it is not anticipated that this will be any inconvenience, as the druggist has little occasion to use the 'phone, most of his telephone calls coming from other parties to him. The party receiving a message, of course, pays no fee.

The use of the telephones in drug stores has become to many druggists an intolerable inconvenience. Agreements upon agreements have been entered into, seeking to confine the use of the telephone to those willing to pay for such use. Each agreement has proved to be a rope of sand, for competition among retail druggists has been so keen that possession of a free telephone gave a store an advantage over one which sought to exact a fee from users according to the agreement. The druggists in this matter were "a house divided against itself," with the inevitable result.

The telephone company has agreed that if the druggists will consent to the arrangement they will put in the long-distance copper metallic circuit telephones at a special rate.

It is anticipated that the copper metallic circuit will prevent the wires of the trolley system from interfering with the 'phone, as it does in many cases at present. This, and the prevention of trivial conversations and the prevention of business delay resulting therefrom, are among the advantages which will compensate for the trouble and slight additional expense of putting in the new device.

Druggists now pay $150 per year for the ordinary circuit. For this expense there is in many cases no direct compensation. Under the new plan $175 will be paid for putting in the new 'phone, and a yearly rental of $200 will be charged, in place of the $150 now paid. If the 'phone takes in $200 per year, then the druggist need pay no rental, but he must guarantee that amount. Whatever is received over and above the yearly rental of $200 is divided equally between the druggist and the telephone company.

Many beneficial results are expected from this new 'phone, and but little opposition has developed.

Philadelphia Trade.

Philadelphia, July 22.—The drug trade in this city has taken a sudden drop and the houses that have been making statements that their business was very good are now loudest in their complaints against the dulness of the times. Of course the hot weather has something to do with this, but it is generally understood that when the revival of the business started early in the year many of the retailers laid in larger stocks than they have been accustomed to with the expectation that business would continue to improve; that, however, has not been the case, and now instead of buying large quantities they are back to the same plan that they pursued last year, buying small lots. None of the wholesale houses are doing a large business. They are, however, required

to keep the same force of employees on hand as small orders take as much handling as large lots. Besides this, a great many of the regular drug customers are out of the city, and this makes a difference in the retail trade. It is thought, however, that in a few weeks there will be an improvement, and while the dulness continues many of the retailers are making elaborate alterations to their stores, so that they will attract more than usual attention in the fall.

What is a House-Organ?

The editor of The Trade Press does not remember of having ever read or heard a terse or succinct definition of what constitutes a house-organ in the trade paper world. The term is not defined in dictionaries or encyclopedias.

The Trade Press would describe a house-organ as a publication which would not be in existence but for the subsidiary business in which its publishers are engaged. It is a publication which poses as an organ of an entire industry, but is by the force of its origin, existence and surroundings, subsidized in the interest of one or certain houses in an industry beyond the price paid for advertising. House-organs are of two kinds. A legitimate house-organ is one which pays circular rates of postage, and an illegitimate one is one which secures admission to second-class mails on the representation that it is a general organ of the trade, uninfluenced in favor of any one concern engaged in the field it presumes or pretends to represent. The pretentious house-organ is a pernicious publication in more ways than one. It defrauds the government by misrepresentation of its real character; it is in a position to boom, in an alleged unbiased organ, its own goods, and decry the goods of others, holding a weapon while the competitor is unarmed, and makes the meanest, most dishonest and destructive competition a legitimate trade journal can have. In certain fields it has a "pull" which amounts to blackmail. As an instance: a large wholesale drug concern runs a drug paper. This house is a large purchaser from drug manufacturers. For these drug makers it means advertise in this house-organ or lose not only the patronage of the drug seller but a liability to having the goods he makes slurred at or openly condemned in the columns of the house-organ. Such a "pull" is mighty hard to compete against. A wholesale grocery house runs a house-organ. The house is a heavy purchaser from the hundreds of makers of grocery goods. Here again it means advertise in our paper or we won't buy your goods. Some of these houses which are thus enabled to save thousands of dollars annually in postage by sending their price lists and big ads at second-class rates, are making this money with the aid of the government and at the government's expense and to the serious injury of other more honest business men and publishers. The government should not aid and abet such knavery, and allow the wool drawn over its eyes by flimsy pretenses that such organs are "independent" and published for the general public. (The Trade Press.)

NEW YORK AND VICINITY.

——Dr. J. W. Riley is spending his vacation at Atlanta, Ga.

——J. S. Marvin has gone to Walton, N. Y., for his vacation.

——G. B. Bruen is spending a few days of his vacation time at Omaha, Neb.

——Robert Tremper and E. E. Bostwick are enjoying the cool breezes at Atlantic City.

——Albert Plaut, of Lehn & Fink, is expected home about the middle of August.

——R. R. Reed, a druggist of Marketville, N. Y., was in town for a few days last week.

——The old Robbins pharmacy, at Broad and Marshall streets, in Newark, has been reopened.

——W. C. Allen, of Tarrant & Co., has been enjoying a few days' outing in Sullivan County.

——Messrs. Jewell and Langford, of E. J. Hart & Co., New Orleans, have been in this city for a few days.

——Mr. Couch is in charge of Herman W. Atwood's Broadway store during the proprietor's stay at Long Branch.

——A. M. Kurtz, of Fort Scott, Kan., has been visiting in this city for several days. He came on with his family.

——Frank B. Zeh, N. Y. C. P. '95, is at Frederick Kleinschmidt's pharmacy, Columbus avenue and 88th street, this city.

——Some New York exporters of ginseng call attention to considerable adulteration of this article with Japanese ginger.

——A receiver has been appointed for Walter H. Hooker, manufacturer of patent medicines, formerly at 80 Thomas street.

——It is said that Druggist Hoykendorf, of Third avenue and 67th street, will open another store soon on Lexington avenue.

——Edward O'Connor, of the Low Art Tile Co.'s New York office, is at Macon's pharmacy, at Asbury Park, for the summer.

——D. R. Reed, of the Low Art Tile Co.'s New York office force, is on his vacation. He will spend part of his two weeks at Asbury Park.

——Fred Robinson, of R. W. Robinson & Son, has spent a month at Hot Springs, Va., and is now among the Highlands of New York.

——Thieves entered the drug store of Henry C. Miner, at Bowery and Spring street, the night of July 17th and stole goods to the value of about $100.

——Arthur W. Wright, formerly with H. M. O'Neil, No. 627 Broad street, Newark, has taken a position with C. L. Hering, No. 444 Bergen avenue, Jersey City.

——Irving McKesson, son of John McKesson, jr., has returned from his two months' trip to Europe, arriving on the Majestic on July 17th. He is in excellent health.

——R. P. Domschke, recently clerk for John Milhau's Son, the Broadway druggist, has secured a position with the Grosvenor & Richards Company, of Boston, as traveling salesman. His territory will include New York State and possibly Illinois.

——S. Thornhill, one of the students of the last junior class of the New York College of Pharmacy, has accepted a position at Dr. Taliaferro's pharmacy at Hicksville, N. Y.

——Carl Doepfner, who has been in business at No. 396 Third avenue for the past ten years, has just sold out. He is a graduate of the New York College of Pharmacy, class of '79.

——Everette E. Bickford, a graduate of the Buffalo College of Pharmacy, class of '94, is prescriptionist for Donald L. Cameron, Brooklyn, a member of the Kings County Board of Pharmacy.

——Henry Utard, of Utard & Co., importers of cachets, etc., has recently returned from a highly successful and enjoyable European trip. He made some excellent business connections while abroad.

——C. S. Erb, druggist at 65th street and Amsterdam avenue, has been taking a short vacation at Utica, N. Y. Mr. Erb is well known to New York City druggists as a worker in association matters.

——Among other Southern druggists who have called on friends in the trade here during the week, are Messrs. Palmer, of Atlanta, Ga.; R. Sauvage, of New Orleans, and C. M. Crosby, of Marietta, Ga.

——William E. White, of Rawlin's pharmacy, 135th street and Eighth avenue, is spending his vacation on the Eastern Shore of Maryland. He expects to enter the New York College of Pharmacy in the fall.

——Louis Monroe, a Connecticut druggist, staying at the Grand Union Hotel, was struck by a delivery wagon in this city July 18th and suffered dislocation of his left wrist and painful injuries to his right ankle and leg.

——The young wife of Jos. E. Adelberg, druggist at 375 Broome street, was picked up on the street by the police, evidently insane. It is claimed that over-indulgence in novel reading brought on her aberration of mind.

——Robert Cordner, one of the recent graduates of the New York College of Pharmacy, will take charge of H. M. Durant's pharmacy at Blue Mountain Lake, Hamilton County, N. Y., for the remainder of the summer season.

——M. J. Breitenbach, the druggist at 57th street and Lexington avenue, and also owner of Peptomangan, leaves for Europe next Saturday on the Lahn to bring back his family, who have been spending the last three months in Europe.

——Chairman Carter, of the committee on Membership of the N. W. D. A., writes President Main that he has quite a list of names to be presented for election as active members. Mr. Carter has been laid up for a short time by sickness.

——Emil Utard, manager of Ed. Pinaud's importation office on Union Square, this city, is now in Paris and will return about the 1st of September. He will bring back a full line of up-to-date perfumery samples. The last cable from M. Utard reported him in excellent health.

——East-side druggists say the syrups used by the Italian hokey-pokey venders and soda-water sellers are poisonous in the extreme, and are the undoubted cause of so much sickness among the chidren. An analysis of the ice-cream and soda showed the presence of a deadly aniline poison.

——The old Fassett & Mesaros' store, at the corner of 132d street and Lenox avenue, known as the Lenox Pharmacy, has again been opened. Dr. Hahn is the new proprietor. He will have as one of his assistants, C. P. Bulson, who is also connected with W. F. Rawlin's pharmacy at 135th street and Eighth avenue.

——The County Medical Society has again become active in prosecuting persons whom it charges with practicing medicine without a license. Most of the recent cases have been against midwives, but one resulted in the arrest of Louis Spingarn, druggist at No. 40 Greenwich street. The case has not yet been heard in court.

——Apropos of the statement recently made that a certain Western company had built up the demand for celery compound, a gentleman in a William street drug house tells the Era man that the Benson Company was the one that really built up the demand as far back as 1882. He made the point that writers who are supposed to be accurate in drug trade articles often give credit where it is not due because they are ignorant of the facts.

——Fox, Fultz & Co. made application recently for the appointment of a receiver in supplementary proceedings for Jennie B. Cook, wife of Dr. Irving J. Cook, druggist, of No. 883 Eighth avenue. The court has appointed Philip J. Britt. A short time ago the Cook pharmacy was damaged by fire after it had only been open a few weeks, and the receivership is specially for a debt due Mrs. Cook by the Niagara Fire Insurance Co.

——John Chapman, of Chapman, White, Lyons & Co., Knoxville, Tenn., chairman of the N. W. D. A. committee on relations with local associations, will not be able to draw up the report of his committee, owing to ill health. He met with an accident early in the year and has not recovered from its effects. President Main has asked the second committeeman, Allen C. Smith, of Smith, Benedict & Co., to prepare the report.

——Hugo Soltau, one of Lehn & Fink's popular salesmen and a veteran at the business, has just returned from an eleven weeks' trip through Texas and the Mississippi River towns. It rained incessantly all that time. Mr. Soltau says the cotton crop is ruined, but rice and sugar cane are flourishing in good shape, so business does not look all bad. It may not be generally known that Mr. Soltau is a fine pianist and an enthusiastic entomologist. Some of his collections of rare bugs he sends to the Smithsonian Institution. He has been 23 years on the road as a drug salesman and is known all over the country.

——City wholesalers are receiving inquiries from out-of-town customers in regard to the standing of a man who claims to be in the wholesale drug business, with an office on Frankfort street. The country firms have received orders for goods without the check for payment. The correct course under such circumstances is to ask for payment before the goods are sent. The trade has had too much experience with Sampson & Co. and others of that class to be caught now.

——The oft-recurring subject of illegible writing by physicians has been brought up again recently by an article in the daily press. The prescription written by one doctor was reprinted, the druggist who received it saying that it was impossible for him to make out what was wanted. At least one death last spring in this city was due to an ill-written prescription. The question is asked, Why should not the physicians be compelled to write in plain English so that their patients would know what they are getting?

——Frank Rheim, clerk for Wm. Hauenstein, 375 Amsterdam avenue, is taking his vacation at Mansfield, O., his native town. Mr. Rheim is a graduate of the Philadelphia College of Pharmacy, class of '94, and a well-known vocalist in the Pharmaceutical Club. His place will be filled during his absence by R. D. Newton, who formerly clerked for Mr. Hauenstein. Mr. Newton is also a Philadelphia College man. He is now taking a course in medicine at the Medico-Chirurgical College in Philadelphia.

——Parke, Davis & Co. have applied to the New York State Comptroller for a revocation of a corporation tax of $1,600, which the Comptroller claims is due for taxes on the amount of its capital employed in this State during the past seven years. Deputy Commissioner Morgan heard an argument made by James McKean for the concern, Mr. McKean contending that the law under which the company is taxed is unconstitutional. Even if it were not, said Mr. McKean, the company had employed no capital here and could not be taxed. No decision was rendered.

——Brooklyn and its suburbs furnish a rich field for the petty swindler, especially of the drug store kind. The latest swindle was perpetrated on the young woman cashier in the store at No. 692 Grand street, Williamsburg. Druggist R. C. Knipe has a branch of the post-office there. A few nights ago a well-dressed man called at the store and asked the cashier if she would give him two $10 bills for 20 one-dollar bills. She gave him the two tens, which he pretended to put into an addressed envelope. Then the cashier discovered that he had only given her nineteen one-dollar bills. He expressed surprise, declaring that his wife had given him the bills, and that he would go out and bring the other $1. The cashier gave him the $19, he gave her the envelope and went away. As he did not return the cashier opened the envelope and found two bits of paper instead of the two $10 bills.

——Dr. R. Ogden Doremus calls for the employment on shipboard of wrought-iron cylinders filled with carbonic acid gas as a sure extinguisher of fires. He says it would quickly put out the fires without damage to high-grade freight, and that it is easily procured and kept. Perhaps his advocacy of the plan may open a new line for the liquefied carbonic acid gas manufacturers of this city.

——W. H. Averill, of Frankfort, Ky., stopped over in New York for a few days on his way home from the Christian Endeavor Convention in Boston, and also went to Atlantic City. Mr. Averill is an old-timer in the drug business at Frankfort and has virtually retired from active work, but while he was here he secured the whole outfit for redecorating his store.

——Abraham S. Friedland, the druggist at the corner of Jefferson street and East Broadway, is awaiting examination on the charge of receiving stolen goods, and the police say he has received almost $1,000 worth of property illegally. For some time Glaenzer & Co., of Nos. 80 and 82 Chambers street, have been missing tooth brushes and hair brushes, and being unable to discover the thief called in two police detectives. They suspected James Caprani of taking the goods and discovered some of the brushes at Friedland's store. One of the detectives bought some hair brushes of the druggist at about one-half the cost price, and they were identified at the Chambers street store as being part of the stolen stock. Another detective purchased four dozen tooth brushes of Friedland and also asked when he could get a larger stock. He was told to come around in three weeks. This confirmed their suspicion that Caprani was the thief, for he was then on his vacation. On his return he was arrested. He confessed that he had received $5.25 for a gross of brushes, and that in all Friedland had paid him $200.

Indiana Wholesalers' View of Trade.

Chas. L. Hoover & Sons, of New Albany, Ind., write: While we occasionally hear the pleasant report that trade is improving, we think this is not general. Our retail druggists are not inflated with this pleasant belief, because the trade here is quiet. However, the druggists here as elsewhere as a class are not of the desponding kind and are keeping their business in good shape. While the drug trade is thoroughly represented, we believe all are getting a good share of trade, and have got used to the cry of hard times. All are looking forward to an increase of business this fall, as the G. A. R. National Encampment meets here in September, and with a large crowd there will be a stimulus in the drug business as well as other branches. Druggists here do not as a rule cater to the thirsty with the different kinds of soda, as the confectioners make a specialty of this, and as we are having cool days the demand is not large. The druggists are somewhat flurried over the Nicholson liquor law, which has just gone into force. By this law they are not allowed to sell liquor in less amounts than 1 quart, unless on the prescription of a physician.

HERE AND THERE.

——Five leading druggists of Elgin, Ill., were arrested July 15 for illegal liquor selling.

——Druggist Geo. Davis, of Nebraska City, Neb., was painfully injured by being thrown from his horse a few days ago.

——Andrew Cobb, buyer for Morrisson, Plummer & Co., Chicago, departed for Europe last week on a business and pleasure trip.

——The infant twins of Druggist C. E. Franklin and wife, of Pendleton, Ind., died, one on July 7 and the other on the 8th, of cholera infantum.

——A traveling quack medicine peddler, who called himself "Dr. F. H. Woods," was arrested at Henderson, Ind., on July 14 for selling his nostrums without a license.

——The Chicago branch of Sharp & Dohme reports prospects good in the West and Northwest, collections being easier than in the Eastern and Southern States.

——Jno. F. Matthes, of the Chicago house of Whitall, Tatum & Co., is spending several weeks at Fox Lake with his family. He sends in wonderful fish stories.

——Dr. H. W. St. Leon, of the Oregon Medicine Co., was arrested at Grantsburg, Ill., for refusing to take out a village license. He sues the village for false arrest.

——Druggist W. G. Innes, of Pittsburg, Pa., was charged by his father-in-law with an aggravated assault and battery on his wife, the suit being a result of family difficulties. It was asserted that the druggist attempted to shoot the woman. The charge has been withdrawn.

——At Clearwater, Kan., Daniel Smith, a nine-year-old boy, was in poor health and his father purchased a bottle of patent medicine to restore him. The boy was promised one cent for every dose he would take; he took ten in succession and died.

——O. M. Brooks, druggist at Sedalia, Mo., sold his drug store a short time ago to J. R. Myers. It is alleged that Brooks agreed to dispose of his fixtures at actual cost, but instead he changed the figures from $352 to $652 on the bill that had been rendered by the firm that furnished them. Brooks has been arrested, charged with having swindled Myers out of $300.

——The J. A. Pozzoni Medicated Complexion Powder Co. has secured an injunction against A. F. Herrmann, restraining him from using the words "Prepared by the J. A. Pozzoni M. C. P. Co.'s former Chemist" on the labels of a preparation which he has been marketing. This is the case referred to last week and which has terminated with this result.

——A few items from Dansville, Ill.—Frank Irwin, prescription clerk for F. G. Irwin, and Dr. F. R. McLean have returned from a vacation in New Jersey.

——L. E. Schreiner has left the employ of W. E. Lindsey and entered that of Holden, the Chrisman druggist.——W. Oetzel, of Oetzel & Torrence, was recently called to Centralia by the death of his brother.——E. C. Winslow, of Winslow & Stenbe, but who for some time has been residing in California, retaining his business interests here, has been back on an extended visit among his former acquaintances.——A. G. Woodbury and two sisters attended the National Bicycle meet at Asbury Park.——Carter & Mungesser have removed into more spacious quarters.

——For some time the Winkelmann & Brown Drug Company, wholesale druggists and manufacturers of perfumery on Hopkins Place, Baltimore, has been missing bottles of cologne. A detective was engaged to watch and arrested Lillian Pamphillion, a girl employed in the establishment, on the charge of stealing the cologne. A man named Hugh Smith, who said he had bought the cologne from the girl for 50 cents a bottle, was arrested for receiving stolen goods. Before a police justice, who heard the case on July 17, Lillian admitted her guilt and was released on $500 bail for the action of the Criminal Court. Smith could not furnish security and went to jail.

——William B. Rawlinson, formerly in the drug business at 13 Eliot Square, Boston, is missing; but his disappearance is worrying his creditors more than it is his friends. Three years ago he bought the store he has occupied up to the 1st of July. The money to purchase was advanced him by Dr. Cooper, of Brookline, and a well-known business man of Newton Centre, who took first and second mortgages. On the first day of July Rawlinson, it is said, gathered together all the money possible and told his clerk he was going to Australia. Since then he has not been seen or heard from. The clerk notified the mortgagees three days after his disappearance, and they took possession of the store.

——The work of securing subscriptions for the exposition to be held in Baltimore in 1897 to commemorate the centennial of the city's incorporation, which had been pursued with little energy, has been taken up with renewed vigor, and has now reached the point where support is voluntarily offered. A number of prominent persons have been so favorably impressed by the liberal responses to the call of the ways and means committee that they have doubled their original subscriptions. One of these is Mr. Lilly, of Lilly, Rogers & Co., the well-known Baltimore street druggists. In fact, the drug trade as a whole is coming nobly to the front. Liberal subscriptions have already been received from the Winkelmann & Brown Drug Company, Gilbert Bros. & Co., Louis Yakel, John H. Harmanson, Thomas & Thompson, W. J. Parker & Co., C. C. Habliston, McCormick & Co., M. S. Kohn & Co., W. M. Fouch, the Wm. H. Read Drug and Chemical Company, J. H. Schroeder, J. W. Browning, J. B. Kennard, J. Faris Moore, Charles R. Pue and W. M. Stewart. The trade has not yet been completely canvassed, but it is expected that the result will compare very favorably with that of any other line of business.

ASSOCIATIONS,
CLUBS, SOCIETIES.

CALENDAR OF MEETINGS.

AUGUST.

6, North Dakota—Fargo.
13, Wisconsin—Sheboygan.
14, A. Ph. A.—Denver, Colo.
14, Colorado—Denver.
21, Vermont—Burlington.

SEPTEMBER.

2, N. W. D. A.—Denver, Colo.
2, Manufacturers and Dealers in Proprietary Medicines—Denver.

MICHIGAN PHARMACEUTICAL ASSOCIATION.

Detroit, July 20.—Druggists and their wives from all parts of Michigan have spent four delightful days in Detroit, attending the 13th annual convention of pharmacists held here July 16, 17, 18, 19. Able committees have had the matter of entertainment in charge, and all visitors have gone away feeling that nothing was omitted that in any way could have added to their comfort, pleasure or instruction while here.

President A. S. Parker called the first business session to order in the Light Infantry Armory on Wednesday morning. A goodly number of druggists were in attendance. In absence of Mayor Pingree, the Hon. John B. Corliss made the address of welcome, which was responded to by Prof. A. B. Prescott, dean of the Department of Pharmacy, University of Michigan. Dr. Samuel P. Duffield, upon being presented, drew a happy contrast between old-time and new methods among druggists, and referred to the laws of Russia and Germany requiring every druggist to be a competent analytical chemist. He hoped the time would come when such a law would prevail in this country. He also wanted closer inspection of deaths from suspected poisoning, and a good chemist employed by every police board.

President's Address.

President A. S. Parker's annual address was received with great attention. He said:

During the year past the pulse of trade has been weak and slow and devoid of special feature so far as concerns the pharmacist, and there are, no doubt, those who feel that by virtue of existing conditions, there is no remedy that can restore the old-time strength and vigor; but in common with other branches of trade, we hail the signs of an approaching era of prosperity, and we should be encouraged to greater efforts. I, therefore, sincerely hope that this meeting may be characterized by a determination to unite as fellow-pharmacists and business men, with one aim, that of mutual prosperity.

Our association is now in the 13th year of its existence, and we can review its record with feelings of pardonable pride. But it has not accomplished all that it should. It cannot live on its past efforts; the demands of to-day are obsolete to-morrow, therefore it must push onward. After having chosen a vocation and entered upon it, it is one's duty to put forth his best effort toward its betterment.

One cannot afford to live a professional or a business life entirely within himself; he must let his light shine and profit by that of his fellows or become lost in the distance as the world moves on.

We must realize that benefits are only obtainable through the medium of our own efforts and proportionately thereto, therefore let us act wisely and not lose sight of our opportunities. We can ill afford to say, "I have no interest in my neighbor." In the mad rush of business so characteristic of to-day, we are brought face to face with conditions which demand unity and

strength of purpose. Never before in the history of our country has the saying, "In unity there is strength" received greater emphasis, and there is no craft in greater need of organization than that of the pharmacist. I insist, then, that we need to strengthen our ranks.

We are proud of our advancement in education and science, but the commercial feature of our vocation stands out prominently as a breadwinner; that we must recognize; its interests we must foster, for the fact remains, that prosperity is largely conducive to happiness.

The spirit of organization is in the air, and I need not cite example to illustrate what it can do, with that you are all familiar. Unqualified success does not in every case, follow organization, but it can be attained in a degree; if not the full measure, then a part.

You will pardon the egotism, if I assert that the pharmacist has attainments above the average. But from the nature of his business he becomes a recluse, giving little attention to those forces which are insidiously working, each day drawing the lines closer about him, each day making him less conspicuous as a commercial factor. One of the objects of this association is "to promote by all legitimate means the business interests of its members." This feature then should commend itself to you, and you should shake off your lethargy and become an active member. We appreciate your criticisms, no doubt we need them, but why deprive us of your assistance and encouragement?

The old questions of illegitimate competition and price cutting still confront us. We go to the proprietors and ask for relief, and what do they tell us? Simply this: "Go home, gentlemen, and organize, and when a majority of your members can come to us, then we will grant what you ask." Does not their reply emphasize the necessity for organization?

I do not take the optimistic view that every evil will be corrected by an organization, however strong, nor would our duties consist entirely in correcting trade abuses. Organization would, however, engender a fraternal feeling, with a tendency toward eliminating and preventing many annoyances, especially those of a local character. We should not organize for the sole purpose of dealing with proprietors, but on the broad plane of general welfare.

At this time we may well ask ourselves the question: "Are we doing all that we might?" We certainly are not. Indeed, our apathy and indifference afford occasion for remark and we are classed by some observers as men of small ideas, a criticism that should have no foundation in fact. We notice the changes in trade conditions, changes that to us are disastrous; how, then, shall we meet them? It is the duty of this association to undertake the solution of this problem. I believe that it is possible for pharmacists to develop their business along other lines and in time become practically independent of proprietors, who so long have had the balance of power. To this end we should lend our strength and our energies. A further consideration of this subject I leave to your committee on Trade Interests.

Now in the 13th year of our existence what is our position with regard to the pharmacists of this State? We find that in the last decade we have made no progress, that we do not possess the strength that should come from 1,500 pharmacists of Michigan. But if we can arouse their interest and show them practical results, then we shall not lack in membership. We notice all around us, in our sister States, associations strong in numbers, meetings well attended by members full of enthusiasm. Why not in Michigan? Gentlemen, will you take hold?

From an educational standpoint there is little to criticise. The tendency is upward, and we notice with satisfaction the advancement. Higher standards for admission, together with a broadened curriculum of study, such as are now demanded by some of our colleges, will have their influence upon those who are to follow us, and the standard of pharmacy will be elevated.

Our medical colleges are also extending their course of study, and I am convinced that the study of the Pharmacopœia and National Formulary by medical students will result in great benefit to the profession of pharmacy. Familiarize the physicians with these standards in medicine, and I predict that their materia medica will largely be obtained from them instead of from the price lists of the manufacturing pharmacist. The question of urging this matter may be worthy of your consideration.

It is a subject for congratulation that our university has, with its accustomed spirit of progress, recognized the necessity for the higher education of the pharmacist by providing for a full four years' course leading to the degree of Bachelor of Science in Pharmacy.

When so high a standard shall become universal, then we may expect pharmacy to hold the position among the learned professions that it should, and I hope it will be divorced from those adjuncts which today are a menace. Bacteriology, analysis and sanitation may be expected to open new and profitable fields.

A few ideas have presented themselves, to which I desire to call your attention.

The membership of this association should be increased. Can we not devise a plan whereby every registered pharmacist can be made a member for a nominal fee? I would recommend that a committee on membership be appointed.

The question of mutual fire insurance has been successfully solved by the Ohio pharmacists, from whom data may be obtained should it be deemed advisable.

The trademark evil will probably never be eliminated until those who are affected thereby take the initiative. I believe this to be in line with our duties.

We should also place ourselves on record with regard to the question of free alcohol. The plan as suggested by Dr. Squibb should, in my opinion, be indorsed.

The modified rebate plan now under advisement should receive your consideration. With all respect to those proprietors who, seemingly, are doing all in their power to regulate the sale of their products, I still hold that its solution lies entirely with them and at such time as they may elect.

A Pure Food law, properly enforced, would be of great benefit by preventing the sale of worthless goods by grocers, department stores and others, in competition with a reliable article. Every conscientious druggist should be sufficiently interested to aid in securing such a law.

At our last meeting a resolution was adopted requesting the Board of Pharmacy to require a qualification in general education equal to that of a grammar school. That request has been complied with and I am pleased to state that the papers presented are of a much better grade. The Pharmacy Board is doing all in its power to elevate the standard and should receive our hearty co-operation.

An effort should be made to secure uniformity of requirements by State boards. I believe that the establishment of a national association of State boards would be of service in securing this result.

The importance of popularizing the National Formulary with physicians does not seem to be appreciated. A strong effort in this direction should be made. The prescribing of proprietary or semi-proprietary articles reacts upon the physician's business; patients soon learn the names of these articles and call for them upon their own responsibility, when required.

Your committee on Trade Interests is an important one. Would it not be better to increase the number and give them executive power?

Since our last meeting we have encountered another session of the State Legislature, and I congratulate you on successfully meeting every issue and emerging therefrom with our pharmacy law intact.

I fear that I have imposed upon good nature by taking so much of your time. In conclusion, I have to remind you that the work of the coming year is before us. Let me again urge you to greater activity. Let committees realize that their appointment implies a duty to be performed and members understand that there is work for them as well. When such a condition shall prevail, then will the Michigan State Pharmaceutical Association fulfil the purpose for which it was organized.

F. L. Wurzburg, of Grand Rapids; James Vernor, of Detroit, and S. P. Whitmarsh, of Palmyra, were appointed a committee to consider the president's address.

Secretary F. A. Thompson's report showed a total of 450 members, 20 of them new within the year. Initiation fees and annual dues of these members gave a revenue which covered the necessary expenditures of the association, and left a small balance on hand.

Wednesday afternoon Prof. A. B. Prescott, of Ann Arbor, read a paper on "An Examination of Philippine Island Drugs for Alkaloids." He also read a second paper discussing the new four year course in pharmacy recently adopted by the regents of the University. (This paper appears in full in this issue.)

Jas. Vernor offered the report of the committee on legislation, and reviewed the attacks made upon the druggists at the last session of the legislature. Although much that was inimical to the welfare of the druggists was proposed, nothing was accomplished.

Thursday morning S. P. Whitmarsh presented the report of the committee on the president's address. The report said that not only did evils to the drug trade emanate from professional competitors, grocers, and department stores, but that every year or two the legislature made violent demonstrations of an attack. It was believed that the remedy lay in organization. After explanation by the chair of the section of the president's address relating to alcohol, the report of the committee was adopted.

Trade Interests.

C. N. Anderson, of Detroit, followed with the report of the committee on trade interests. This report will appear in a subsequent issue.

The report was discussed section by section.

The association voted to amend the by-laws so as to provide for a committee on trade interests to consist of seven members, the committee to be permanent. It was then

"Resolved, That the president appoint seven members to constitute the committee, three for one year, two for two years, and two for one year, each one to serve for three years. That the committee shall have power each year to appoint one of its members secretary. That the committee shall be selected from members in different parts of the State, and shall hold meetings (at which four shall be a quorum) not oftener than quarterly. The actual expense of such meetings shall be paid by the association. At such meetings they shall receive and act on all communications of general interest and report conclusions thereon at the annual meetings of the association."

The committee appointed to report on that section relating to the manufacture of preparations, could see no reason why some such plan should not be adopted, and recommended that the details of such plan be left to the committee on trade interests.

At Thursday afternoon's session S. E. Parkill, of Owosso, presented the report of the State Board of Pharmacy. There had been 3,013 renewals as registered pharmacists, 280 renewals as assistants, 164 applications for examinations, the dues in all amounting to $3,732. Alleged violations of the pharmacy law had been vigorously prosecuted. The fines amounted to $330, costs $175.13, making a total of $1,431.13 to date.

Friday morning F. T. Bower, of Toledo, explained the organization of the Retail Druggists' Fire Insurance Association of Ohio. So great a saving had it been to the insured that it was pro-

posed to make it a national association with a capital stock of $200,000. A rebate would be made to the insured out of the profits. A motion indorsing the scheme was adopted.

N. Hayes explained at length the working of the U. T. A. After some discussion it was finally resolved:

"That this association approves of the idea of the retail druggists of the country uniting themselves together in one great protective association, for all general trade purposes, offensive and defensive, and recommends them to join the U. T. A. as a means to accomplish the end in view."

Election of officers followed, and resulted as follows: President, George J. Ward, of St. Clair; Vice-Presidents, E. E. Phillips, of Armada; S. P. Whitmarsh, of Palmyra, and A. L. Walker, of Detroit; Secretary, Ben Schrouder, of Grand Rapids; Treasurer, Wm. Dupont, of Detroit; Executive Committee, F. L. Wurzburg, of Grand Rapids; Fred D. Stevens, of Detroit; H. G. Coleman, of Kalamazoo; C. E. Webb, of Jackson, and D. M. Russell, of Grand Rapids.

C. C. Sherrard, of Detroit, was appointed an additional delegate to the American Pharmaceutical Association, and C. N. Anderson and A. S. Parker, of Detroit, delegates to the National Wholesale Druggists' Association.

The time and place for the next meeting will be announced later by the new president, who will also appoint the permanent Committee on Trade Interests.

The Entertainment.

Fun began Tuesday afternoon at Belle Isle, where the games and prize contests were held. Hundreds of spectators saw the country druggists beat those of the city 19 to 12 at a game of baseball, and got more fun out of it than at a league game. In the tug-of-war the winners were the country druggists again, after pulling their city friends over a good portion of the island. The fat men's foot race created great amusement, and the fun was "fast and furious" all the afternoon. The following is a summary of the sports:

Standing Jump.—First prize won by Ben E. West, Grand Rapids; second prize, Joseph Moeller, Detroit.

Running Jump.—First, R. Nelson, Detroit; second, Ben West, Grand Rapids.

Bicycle Race.—One mile—First prizes, J. P. Young, Detroit, and M. J. Elwell (clerk), Detroit; second, W. V. Wendover, Detroit, and J. R. Hart (clerk), Detroit; third, R. Keller, Detroit.

Running Race, 100 Yards, Between Druggists and Clerks.—First prize, druggists, Ben E. West, Grand Rapids; second prize, D. Toepel, Detroit. First prize, clerks, R. H. Pinkey, Detroit; second prize, J. R. Hart, Detroit.

Fat Men's Race, 25 Yards.—First, F. R. Price, Sault Ste Marie; second, D. Toepel, Detroit.

Baseball Scramble.—J. Crittenden, Detroit.

Running Race, 100 Yards, Traveling Men Only.—First, R. Nelson, Detroit; second, Andy Webster, Detroit.

Throwing Baseball.—First, M. J. Elwell; second, Ben E. West.

Potato Race.—First, Ben E. West, Grand Rapids; second, F. Riddell, Detroit; third, J. H. Spader, Detroit.

On Wednesday evening the jobbers and manufacturers gave a reception at the armory to the druggists and their friends. Light refreshments were served, and the guests danced to the music of a brass band. The Reception Committee consisted of the President, A. S. Parker, Geo. S. Davis, R. P. Williams, John E. Peck, E. H. Nelson, Frederick K. Stearns, Jas. E. Davis, Prof. A. B. Prescott, A. C. Clark and F. F. Ingram.

A fine exhibit of drugs, health foods, perfumery and all the latest pharmaceutical apparatus was held in the Auditorium, which was handsomely decorated for the occasion. An invitation to attend this exhibit was extended to the general public, and it was very generally accepted. Thousands of people thronged the big hall admiring the tasteful booths, listening to the music provided for the occasion, and incidentally accepting the samples of goods given out by most of the exhibitors. Women with market baskets and shopping bags were very common, illustrating most forcibly the desire of the age to get "something for nothing." But the exhibitors were uniformly patient and polite, and reported themselves as well satisfied with the orders they had taken from the trade. On Wednesday afternoon a local band gave a concert in the Auditorium, and the same band gave several selections on Thursday evening, when a fine programme was given by Harold Jarvis, Miss Eastman and Sam. I. Slade. On Thursday and Friday afternoons Schremser's orchestra rendered exceptionally fine programmes.

The week's business and entertainment wound up with a river ride. The weather was intensely disagreeable, but about 200 were brave enough to face it, and embarked on the Sappho about 7 o'clock. Once aboard, everybody was very happy. Dancing, refreshments and competitions of a novel and amusing character were in vogue. It was decided by ballot that Mrs. Longyear, of Mason, was the best talker; Mrs. Phillips, of Armada, second, and Mrs. Weiss, of Monroe, third. Miss Lillian Robinson and W. A. Williams, both of Detroit, won the dancing prize. Mrs. Benson, of Cincinnati, and H. N. Beals, of Chicago, "took the cake" in the cake walk, in which forty couples started. C. N. Anderson, of Detroit, was voted the most genial druggist, and Fred D. Stevens the crankiest. Earl Allen, of Grand Rapids, was shown to be the homeliest traveler, largely through the efforts of his wife, who wanted the perfume given as the prize. W. D. Church, of Detroit, may hereafter call himself the most popular traveler, and Mrs. Arthur Bassett the most agreeable lady. In the egg and spoon race Miss Jessie Spunk, of Detroit, won first prize, and Miss M. S. Emerson second. After a four hours' cruise up and down the river the party was landed, farewells spoken, and the Michigan Pharmaceutical Association meeting was at an end.

The Exhibit.

The exhibitors had their displays in the big Auditorium, which was tastefully decorated in a manner to testify to the good taste of Mr. Arthur Bassett, who had the work in charge.

Jas. Vernor had the principal booth, and had his famous ginger ale on tap. He showed his siphons and the ginger extract from which his ale is made. With him were Frost & Mercer, of Grand Rapids, who showed a tumbler washer, and the Detroit Carbonic Acid Gas Co.

The perfumery booths had great crowds about them. Williams, Davis, Brooks & Co., of Detroit, showed their Dabrook perfumes. M. Hecht, representing Ed. Pinaud, of Paris, made a special showing of Roman smelling salts, Roman face powder and the new extract, Violet Reine, generous samples of which were presented to the visiting ladies. Eastman & Bro. Co., of Philadelphia, represented by Geo. M. Conner, exhibited cut glass holiday perfume bottles and soaps, and gave away samples of spirits of violet. The firm of Solon Palmer presented each visitor with a souvenir rose, and showed their new perfumes, Rob Roy, Our Jack, and Violet Bloom, and soaps of the same odors. F. F. Ingram & Co. displayed Wing's perfumes, and a full line of their goods, an unusually attractive booth. Ellis & Golteman, New York City, had an exhibit of perfume atomizers and toilet articles. Frederick Stearns & Co., of Detroit, made what they called an "Educational Exhibit," and presented five of their specialties, viz.: Cascara, wine of cod liver oil, hæmoferrum, Dike's pepsin and kola. The kola exhibit was very complete and interesting, even the native African baskets filled with fresh kola nuts just as they are exported being shown. In an adjoining booth Mrs. Helena Tons, representing the kola gum, made by the Kola Chemical Co., of Cleveland, had two almost naked pickaninnies chew kola—to the great delight of the children who swarmed into the exhibit. The frondequoit Wine Co., of Rochester, N. Y., presented sample bottles of their catawba, port and sherry. Duroy & Haines, of Sandusky, Ohio, brought with them plenty of their Duroy port wine, manufactured especially for the drug trade. Hiram Walker & Co., in a stall hung with the Union Jacks and United States flags, dispensed "smiles" of the famous "Canadian Club." Barton Huff was in charge of the Battle Creek Sanitarium Health Foods, which were served in dainty dishes. J. C. Meseroll and H. N. Beale had all they could do to satisfy the thirsty public with their malted milk from the Horlicks Food Co., Racine, Wis. Nervous people stopped at the booth of Wm. R. Warner, Philadelphia, for all sorts of nerve tonics and drugs. The Cudahy Pharmaceutical Co., of Omaha, Neb., were introducing a specialty in the shape of a gelatine capsule, with just enough of their Rex brand of extract of beef to

HORTENSE HOT SPRINGS HOTEL.—South Park Line.

make a cup of beef tea. They made a fine showing also of their pancreatine and pepsin. Schieffelin & Co., New York, pushed somatose, a new preparation of beef, made in Germany, and containing 80 per cent. of albumose and 3 per cent. of peptone. Somatose chocolate, somatose cocoa and somatose biscuit were found on their tables. J. H. Morningstar, New York City, had a stall full of sample bottles of Burgundia Cocoa. Fairchild Bros. & Foster showed digestive ferments and pre-digested foods for the sick. Gilpin, Langdon & Co., of Baltimore, had powdered and assayed drugs for percolation. Hance Bros. & White, Philadelphia, had a large booth, and displayed "Frog in Your Throat." The familiar picture of the man using the Turkish shampoo greeted the eye in one corner, while in another the H. & G. A. Roever Co., of Cincinnati, had a tastefully arranged exhibit of their coco-castile 12-ounce bar soap. Other exhibitors were the Merz Capsule Co.; Decoy Fly Paper Co., National Cash Register, the Crescent Varnish Co., Fox, Fultz & Co., Acme White Lead and Color Works, Tarrant & Co., Wellauer & Hoffman Co., Chas. Wright & Co., Victor Klotz, Detroit Floral Co., Kuhn's Candy Co., J. C. Barney & Co., and the Universal Trade Association.

——The following is the reply which a man sent to a bill from his bookseller: "I never ordered the book; if I did you didn't send it; if you sent it I never got it; if I got it I paid for it; if I didn't—I won't"

AMERICAN PHARMACEUTICAL ASSOCIATION.

The local Executive Committee of the A. Ph. A. is out with an announcement, of which the following is the substance:

All aboard for Denver and the 43d annual meet of the A. Ph. A. The final arrangements have all been completed, and now the Executive Committee are simply awaiting the coming of the druggist, his family and his friends. The trains bearing the delegates will reach Denver Aug. 13, and the work of the meeting will commence the next day.

OFFICIAL PROGRAMME,

Adopted by the Local Executive Committee.

Wednesday, Aug. 14.—9 A. M., council meeting; 3:30 P. M., first general session; 9 P. M., reception tendered by Colorado Pharmacal Association at the Brown Palace Hotel.

Thursday, Aug. 15.—10 A. M., second general session; 3:30 P. M., section on Commercial Interests.

Friday, Aug. 16.—8:30 A. M., trip over the Loop and visit to the Mendota mine and tunnel.

Saturday, Aug. 17.—10 A. M. and 3:30 P. M., section on Scientific Papers.

Sunday, Aug. 18.—Special religious services, visiting, etc.

Monday, Aug. 19.—10 A. M., section on Pharmaceutical Education; 3:30 P. M., section on Pharmaceutical Education and Legislation; 8:30 P. M., special organ recital at Trinity Church, under the leadership of Dr. Gower.

Tuesday, Aug. 20.—10 A. M., section on Pharmaceutical Education and Legislation; from 2 to 6 P. M., car ride over the city.

Wednesday, Aug. 21.—10 A. M., final general session.

National Headquarters, Brown Palace Hotel. Special rates, $3 to $4 per day.—The meetings of the association will be held on the eighth floor of this hotel in the large banquet hall, which is capable of seating 1,500 people. From all sides one may gaze at the city nestling at your feet, or out over the broad expanse of beautiful prairie lands to the east, or following the great Rocky Mountain chain on the west, taking in with one grand kaleidoscopic view all the intervening valleys, foothills, main range and peaks, from Long's Peak, on the north, to Pike's Peak, at the south, a distance of over 100 miles. The hotel management will use every effort in making this a most pleasant and enjoyable meeting, and will furnish every convenience to that end.

From now until Sept. 1, the tourist will have the opportunity of a lifetime to see all the great mountain scenery in Colorado at a very low rate—in fact, the cheapest rates ever known have been made this summer on account of the numerous large conventions being held here. No one should leave Colorado until he has made the trip to Leadville over the High Line to the famous South Park. The popular route between the two cities is that where the traveler passes above the clouds four times while en route and drops down into Leadville. Strange as it may seem to drop in by rail to the highest city in the world, yet that is just what one does on this famous High Line. This trip carries you through a greater variety of mountain, vale and canyon scenery in the 167 miles of its length

than can be found in hundreds of miles of tedious travel in any other portion of the country. Hortense Hot Springs are under the management of an old and popular druggist and are reached by the South Park. This is a pleasant place to spend a week, is quite inexpensive, very cozy and homelike and not of the ultra-fashionable order where one must dress at least three times per day. The fishing and hunting near here are the best in the West. For those who have not the time to travel this far there is very good fishing within 30 miles of Denver, in Platte Canyon, yet the closeness to the city causes this ground to be pretty well fished, and consequently the sport is not nearly so good as further over the mountains.

On these mountain trips the amateur photographer will find abundant material that he can use with profit to himself and his business. What will attract more attention in Jones' window than a nice line of views taken by Jones himself while in the mountains of Colorado attending the 43d annual meeting of the A. Ph. A.?

It is suggested that each member bring along a linen duster to protect him from the dust while crossing the great plains between the Missouri River and Denver. An overcoat to wear while in the mountains and during the evenings, which are always cool, should be carried.

The ride over the entire street car system of the city is a novel feature of the entertainment, taking in, as it will, all points of interest. This ride is given by the Denver Chamber of Commerce and the Denver druggists.

The ladies' committee are hard at work, but they are keeping all of their plans very much to themselves; yet it will be perfectly safe to count on some pleasant surprises at their hands, and they will be all the more pleasant if we have no inkling of what is coming.

Local Secretary E. L. Scholtz, Denver, Col., announces his willingness to secure quarters and hotel accommodations in advance for all those desiring them. In order to make these arrangements he would like to have you reply to these questions: 1. When do you expect to arrive in Denver? 2. How many will be in your party? 3. How many rooms do you require? 4. What rate do you wish to pay? In this connection the passenger department of the Missouri Pacific R. R. announces that it will extend time on its tickets until Sept. 10, returning.

Kansas Pharmaceutical Association will entertain the members of the A. Ph. A on their way to the Denver meeting. Mrs. M. O. Miner, the secretary of the K. P. A., writes:

"Kansas desires to tender a reception to the A. Ph. A. members and their friends as they pass through the State, en route for the Denver meeting, but as it will be impossible to include all the roads which pass through our State we have arranged to have fresh fruit and such other entertainment as will be seasonable and acceptable, along the Atchison, Topeka and Santa Fe Railroad, and we wish to bring this before them as early as possible. We are bound for a good time and wish to share with our friends."

BROWN PALACE. HEADQUARTERS A. Ph. A.

A special train to run over the above railroad has been secured. It will leave Kansas City at 9 A. M., August 12, and is scheduled to stop thirty minutes at Lawrence, Topeka, Emporia, Newton, and Hutchinson. An entertainment programme has been arranged for each of the above places.

Colorado Pharmacal Association.

Headquarters, Windsor Hotel, 18th and Larrimer Streets.—A rate of $2 per day has been secured to all druggists and their friends in attendance upon this meeting. The Windsor is a first-class house in every respect, centrally located and up to date in all things. Numerous large bodies from the East have already secured rooms at the Windsor, and the management are daily receiving requests for rooms. There are numerous other first-class hotels in Denver, such as the Oxford, American, Richelieu, Albany, Gilsey, Glenann and Metropole, where the visitor is well cared for and the service is all that can be desired.

—The coming convention of the Wisconsin Pharmaceutical Association bids fair to be a pronounced success, not only from a business point of view, but socially as well. To give zest to the affair and break in upon the routine of matters pharmaceutical, an amateur minstrel show will be given. The performers will be traveling men representing the drug houses of Wisconsin and the Eastern States.

—A policeman discovered a fire in Shoemaker & Busch's, 602 Arch street, Philadelphia, July 17, shortly after 6 A. M., and before it had gained much headway it had been extinguished. The fire was caused by the insulation of an electric light wire wearing off and coming in contact with the gas pipe. While the damage was only slight and is fully covered by insurance, it might have been serious if it had secured a little headway.

COLLEGES AND SCHOOLS OF PHARMACY.

New York College of Pharmacy.

Clerk Griffin, of the College of Pharmacy of the City of New York, has reason to feel proud of the prospectus for 1895-96, which has just come from the printer's hands. Only 500 copies have as yet been received, but the whole number ordered, 40,000, will be finished in short order. The book is neatly printed and its contents are well arranged. An excellent view of the college building ornaments the front page of the cover, while on the back of the cover is a photo-engraving of the lecture room, taken by Mr. Griffin during one of the last sessions of the past year. Nine full page pictures of scenes and rooms in the college also ornament the pages of the book, all clever examples of the clerk's photographic talent.

There are eighty pages in the prospectus. After the list of officers, trustees and faculty of the institution comes the college calendar for 1895-96 and the announcement of the 66th annual course of instruction. All the departments receive space, short sketches being given of the professors and instructors. Page 29 is devoted to a table of fees, and the next eleven pages are devoted to the programme of instruction, requirements for graduation, etc. The rest of the reading pages give the list of officers of the Alumni Association, the college prizes, the students' roll and list of graduates of the 65th session, and the roll of members of the college. Twenty pages of advertisements complete the book.

Clerk Griffin feels sanguine of the outlook for the coming session. He expects a very large class, and hopes the post graduate class will also be a large one. Of this new departure Secretary Hegeman says in the prospectus:

"The course of Post-graduate Instruction, to be inaugurated by this college, is intended for graduates in pharmacy of this or any other college offering equivalent undergraduate instruction.

"The instruction will be practical throughout the entire year, hence students must come prepared in the theoretical work preliminary to quantitative chemical analysis, higher pharmacy, pharmacognosy and materia medica."

Most of the faculty and attachés of the college are out of town enjoying their vacations. Clerk Griffin is busy daily with an abundance of work at his office, but finds time at the end of the week to run down to Ocean Grove for a day. He will spend his vacation there later on. Prof. H. H. Rusby is at South West Harbor, Me., enjoying the cool air from the veranda of the Freeman House. Prof. Virgil Coblentz is still in Germany and is apparently enjoying himself wheeling, as he writes that the lightest bicycles in that country weigh 35 pounds. Prof. Chandler is at New Milford, N. Y., in Orange County. Dr. S. E. Jelliffe is at the North Country Club, Glen Cove, L. I. He has just purchased a house on the upper West Side in New York City, quite near the college. Prof. George A. Ferguson is rusticating in the Orange mountains of New Jersey.

Henry Kraemer, of the Illinois College of Pharmacy, is still at Asheville, N. C. He will not leave for Europe until fall.

Librarian Davies, of the New York College of Pharmacy, has resigned and is now at Ballston Spa. He is succeeded by William M. Elderkin, whose father graduated from the college in 1834.

Clerk O. J. Griffin has established a bureau where reliable drug clerks may be engaged. His extensive acquaintance with pharmacists gives him exceptional advantages in investigating references. No charge will be made to clerks who are students at the New York College or to pharmacists who employ students from the college.

——At a meeting of the Board of Trustees of the St. Louis College of Pharmacy, held a few evenings ago, the following delegates were elected to the Denver meeting of the A. Ph. A.: H. M. Whelpley, chairman; Prof. Francis Hemm, J. M. Good, F. W. Sennewald and M. W. Alexander.

——At the regularly monthly meeting of the Maryland College of Pharmacy on July 18. Louis Dohme was re-elected president and Samuel Mansfield treasurer. E. B. Fischer, who at the previous meeting had been appointed secretary pro tempore, was permanently elected to the position. He succeeds John W. Geiger, who held the post for 15 years and was obliged to resign on account of failing health. Professors D. M. Culbreth, Wm. Simon and Charles Caspari. of the college faculty, and Alfred R. L. Dohme were chosen delegates to represent the college at the annual meeting of the American Pharmaceutical Association in Denver, Col. Whether any other Baltimoreans will accompany them is not yet known. A microscopical laboratory is being fitted up on the first floor of the college building and will be ready for use by the time the fall session opens in September.

——The annual outing and reunion of the Alumni Association of the Cincinnati College of Pharmacy, held at pretty Coney Island, on Tuesday, July 16, was a gala event and a mammoth success in every respect. The assemblage of pleasure seekers, comprising the pharmacists, their wives, families or sweethearts, spent the day in general merriment. There was no scarcity of attractions for the amusement of the young or old, special efforts having been made by the committee to make the occasion one of unalloyed pleasure. Foot races, sack races, heel sprinting and numerous other enjoyable pastimes were indulged in by the picnickers. Many of the "boys" participated in a lively and amusing game of baseball, and the way they "beat the air" was a sight. Instead of adhering to the regulation three strikes, each batter was allowed five attempts to make connection with the sphere. The day's festivities culminated with a waltzing contest in the pavilion, which was won by Miss Lillie Klayer. The outing was conducted under the supervision of Chairman Louis Klayer, assisted by Prof. Franklin Freericks, Will C. Heerman, Dr. Andrew Diebold, Prof. Chas. T. P. Fennell, Chas. Opmeyer.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

CALIFORNIA.

San Jose.—W. K. Davis, now Davis & Beattie.

CONNECTICUT.

Mystic.—J. Waterman, sold to C. E. Gaskell.

DELAWARE.

St. Georges.—E. W. Jester, sold to J. W. Ponder.

FLORIDA.

Braidentown.—Gibson & Roesch, dissolved; Roesch continues.

GEORGIA.

Hawkinsville.—John T. Harvard, closed by sheriff.

Blackshear.—J. L. Smith, sold out.

ILLINOIS.

Chicago.—R. Jentzsch, at 1064, 1378 and 2164 W. 12th st. (three stores), has assigned.

Gillespie.—F. S. Boosinger, assigned.

Grand Ridge.—Dearth & Parshall, now E. A. Dearth.

Irving.—T. H. Padgett, closed by sheriff.

Pawnee.—C. W. Gill, sold out.

INDIANA.

Hudson.—Wagner & Johnson, dissolved.

Muncie.—C. D. Beemer, sold to Mrs. M. N. Beemer.

Princeton.—P. H. Curtner, failed.

IOWA.

Boone.—Barrett & Cagwin, now G. N. Barrett.

Brush Creek.—M. Shumway, now Walter Shumway.

Cedar Rapids.—V. Benesh, has opened new store.

Cherokee.—Z. A. Wellman, sold to F. M. Kueny.

Council Bluffs.—Hunerickhouse Bros., sold to E. A. Rogan.

Creston.—M. C. Meyers, sold to J. W. Cherry.

Fort Madison.—W. A. McKeehan, 807 Second st., new store.

Keokuk.—C. A. Laubach & Co., are successors to E. E. Fuller & Son.

Sioux City.—National Linseed Oil Co.'s mill burned; loss, $80,000; insured.

KANSAS.

Chase.—G. W. Loman, sold drug stock to D. K. Fortna.

Girard.—L. H. Cushenberry & Co., sold to J. W. Montee & Co.

Kansas City.—J. R. Conley, 301 Kansas ave., sold to Thomas Vick Roy.

Newton.—Abbey & Johnson, now C. Johnson.

Seneca.—A. Snyder, sold to D. B. Harsh.

Topeka.—W. F. Lake, failed.

KENTUCKY

Louisville.—Theo. Rectanus, slightly damaged by fire.

LOUISIANA.

New Orleans.—E. H. Rosenfield, deceased.

MAINE.

Dexter.—Bridgham & Son., sold to D. H. Mudgett.

Portland.—John W. Perkins & Co., slightly damaged by fire; insured.

MARYLAND.

Cumberland.—H. Elliott, assigned.

MASSACHUSETTS.

Clinton.—J. H. Chadwick & Co., now W. F. Heagney.

Haverhill.—J. A. Kennedy, sold Columbian Drug Store to L. R. A. Dorein.

North Andover.—C. S. Stearns, deceased.

Somerville.—F. M. Frost, 146 Broadway, sold to G. E. Grover.

Webster.—F. J. Eastman & Co., now F. J. Eastman.

Woburn.—J. P. Delaney & Co., sold to S. F. Chase.

MICHIGAN.

Muskegon.—Jacob Jesson Co., now Central Drug Store Co.

Reese.—Mrs. A. M. Wiede, sold out.

Sunfield.—W. E. Van Vande, sold to C. L. Hampton.

MINNESOTA.

Fairmont.—G. W. Petrie, sold to R. H. Donaldson.

Gray Eagle.—J. W. Young, burned out; insured.

Morris.—Kreuger & Slawson, dissolved.

MISSOURI.

Galt.—O. Orr & Co., now O. Orr.

Joplin.—Balsley & Morgan, assigned.

Kansas City.—G. F. Gehrum, City Druggist, deceased.

Heller Pharmacy, 15th and Brooklyn, in hands of receiver.

St. Louis.—F. C. Pauley, 2100 N. 14th st., should be The Pauley Pharmacy Co.

Ferd C. Pauley, 1000 N. Grand, has removed to 825 N. Grand; this is the only store run under his name.

Weber Chemical Co., incorporated; capital, $5,000.

Webster Groves.—L. H. Presser, sold to Groves Pharmacy Co.

NEBRASKA.

Nebraska City.—I. J. Jamison, damaged $500 by fire; insured.

NEW HAMPSHIRE.

Exeter.—Exeter Drug Co., new store.

Lebanon.—B. Telesphore, sold to B. K. Wright & Co.

Nashua.—Emulsine Co., incorporated; capital, $50,000.

NEW MEXICO.

Farmington.—F. E. Prewitt, discontinued.

NEW YORK.

Albany.—S. C. Bradt, 55 Washington ave., slightly damaged by fire.

Carthage.—E. M. Merrill, closed on judgment.

Jamestown.—J. W. King, new store.

Lowville.—C. F. Dayan, deceased.

Northville.—H. A. Molins, failed.

Smithboro.—E. A. Light, burned out; uninsured.

OHIO.

Akron.—Eberhard & McCann, receiver applied for.

Cincinnati.—Norwood & Eichler, sold to W. H. Eichler.

Cleveland.—J. A. Somers, 657 Pearl, sold to Zantiny Bros., who removed stock to Cor. Dunham and Lexington ave.

PENNSYLVANIA.

Allegheny City.—E. Hauch, closed by sheriff.

Dagus Mines.—W. E. Sapp, sold to L. H. Ross.

Harrisburg.—A. Best, failed.

Irwin.—Jno. C. Jamison, sold to H. A. Donaldson.

RHODE ISLAND.

Newport.—W. H. Stratford, Abram Block, new store.

Pawtucket.—G. S. Morgan, assigned.

Providence.—American Degras & Chemical Co., burned out; insured.

Westminster Pharmacy, sold to W. E. Burton.

TEXAS.

Carmine.—W. C. Stewart, sold to John Menn.

Gordon.—J. T. Walker, sold to J. H. Turner.

Houston.—J. L. Cunningham, sold to J. A. Hargis

Leggett.—J. J. Pinckard, now C. Pinckard.

VERMONT.

Manchester Center.—C. J. Wart, sold to Bayless & Sowle.

Randolph.—E. E. Evans, new store.

WEST VIRGINIA.

Bluefields.—Landon Drug Co., closed by sheriff.

Weston.—Brannon & Post, dissolved; Post continues.

WISCONSIN.

Manston.—Edwards & Co., sold to Comer & Hess.

Milwaukee.—C. A. Faber, sold to L. H. Kressin.

Superior.—Godding & Carey, 612 Tower ave., sold to J. Herb.

ONTARIO.

Elmvale.—L. A. White, burned out.

——In Tokyo, Japan, a recent census has shown that the city contains 2,315 medical men, 70 dentists, 69 veterinary surgeons, 371 pharmaceutical chemists, 2 city hospitals, 3 Government hospitals and 41 private hospitals.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

SHORTER HOURS.

Groton, N. Y., July 17, 1895.

To the Editor:

I have been much interested of late in the articles that have appeared in the Era in regard to shorter hours for drug clerks. I am always interested in anything that tends to better our condition as drug clerks. While we do not all look at the matter in the same light, I think our views in general are sufficiently close to admit of formulating some plan whereby we might secure a change in the matter of long hours, and, shall I say—small salary? No. I do not think it proper to connect the two questions at all. The question of salary I think is, or should be, governed largely by what a clerk's services are worth to his employer. All clerks, even with the same training, do not possess equal qualifications, and upon their ability should depend their salary.

This, of course, could only be ascertained by trial. If we attempt to couple the two questions I fear it would be a great mistake. The salary of registered clerks in general I think would be considered fairly good, if it were not for the long hours they are compelled to keep. Therefore, if that wrong be righted, I think the whole matter would be satisfactorily settled.

I am sure that if every drug clerk would work for the interest of his employer and display the same careful management and strict attention to business matters that he would in conducting a business of his own, he would have no trouble as regards compensation.

There are, of course, exceptions to this as the sole aim of some employers seems to be to get as much as possible out of their clerks at the least possible cost. This class of employers, however, is largely in the minority, and it is not the class upon which calculations should be based.

While the lot of the average drug clerk is by no means as hard as some would picture it, still it is no "snap," as there are many things about the business which have a tendency to tire one, not only physically, but mentally, and when one is afflicted with this combination "tired feeling" it is no wonder he feels like protesting against long hours.

Any one who has stood behind the counter from 6.30 A. M. until 10 or 11 P. M. year in and year out should not be classed with "kickers" and "cranks" when he calls for shorter hours. It is a just demand and every drug clerk should be interested in bringing about a different state of affairs.

After giving the matter due thought and consideration, I think of no more feasible plan than that suggested in the editorial on the subject, in the issue of June 6. Others have advanced some good ideas, but I do not agree with some of them. We must not expect too much in our eagerness to gain a point. Decide on a plan of procedure, and then by hearty co-operation among the drug clerks, something surely can be accomplished. I am sure the drug journals will aid us greatly in the work. The Era has already offered its columns as a means by which we may agitate the question of shorter hours. Let us keep the ball rolling, for only by constant work can we accomplish anything in this direction.

I trust a goodly number of the clerks will become interested in the matter and give us their views through the columns of the Era. Respectfully yours,

F. E. HERRICK.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS.
Issued July 16, 1895.

542,692—John H. Stevens, assignor to Celluloid Co., Newark, N. J.—Manufacture of solid or massive compounds of pyroxyline.

542,758—George A. Freyss, Mulhouse, Germany, assignor to Fabriques des Produits Chimiques de Thanu et de Mulhouse.—Purifying oils or fats.

TRADE-MARKS.
Registered July 16, 1895.

26,813.—Remedy for Headache. Barton L. Brown, Philadelphia, Pa. The words "Giffin's Ten Minutes."

26,814.—Remedy for Catarrh and other Nasal, Head and Throat Affections. Geo. B. Evans, Philadelphia, Pa. The word "Brintine."

Catalogues, Price Lists, etc., Received.

Chas. Meinecke & Co., San Francisco.
Geo. Lueders & Co., New York.
Jones of Binghamton, Binghamton, N. Y.
H. B. Kirk & Co., New York.
Antoine Coty & Co., New York.
Prof. A. W. Allen, New York.
Carbolic Soap Co., New York.
C. Dorflinger & Sons, New York.
F. W. Blossom, New York.
Comstock-Hoff Mfg. Co., New York.
H. A. Batjer & Co., New York.
Clayton Rockhill, New York.
A. W. Neumann, New York.
Mittinger Bros., New York.
J. D. Buchtel & Co., New York.
Bunting Hankins, Bordentown, N. J.
Geo. J. Wallau, New York.
J. A. Shephard, Brooklyn, N. Y.
Gerts, Lumbard & Co., Chicago.
James Burnside, St. Louis, Mo.
Mt. Clemens Bitter Water Co., Mt. Clemens, Mich.
N. Y. Enamel Paint Co., Brooklyn, N. Y.
Root, Bark & Blossom, Newark, N. J.
The Salutaris Co., St. Clair Springs, Mich.
Henry Biroth, Chicago.
The Phospho-Albumen Co., Chicago.
Allen B. Wrisley, Chicago.
Hobb's Medicine Co., Chicago.
Schering & Glatz, New York.

——Paterson, N. J., has the habit of contracting with druggists for the drugs and surgical supplies for the use of the city physicians. Quite a scandal has been aroused in consequence of the allegation that one of the druggists furnishing these goods has systematically been charging for them much more than his contract called for, and that therefore the city has been bled of a considerable sum of money.

——The capital of the Carter White Lead Co., of Omaha and Chicago, has been increased to $1,000,000.

DIRECTIONS FOR TESTING SUGAR BY THE POLARISCOPE.

The following are the directions issued by the Treasury Department to collectors of customs, regarding the testing and valuation of sugars:

(1) Mix the sample thoroughly and uniformly, crushing all lumps.

(2) Weigh accurately, in the German silver dish provided for the purpose, 13.024 grams of the sample to be tested. Should the counterpoise not exactly balance the dish, small pieces of tin foil should be used. Care should be taken to accurately balance the dish before each weighing. Wash the sugar from the dish into a 50 cc. flask with the aid of the washing bottle, taking care that every particle of sugar is transferred to the flask, which should not be more than two-thirds full when all is in. Wash down into the flask any grains that may adhere to the neck, using as little water as possible for this purpose. Take the flask by the neck, between the thumb and forefinger, and shake gently in one direction, causing the liquid to rotate in the flask till the sugar is in solution. The body of the flask should not be handled, as the heat of the hand will increase the temperature of the solution.

To determine when the sugar is in solution, hold the flask to the light and shake gently, when any crystals of sugar not dissolved will be readily detected at the bottom of the flask. Wash the neck of the flask again with a washing bottle, to carry down any particles that may have been spattered up in the process of shaking.

(3) Subacetate of lead is now to be added to the solution in the flask, drop by drop, till no further precipitate is formed. When sufficient has been added, the lead solution will settle clear at the bottom of the flask. From twenty to sixty drops, or from one to three centimeters is the maximum amount needed. An excess of the lead solution is to be avoided, as it causes turbidity in the solution by reason of the precipitation of fine particles of carbonate of lead, which pass through the filter and render the solution opaque when placed in the observation tube. The lead solution is most conveniently added by means of a Berlin flask and siphon tube, with rubber connection and pinch cock. Care should be taken to keep the air from the flask, by means of a glass rod at the end of the rubber tube when not in use, as the access of air causes the precipitation of carbonate of lead.

(4) The flask should now be filled to within half an inch of the neck with the washing bottle. A drop of ether added from a small bottle will remove all air bubbles, that would otherwise interfere with the accurate filling of the flask to the mark. After the addition of the ether, fill the flask to the mark by adding water, drop by drop, from a Berlin flask, with similar attachments as the flask used for the lead solution. The flask containing the sugar solution should be so held that the line will be on a level with the eye, and should be filled till the bottom of the

curve at the surface of the liquid or meniscus is even with the line.

(5) Place the thumb over the neck of the flask and shake well and filter into a clean, dry cylinder jar (glass). Should the solution be dark in color, two or three small spoonfuls of pulverized bone black should be placed in the cylinder and the solution well shaken and again filtered. The bone black used for this purpose should be previously dried at a temperature of 140° to 160° C., and kept under a desiccator, as it readily absorbs moisture, and its use in a moist state would increase the volume of the solution and make the result of the test too low. Screw the cap, with rubber washer and glass plate, on the end of the observation tube, taking care that the glass plate shall press lightly on the end of the tube; then pour the clear, light-colored solution into the tube till it slightly overruns the end. Slide the glass plate over the end so as to avoid getting any bubbles of air under it, and screw on the cap.

(6) Place the tube in the instrument and turn the thumb-screw underneath to the right or left till the colors are blended. By turning the screw at the right-hand side of the instrument the degree of light is regulated so as to obtain the shade at which the colors are plainest. All the shades can be obtained by turning this screw half way round in both directions, and it should not be turned completely around in one direction, as this would be liable to get the instrument out of adjustment. When the colors are equalized the percentage can be read from the scale by observing the position of the zero. The tenths are ascertained by counting the lines to the right of the zero on the upper or vernier scale till a line is found to make one uniform vertical line with a line on the lower scale. Repeated observations with variation of shade by the use of the screw at the right, should be made before accepting the result as correct.

(7) For determination of the percentage of water weigh 5 grams of the sugar in one of the flat-bottomed porcelain dishes provided for the purpose, the exact weight of the dish having been previously noted. Place the dish in the water-bath and heat at the temperature of boiling water for one hour. Heating for a longer period gives erroneous results. Cool under desiccator and weigh. The loss in weight represents the water in 5 grams of the sugar. The percentage of water is obtained by multiplying this amount by one hundred (100) and dividing the product by five (5). The dry substance is one hundred (100) less the percentage of water.

(8) The percentage of cane sugar in the dry substance is obtained by multiplying the direct polarization by one hundred (100) and dividing the product by the dry substance.

Determination of the percentage of water in samples of molasses and syrup of cane juice are made in the following manner:

The porcelain dish used for the estimation of water in sugar samples is filled to within one-quarter (¼) of the top with previously-dried fine sand; a small glass rod, with one end flattened, is placed in the dish, and the weight of the dish, sand, and rod together carefully noted. From 1 to 2 grams of the sample to be tested is then poured into the dish, and the weight of the whole contents again noted. The difference between the two weights is the weight of the sample taken for test. The contents of the dish are then intimately mixed by means of the glass rod, the dish being placed on a clean sheet of paper to enable the operator to return to it any particles that may be spilled out in the process of mixing. When the contents of the dish are mixed to the ordinary consistency of a muscovado sugar, the dish is placed, with entire contents of sand, rod, and sample, in the water-bath, and heated at a temperature of 100° C. for one hour. It is then cooled under the desiccator and carefully weighed, and again heated for one hour, when, if no further loss in the weight is observed, the operation is finished.

The difference in weights before and after drying represents the water in the quantity of the sample taken. The percentage of water is obtained by multiplying this amount by one hundred (100) and dividing the product by the quantity taken.

In the case of sugars containing more than 5 per cent. of water, a similar course is followed, for the reason that such sugars, if placed in the water-bath unmixed with sand, become incrusted with a coating of dried sugar, which prevents the evaporation of the moisture from the interior portions.

Of course the polarization under these instructions will be made upon sugars in the condition in which they arrive, and not upon the dry substance.

NATURE OF THE VESICATING CONSTITUENT OF CROTON OIL.*

The vesicating constituent, or more strictly, the postule-producing constituent of croton oil, has been the subject of investigation by numerous chemists and pharmacologists during the past forty years. According to the researches of Buchheim, and more recently of Kobert and Hirschheydt, the vesicating action is due to an acid closely allied to oleic acid, which has been given the name of crotonoleic acid. This substance is now prepared on a large scale in Germany for medical use, being extracted from croton oil by the method devised by Kobert and Hirschheydt. This consists in saponifying with barium hydroxide that part of croton oil which readily dissolves in strong alcohol. The resulting barium salts are washed with water, then dried and repeatedly extracted with ether, which dissolves the barium salts of oleic and crotonoleic acids. These salts are separated by means of ether, which dissolves only the barium crotonoleate, and this, when decomposed with dilute sulphuric acid and extracted with ether, furnishes the crotonoleic acid as a viscid oil.

Since very little is known about this acid, even its composition being undetermined, the authors prepared it with the object of studying its properties, and, if possible, of determining the constitution, since no fatty acid of known constitution exhibits the property of vesicating. Starting with the crotonoleic acid, prepared as described above, the lead salt was obtained and submitted to a process of fractional precipitation by adding successive quantities of water to its solution in alcohol. By this means crotonoleic acid was proved to be a mixture composed for the most part of inactive oily acids, the lead salts of which are precipitated first, while the true vesicating constitutent (or its lead salt) is principally contained in the last fractions, and represents but a small proportion of the original material. It was observed that the conversion of the crotonoleic acid into a lead salt did appreciably affect its vesicating power.

The supposed active constituent of croton oil, crotonoleic acid, having thus been shown to be a mixture, the authors proceeded to attempt to isolate the vesicating constituent from croton oil direct.

By saponifying that part of croton oil which is soluble in strong alcohol with a mixture of lead oxide and water, and repeatedly fractionating an alcoholic solution of the lead salts with water, the later fractions, which possessed the greatest vesicating power, ultimately furnished, when submitted to a series of fractionations, a resinous substance having extraordinary power as a vesicant. This substance could not be further resolved by repeating the process of fractional precipitation of the alcoholic solution with water. The same substance was isolated from the so-called "croton-oleic acid," and the authors propose to name it "croton-resin." To its presence the vesicating property of croton oil is due. The composition of croton-resin is expressed by the empirical formula $C_{12}H_{18}O_4$. So far all attempts to crystallize it, or to obtain crystalline derivatives from it, have been unsuccessful. It is a hard, pale yellow, brittle resin, nearly insoluble in water, light petroleum and benzene, but readily dissolved by alcohol, ether and chloroform. When heated it gradually softens, and is quite fluid at 90° C. Croton-resin has neither basic nor acidic properties; it may be boiled with a mixture of lead oxide and water without being appreciably affected. Ebullition with aqueous potash or soda gradually decomposes it, destroying its vesicating power. The products of this action are several acids, some of which are members of the acetic series. By oxidation of the resin with nitric acid a mixture of acids is obtained. The constitution of croton-resin is, therefore, complicated, and its molecular formula would appear to be at least $(C_{12}H_{18}O_4)_2$ or $C_{24}H_{36}O_8$. Since it is not saponified by a mixture of lead oxide and water, and as no glycerol could be detected among the products of its decomposition by alkalies, it is not a glyceride, and as it does not react with hydroxylamine or phenylhydrazine or sodium bisulphate, it is probably neither a ketone nor an aldehyde. The evidence so far obtained points to the conclusion that the constitution of the vesicating constituent of croton oil may be that of a lactone or anhydride of complicated structure.

* Abstract of a communication to the Royal Society. By Wyndham R. Dunstan, M. A., F. R. S., Sec. C. S., and Miss L. E. Boole, F. I. C., Lecturer on Chemistry in the London School of Medicine for Women. Reprinted from Chem. and Drug.

A DRUGGIST'S ADS.

By Chas. G. Kline, Harriman, Tex.

When Mr. Weschcke said in the Era of July 11th that "a thorough interest taken in advertising will do more financial good to the average druggist in one year, than the perusal and study of all scientific articles that are published in the drug journals for three years," he uttered a great big truth and one that the druggists must all learn sooner or later.

Here I am again

Harping about that good black pepper I sell.

It is perfectly pure, finely powdered, strong black pepper, 2 oz. box for 5 cents. It couldn't be better at any price, because it is the best to be had in the market.

Try it some time soon.

CHARLES G. KLINE,

The Druggist.

It takes quite a good deal of time and unabated interest to prepare ads. for newspapers, but any one who has tried it for awhile will say that it pays.

I can't agree with Mr. W. that he did the best thing in cutting the price on root beer, and I am just judging from

The Virginia Hotel

tried a box of the pepper I am selling, and sent down for a pound of it next day——comes cheaper by the pound. A two-ounce package of real pepper finely powdered, for five cts. You can't buy the whole grain, grind it yourself, and get as nice an article as I will sell you.

Try it.

CHARLES G. KLINE,

The Druggist.

his own explanation. The different lines of trade are not and never can be very sharply defined. Both the grocer and druggist handle spices, and I cannot see any reason why root beer would not legitimately belong to the grocer's trade; he would be expected to sell the yeast and sugar that help make the drink. When Mr. W. cut the price to six cents, he made no profit, and very likely lost the good will of a number of grocers. According to my way of thinking it would be better to sell at the same price as competitors and use space to

How is your Baby?

Perhaps it needs the help of a good Infant Food, if it is not doing well. I have some free sample packages; you are welcome to one if you want to try it.

Any chafing of the skin or breaking out from heat will be promptly relieved by the use of my Compound Talcum Powder.

CHARLES G. KLINE,

The Druggist.

make people believe it was to their interest to buy of the advertiser.

I have not hesitated to push spices, flavoring extracts, etc., but have tried to make people think that what they got of me was without question good, and I had the satisfaction not long ago of selling a half-pound package of pure

A COMPOUND TALCUM POWDER

makes an excellent toilet powder for warm weather. It is just the thing for prickly heat, chafing or kindred trouble. It is soothing, healing and refreshing—in 15 and 25 cent boxes.

CHARLES G. KLINE,

THE DRUGGIST.

cream of tartar to a grocer to fill an order he had taken. He told me he thought his cream of tartar was just as good as mine, but his customer insisted on his getting it from me.

Last spring I had a lot of pure black pepper powdered, put up in 2-ounce cartons, with my label, and advertised it the best I knew how in the dailies, and

A pinch of

ALMOND MEAL

makes a most delightful addition to a basin of water when you bathe your face. It leaves the face clean and not slimy like soap so often does, and the cost is a mere trifle—5c. an ounce—at

CHARLES G. KLINE,

The Druggist.

by placing samples in the houses. It has proven one of my best ads.

I send some ads. that I have used, and that I would like to have "jumped on" and criticised by some good brother. I change my ads. every week, and am using a two-inch space in a morning paper, the same in the evening paper, and a 4-inch in a weekly.

I am indebted to the Era for so many good things in all departments, that I don't think I could do without it.

The Fast Student.

The Fast Student is the young man who attempts to run before he can walk. In his early teens he happened to read in a sporting paper, or other guide to knowledge, that life is a wearisome mockery, effort a vanity and pleasure the only good. No one chances to be near to teach him, at the end of a strap, if necessary; but editors of sporting papers are not always the best guides in matters of moral philosophy, and so he slides along the line of the least resistance. He holds knowledge of the sciences and arts cheaply, and values knowledge of the world highly. He pays for the latter according to his estimate. Knowledge of the world is a fine thing, no doubt, and one would not quarrel with the Fast Student for acquainting himself at first hand with the true inwardness of the motives and action of his fellow-man; but he errs in mistaking for knowledge of the world an acquaintance with one of its phases, and that, unfortunately, a mean and debased one. He has not been taught that acquaintance with the merely vicious side of life bears the same relation to the larger study of the vast mechanism of existence that his own narrow vision does to the sweeping majesty of the real philosophic insight.

Nevertheless, the fast student is not all bad; at heart he is often a very good fellow, but he is at great pains to conceal it, and delights in painting himself worse than he is. Nothing fills him with delight like the parade of his vices for the purpose of shocking his more normal fellows. He is a past master in the gentle art of casting lurid sidelights on his personality. He pretends to regret that he came into the world cursed with a good name, and he does his utmost to live down this hereditary taint. He is partly successful, although if you watch him closely you will see that his braggart evil is often masquerade. Sometimes he can deceive you into the belief that he is a sort of blasé angel, but oftener he seems to be an ass in a satyr's skin. By nature, perhaps, a fool, he has improved upon nature on arriving at years of indiscretion. Had he not had the good fortune to possess a good tailor he would have been ignored, but his tailor and laundress hoist him into request. He is most punctilious about his personal appearance, and studies the fashion plates like a housemaid. He can always tell whether heliotrope shirts are in fashion, and when black stitching on gloves is considered bad form. He wears a paddock overcoat, and occasionally turns up in riding breeches that have never crossed a saddle. He smokes gold-tipped cigarettes and retails stale jokes from "The Pink 'Un" as recent personal experiences. He knows a dog when he

sees one, which is clever of him, and can tell a spavined cab-horse from a healthy thoroughbred at the first glance.

He is a terror with the girls, bless you! The proper study of mankind, he says, is woman, and he knows a thing or two. He can tell you where Tilly Johnson, of the "Pav.," buys her hair dye, and how much she pays a bottle for it. He once went behind the scenes at a provincial music hall during the performance and talked to a real flyman about ballet girls. Truth to tell, the flyman was more interested in his supper-beer, but the incident, unctuously exaggerated, passes muster as a fiery experience. He is up to every move at the card table, and recounts to any one who will listen how he was once tackled by an American sharper on a steamboat, and how, after a keen contest of resource, the sharper came off second best.

Let him brag! He has paid dearly enough for his paltry experiences. He might have been so much, is so little. He might have been a chemist and a gentleman, but he elected to barter his brains and his youth for a keg of whiskey, ½ pound of soda, and a handful of purple sensations. Let him enjoy the occasional nod of recognition from a bookmaking barber, revel in the bated admiration of the very young, and sun himself in the wayward smile of the local barmaid! He has paid his price. (Chem. & Dr.)

The Acids of Fruits.

We know that many vegetables and fruit products are esteemed rather for their pleasant or refreshing taste, and for their anti-scorbutic properties, than for any nutritive value which they may be assumed to possess. Yet even fruits of that character are especially valuable as additions to our daily diet, on account of the potash salts and mild vegetable acids they contribute to the blood. We learn from Johnson's "Vegetable Food of the World" that the grateful acid of the rhubarb stalk arises from the malic acid and binoxalate of potash which it contains. The acidity of the lemon, orange, and other species of the genus citrus is caused by the abundance of citric acid which their juices contain; that of the cherry, plum, peach, apple, and pear from the malic acid in their pulp; that of the gooseberries and currants, black, white, and red, from a mixture of malic and citric acids; that of grapes from a mixture of malic and tartaric acids; that of the mango from citric and a very fugitive essential oil; that of the tamarind from a mixture of citric, malic, and tartaric acids; the flavor of asparagus from aspartic acid, found also in the root of the marshmallow; and that of the cucumber from a peculiar poisonous ingredient, called fungin, which is found in many species of fungi, and is the cause of the cucumber being objectionable to some persons. It will be observed that rhubarb is the only product which contains binoxalate of potash in conjunction with an acid. It is this ingredient which renders rhubarb so wholesome at the early commencement of the summer, though in certain cases, known to medical men, its use may be injurious.

There is very little actual decrease in the percentage of acids from the green to the ripe stage of fruits, but the acidity becomes neutralized by the increase of sugar as the fruit approaches maturation.

Many persons know from experience how much more pleasant and agreeable fruit is when gathered and eaten direct from the tree. This is undoubtedly in part due to the freshness and briskness of the vegetable acids contained in the fruit, which, when so gathered and eaten, have not time to change into any other substance. Stale fruit, on the other hand, is unpalatable from the very fact that it has lost this pungent and brisk taste.

The following table, compiled from some analyses by Prof. Berard, shows the percentage average chemical composition of five unripe fruits and of eight ripe fruits, comprising apples, pears, gooseberries, grapes, plums, cherries, apricots and peaches.

Percentage Average Composition of Fruits.

	Unripe.	Ripe.
Water	85.7	78.7
Albuminoids	0.7	0.6
Sugar	4.0	12.9
Vegetable acids	1.5	1.3
Pectose and gum	4.3	3.7
Cellulose, etc	3.8	2.8

The data thus given show that there is a considerable decrease in the watery particles of fruit as it approaches its full ripe character, resulting in a difference of 7 per cent., while the sugary constituents increase during maturation in a corresponding degree, rising from an average of 4 to nearly 18 per cent.

Pectose forms the substance known as vegetable jelly, and it is to this constituent of fruits that jams owe their firmness. Cellulose is the fibrous part of fruits, and it is in this portion that we should find the largest proportion of mineral salts, potash, etc.

——Steps are being taken for a combination of about fifty Southern companies engaged in mining phosphate rock and manufacturing fertilizers. This move is intended to save expense in management and operation of the mills, the projectors of the scheme claiming that there will be no advance in prices on account of foreign competition.

——A fresh instance illustrating the tendency to attempt "short-cuts" to greater wealth through elimination of the agent, jobber or middleman, is the incorporation of a new company in this city whose members are the parties controlling several of the leading hotels. The new company intends to do its own importing, and most of its buying direct from manufacturers. As these great hostelries consume vast quantities of a great variety of commodities, the middlemen affected are found in many different lines of trade, and there is some curiosity to know where this species of exalted grangerism is to end.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

James W. Tufts, Boston, has just placed in position for G. W. Armstrong in the old Lowell end of the Union Station, Boston, a Mexican onyx soda fountain of rare beauty.

Schering & Glatz, New York, have recently got out some new literature upon the bismuth preparations made by Von Heyden. This is quite interesting on account of the application of bismuth in many of the prevailing summer complaints.

From January 1 to July 1 of the present year the Welch Grape Juice Co., of Vineland, N. J., filled an aggregate of 1,728 trade orders. Their Concord Grape Juice is becoming more and more popular as a fountain drink, a tonic and a delightful table luxury.

The great point with a prescription cork is its quality for lasting not as long as the pharmacist wants it, but until the patient has entirely consumed the contents of the bottle to which it is applied. It takes the best quality of raw material to make such corks, and this is just the kind used in making the "Circle A" brand.

J. H. Day & Co., of Cincinnati, the well-known manufacturers of special machinery, have just issued a new catalogue of 84 pages devoted exclusively to machinery for druggists, chemists, manufacturers of toilet preparations, etc. A number of new machines are described in it, and all manufacturers interested in this line will receive a copy for the asking.

The recent investigations made by officers of the U. S. Army at Fort Sheridan, Ill., upon the use of Kola in counteracting fatigue were so gratifying as to promise an extended use of the drug for this purpose. The preparations used were those of F. Stearns & Co., of Detroit, and literature giving details of the test will be sent to all pharmacists desiring it.

The list of odors comprising Vennard's Perfumes has received an addition which the retail druggist's best customers will want. Violet perfumes are exceedingly popular just now, and the new odor is called Vennard's New Roman Violet. McKesson & Robbins, New York, are selling agents and all jobbers will have it in stock.

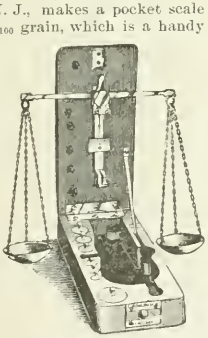
Lithographed labels in a specimen book always look better than printed ones, and they also look better on bottles. There is always, however, a difference in the prices quoted in specimen books, which counts against lithographed work, and the druggist is always looking for quotations where this difference is slightest. F. Huhn, 72 Pine street, New York, says he can furnish them. Write to him about it.

Riding bicycles and drinking soda water are both so popular with the American people that they are sometimes designated as "fads." This term is indicative of the highest degree of popular favor, and anything which is suggestive of both is sure to be a success. "Cycle-Aid," the prize drink, made by the Dr. H. L. Bowker Co., Boston, ought to be on your list of fountain beverages. It costs $1.75 for a sample gallon.

If the announcements of the Lotus Press in the columns of the Era have attracted your attention, is it not possible that the same style of artistic treatment will attract your customers if the same idea is carried out in a booklet describing your goods? Some of the details of the methods employed by the Lotus Press in getting up booklets will interest you. They give a few in their advertisement in this issue.

Many dealers imagine that a stock of trusses to meet all demands must include a line of articles made of many different materials and differing greatly in construction. But such is not the case. I. B. Seeley & Co., of Philadelphia, have themselves treated over 100,000 cases, and they used nothing but their hard rubber trusses in every instance. Seeley's Hard Rubber Truss can be adapted to all cases of hernia, and be made to fit both infants and adults. Send for their new book, "The Mechanical Treatment of Hernia."

Charles Kohlbusch, 55 Hancock Ave., Jersey City, N. J., makes a pocket scale sensitive to 1/100 grain, which is a handy appliance for traveling chemists, or for use in the drug store to weigh poisons, etc. The scale, which is shown herewith, is manipulated by means of a lever and the weights, either metric or apothecaries, are fitted in the mahogany case which is 6 inches long, 2 inches wide and 1½ inches high. It is an elegant piece of workmanship, and when not in use can be closed, and the scale kept free from dust. Send for catalogue.



A New Home for the "Little" One.

O. & W. Thum Co. are adding a substantial brick structure, 50 feet by 80 feet, to their plant, for the better accommodation of their "Little" Tanglefoot, it having already outgrown the quarters assigned it in the regular plant, in this its first year.

This season's sales demonstrate that the new baby is thoroughly appreciated, that it will prosper and become a worthy member of the Tanglefoot family. In reward for its good behavior it gets a house of its own.

The ornate structure which the public calls the soda fountain is not a necessity in the operations of carbonation and refrigeration, which do so much to make that refreshing beverage, soda water. But it is necessary for another reason, and that reason is the one which impels every one to seek artistic surroundings. A soda water trade seems to depend to a great extent upon this feature, and it should guide the dealer in making his selection of apparatus. He should get all the artistic effect possible for his money, and his study of this matter should include an investigation of the fine work in this line done by the Low Art Tile Co., 952 Broadway, Chelsea, Mass. Their elegant publications showing designs, some of them in natural colors, will be sent to you if you want them.

Teutonic Malt Extract.

It has been truly said that one-half the world knows not how the other half lives; so also is it true that we do not realize, when using the products of this scientific age, the amount of care and skill necessary for their preparation, or the large investments of capital and enormous amount of process and manipulation used to insure a perfect article.

Particularly do these conclusions apply to "Teutonic," the new malt extract of the S. Liebmann's Sons Brewing Co., 36 Forrest street, Brooklyn. This is one of the oldest and best known brewing establishments in the country. For three generations the Liebmanns have been preparing by steady application and skilled experiments, the use of acres of plant, and all science taught on both sides of the water, for the production of a perfect malt extract. Thus are they deservedly proud of their "Teutonic," which is a delightful beverage as well as an immense reservoir of strength, and new life for the nervous, the weak and the mentally debilitated.

"Teutonic" is brewed by the Bavarian process, and is composed of four materials—barley-malt, hops, yeast and water. First the barley is malted and the grain germinated; the diastase thus formed, when mixed with water during the process of brewing, converts the starch into saccharine or fermentable matter. This soluble liquid extract is now boiled, and consequently sterilized, after which the best flavored hops are added, which act as a tonic and preservative. After boiling, it is rapidly cooled by powerful refrigerating machines, and is then ready for fermentation. The success of a brew depends largely upon the yeast used. "Teutonic" is fermented by yeast prepared under the formula of Dr. Hansen, the great Danish savant.

After fermentation, the extract is placed in cold storage rooms, contained in casks almost large enough to float the great liner, its celebrated namesake, "Teutonic." Here it remains to clarify and ripen for several months, when it is bottled and sent forth to rejuvenate the earth.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Anise, Bergamot, Cassia, Citronella and Peppermint Oils, Hemp Seed, Millet Seed.

Declined: Blue Vitriol, Boracic Acid, Caffeine, Canary Seed, Coriander Seed, Opium.

New York, July 23, 1895.

Midsummer dulness in a milder form than usual, with neither dealers nor jobbers showing any inclination to comment unfavorably concerning the decreased movement, is perhaps the correct way to describe the existing condition of the drug market. Manufacturers, importers and the larger dealers are evidently taking a philosophical view of the situation, and many of them are adjusting their stocks and quietly preparing to meet the requirements of buyers when the anticipated activity of the coming season begins. The principal jobbing houses are moderately busy, filling small orders which are coming in from the various distributing sections, but the aggregate volume of business is not large, although comparing favorably with former years. The general tone of the market indicates continued firmness, the changes in prices being chiefly in favor of sellers. In a few instances, however, values have declined, owing to sharp competition between parties anxious to control certain articles, but such occurrences are not uncommon in a market covering a multitude of commodities. The contending forces recently have been those interested in American saffron and aloin, both of which are lower and unsettled, with the future course of prices depending mainly upon the result of the struggle now in progress. Symptoms of a revival in speculation are developing, but nothing of consequence has yet come to the surface. Financial affairs continue of a satisfactory character.

OPIUM.—Dealers report a rather better business this week than last, but the tendency of values has continued in favor of buyers, and there is nothing in the future outlook that is encouraging to holders. In our last issue we stated that in some instances a concession of 2½ cents per lb was granted to close buyers and now the open quotations are on the same basis, which is equivalent to a decline of 2½ cents. New crop is offering by cable from Smyrna and Constantinople at about the parity of spot values, but there is no apparent disposition to operate in futures, and the prevailing opinion is that further weakness will develop as soon as the large crop now being harvested begins to accumulate in the primary markets.

POWDERED OPIUM.—The market has remained inactive, with quotations unchanged, but easy, in sympathy with the weakness in gum.

MORPHINE.—The market has ruled quiet and easy under the influence of weaker opium, and yesterday manufacturers reduced their quotations 10 cents per ounce on all sizes and quantities.

QUININE.—The market has continued to reflect a strong undertone, and the consuming demand shows no abatement. The business from second hands has been curtailed by materially reduced stocks, but manufacturers' agents report considerable sales on jobbing orders at full schedule prices, and the statistical position is steadily assisting the efforts of manufacturers to control the situation.

ALCOHOL.—Is more or less demoralized, with prices again slightly lower. The unsettled condition of the market is wholly the result of keen competition between the various distilling and distributing interests, as, under ordinary circumstances, the existing influences are of a character to naturally strengthen the situation. Grain is 2 cents per bushel higher, a large majority of the distilleries are closed and stocks are gradually but steadily diminishing.

ALOIN.—It is claimed that a new competitor has entered the market for this article, and the result is a decided unsettling of values. A round lot was recently secured by a dealer at a comparatively low figure and it has since been resold, in small parcels, to the consuming trade, at prices showing a decline of 20@30 cents per lb. The older makers report no change in their quotations.

BALSAMS.—The market is without new feature of special interest, and former prices are still current for all varieties, with the general jobbing trade fair for this time of the year.

CACAO BUTTER.—Is meeting with very little inquiry, but the tone of the market is strong and the tendency of values is toward a higher basis.

CAFFEINE.—Is offering rather more freely and prices show a decline of 50 cents@$1.00 per lb. Stocks, however, are not large and only small parcels are available.

COD LIVER OIL.—All indications are favorable to a continued strong market, and the available supply is said to be smaller than for many years. Holders are indifferent sellers at current prices, and when the active consuming season begins an advance is confidently expected.

CASSIA OIL.—Values continue to harden under the influences heretofore noted, and a further advance of 5 cents per lb has occurred with stocks more or less concentrated.

OIL OF ANISE is in better demand and firmer in sympathy with the primary market, and quotations are 5 cents per lb higher.

OIL OF BERGAMOT.—Leading brands have been advanced 25 cents per lb, and other varieties are correspondingly higher. The improvement is due to the strong position of the article at the sources of supply.

CITRONELLA OIL has been further advanced 1 cent per lb; stocks are decidedly small, and there is very little on the way from primary markets.

OIL PEPPERMINT.—The general market continues firm with an improved inquiry; bulk is without further improvement in price, but case oil shows an additional advance of 5 cents per lb.

CAMPHOR is without quotable change, and local refiners adhere firmly to full previous prices, while the Japanese product is obtainable at 3@4 cents under the domestic. Some holders of Japan are anxious to realize on purchases made previous to the advance, and the market for that variety is thereby depressed.

AMERICAN SAFFRON continues in an unsettled and irregular condition. The recent decline has not stimulated demand and consumers are buying only from hand to mouth, the general impression being that a further break is probable, owing to large stocks and continued sharp competition.

CANARY SEED is lower in London, and the Smyrna variety has declined about ¼c. per lb.

HEMP SEED.—Russian is very scarce on the spot, and prices have been advanced ¼ cent per lb.

MILLET SEED is fractionally higher owing to increasing scarcity.

CORIANDER SEED.—The near approach of new crop is having a depressing influence on spot values, and a decline of ½ cent per lb is noted for both natural and bleached.

BLUE VITRIOL.—The demand has fallen off materially, and the market is dull with quotations ⅛@¼ cent lower.

BORACIC ACID.—Manufacturers have reduced their quotations 1 cent per lb.

CITRIC ACID.—Manufacturers have issued circulars announcing a reduction of 1 cent per lb.

London Market Report.

London, July 12, 1895.

A very much better feeling was experienced at our drug sales held yesterday than has been the case for some time past. The catalogues were not heavy, but a large proportion of the goods offered were sold at, on the whole, better prices. The principal articles of interest to American buyers were ipecacuanha, Turkey colocynth, quince seeds and senna, all of which are in a very strong position.

ACID CARBOLIC.—Owing to the hot weather the demand is greater than the supply and nothing can be had for immediate delivery. For delivery in two or three weeks prices range from 5½d. to 6¼d. lb, according to make, for bulk packages.

ACID CITRIC.—This is rather firmer from the makers, who ask 1s. 1¾d. lb, but a few tons could still be got from second-hand holders at 1s. 1⅜d.

ALOES.—Cape are very firm at 25s. to 26s. cwt. for fine hard bright and 23s. for softish and slight drossy. Hepatic in monkey skins sold at 40s. to 43s. for soft to liquid. Socotrine in kegs unsalable; 70s. asked for good softish and 65s. for slightly inferior.

BUCHU LEAVES.—Long leaves are entirely without demand; round of good green color sell readily at 3¼d. lb.

CAFFEINE.—This is decidedly easier —due, it is said, to lack of agreement between the two English manufacturers. The raw material, however, continues scarce, and when the season of active demand sets in a further advance in prices seems probable.

CAMPHOR.—The syndicate continues to manage the crude market; 170s. is the price for Japan on the spot. For refined rather less would be taken by one German manufacturer for immediate delivery, but he evidently believes in the syndicate winning in the end, for he will not sell at the reduced rate for forward delivery.

CARDAMOMS were in but limited supply at the sales—owing, however, to the high limits few sales were made. Fine, bold, pale Mysores sold at 3s. 10d.; medium size, 2s. 10d.; small, 1s. 11d.@2s.; decorticated, lower at 1s. 7d.@1s. 9d.

CHLORATE OF POTASH.—A dull market, at 4¾d. per lb, f. o. b. Liverpool.

COLOCYNTH.—All lots of Turkey apple obtainable up to 2s. per lb have been taken for the American market. In the sales 2s. 1d. were paid for fair, pale apple, and 1s. 9d. for dull broken.

CUBEBS.—32s. 6d.@37s. paid for somewhat indifferent quality, 45s.@50s. being paid privately for good.

ERGOT OF RYE.—Eleven cases good quality, but slightly weevily Spanish, sold "without reserve" at 7¼@7½d., a decline of about 1d. per lb. Since the auctions this decline has been made up by the resale of a portion of the same lot at 8½d. per lb.

GLYCERIN.—Refined, 1260 s. g., is firm at 50s. per cwt.

IPECACUANHA.—A large business has been done during the week at an advance of fully 1s. per lb on last sales' rates; 5s.@5s. 2d. for fair root, up to 5s. 6d. for bold.

JALAP.—Holders are firm in asking 11d. per lb for sound root, but demand is slow.

MENTHOL is easier at 13s. 6d. per lb.

MUSK.—The position is exceedingly good, but demand is inactive; 75s. asked for fine Pile I. Tonquin pods, with thin blue underskin.

MYRRH continues to decline in price, but fine lots are held off the market.

NUX VOMICA.—Exceedingly cheap; small, dull Madras seed sold at 5s.; bright Cochin, 6s. 6d.@7s.

QUINCE SEED.—An arrival of 3,000 lb took place lately from the Cape, some of which was previously sold; 10 bags (about 1,400 lb) were offered in yesterday's sales, and were freely taken at 1s. 3d. per lb.

QUININE.—Very quiet; sellers of "Gold and Silver" at 12¾d. per oz., "H. B." at 12½d., and "B. & S." at 12⅜d. per oz., all from second hands.

CREAM OF TARTAR.—Advanced and firm at the higher rates. German powder 72s., French crystals, 70s.

LAVENDER OIL of best English quality is likely to be very scarce this season, and big prices are expected. Holders refuse to part below 90s. per lb.

PEPPERMINT OIL is rising rapidly. Good English brands as much as 3s. this week, and unless the long spell of dry weather soon breaks, is liable to go higher.

QUICKSILVER is lower, at £7 5s., and £7 4s. in second hands; mercurials have not yet changed, and probably will not do so

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ALCOHOL BLANKS.

Section 61, Act of Congress, dated Aug. 28, 1894, provides for the refunding of the Internal Revenue tax on all alcohol used in manufacturing in the arts and in medicinal or other like compounds. Retail druggists to secure this rebate should be prepared to present accurate record and proof of such use. We have prepared for druggists' use some special ALCOHOL BLANKS for keeping a proper record of alcohol used for manufacturing purposes, with full directions for keeping the record and for preparing your claims to secure the rebates. If you are not keeping such records, *these blanks may save you a lot of money.*

If you are a subscriber to the Era, we will send you a package of these Alcohol Blanks on receipt of 16 cents to cover the expense. *To non-subscribers the Alcohol Blanks are strictly net 50 cents per package*, postpaid.

Address
THE PHARMACEUTICAL ERA,
New York.

ALCOHOL CLAIMS.

"According to your instructions I must have a witness every time I draw alcohol from the package. This, it seems to me, would be considerable trouble.

"Can I not draw, say, 20 gallons from my barrel of alcohol in the presence of a witness, and then use this 20 gallons for medicines and medicinal purposes?"

Numerous questions very similar to these have reached us, referring to the blanks supplied for keeping record of the use of alcohol on which claim for rebate of tax is to be made. The blanks are the result of very careful and thorough consideration of the question, and indicate by their headings the character of the evidence which in the opinion of those best posted will be necessary to support a claim for refunding of tax. In the absence of official regulations from the Secretary of the Treasury, nothing but opinion can be indulged in. When the Secretary shall get out his regulations, they will undoubtedly include specific instructions for keeping the record and the filing of claims and proofs. Until then, however, it is the part of wisdom to prepare too much rather than too little proof of these claims.

A witness of every drawing of alcohol may or may not be required, but it is generally little trouble to secure such witness, and your claim is thereby made all the stronger. Even a little inconvenience should not be the cause of a possible weakening or invalidation of your claim. Have a witness, or some legal proof to verify every step.

In answer to the second question, you should purchase your alcohol in a package large enough (over 5 gallons) to require, and which must bear a tax-paid stamp, and every portion of this alcohol must be used in manufacturing. None of it can be sold over the counter, nor disposed of in any way other than is included within the definition "in the arts or in any medicinal or like compound." Failure to observe this rule will undoubtedly vitiate your claim on the entire package. An entry must be made for every individual drawing of alcohol and of the purpose to which it was put. A lot of small quantities must not be grouped into one entry. Thus, it must be shown that one gallon was drawn and *all* used in making tincture of cinchona, six fluid ounces drawn and *all* used in the manufacture of a cloth-cleaning compound. 2½ pints drawn and *all* used to make bay rum, and so on, making an entry for each step in the drawing and use of the alcohol. Of course, this is all troublesome, but you get $2.06 on every gallon of alcohol if your claim is allowed.

FREE ALCOHOL.

The Philadelphia druggists have spoken loudly in favor of free alcohol; the Era has repeatedly argued its advantages, and stated further that it has been ordered by act of Congress and is a legal right which should be insisted upon by all manufacturers, great and small, who use alcohol in their business. We thoroughly believe that free alcohol would be of great benefit to the retail drug trade, and all sound argument is in support of this belief.

The Chicago Retail Druggists' Association, however, has been trying to work up sentiment in opposition to free alcohol, has requested all the pharmaceutical associations to pass resolutions asking the repeal of the law, which a few have been ill-advised enough to do, and in numerous ways has endeavored to delay still longer the very benefit for which the drug trade has prayed for many years past. The most important objection urged by the Chicago Association says that "the law in its present form would inevitably be attended with gross discrimination against the retail druggist and great resulting loss to his business and profession, and with no material advantage to the people to compensate for the serious loss to the national revenue for the remission of the said tax." Supplementing this statement is a circular which aims to give a "plain statement" of the situation without "speculative rhetoric," in which the matter is referred to as an "overshadowing conspiracy," the success of which "will deliver the retail druggist bound hand and foot into the tyrannous grasp of the great medicine factories and destroy utterly the most important part of the business of the apothecary."

We believe the position of the Chicago druggists is entirely untenable, and the circular referred to is misleading and fallacious in its arguments and incorrect in some of its statements of fact. Its dire prediction is based upon mere assumptions as to the regulations likely to be prescribed by the Secretary of the Treasury. As to these the circular says, "there is no reason to doubt." This, as an argument, is perfectly sound, for where there is no doubt in the premises the conclusion has an apparent soundness. But the premises in this case are built upon some tentative regulations, which included manufacturers "for wholesale only," and provided for "bonds," government-locked storage rooms, and supervision of manufacturing processes by a government officer, but which proposed regulations were promptly rejected by the Treasury authorities.

They were seen to be discriminating against the small manufacturer, just as our Chicago friends allege.

As the matter now stands the Treasury Department has taken a position against the very evils complained of. In the last issue of the Era Commissioner Miller is reported as saying: "There is no question but that the law intended to put all users of alcohol, other than those using it in beverages, on an equality. If a big manufacturer is to be allowed rebate, there is so much the more reason why the little one should be permitted the same privilege. It is because of the fact that the retail druggists have as complete rights under the law as the big manufacturers that the problem of framing regulations to protect the Government's interests is so serious a question."

Neither the tentative regulations nor this utterance of the Commissioner can be considered as strictly authoritative, but the fact that the former were considered as impracticable, or rather unlawful, shows that such discriminating regulations cannot be formulated by the Department. Does this not close this phase of the discussion?

That retail druggists are not all opposed to free alcohol is strikingly shown by the large and increasing number of requests for information and record blanks which come in every mail.

PATENTING A "PRODUCT."

1. "Is there any law forbidding the sale in this country of an article made in a foreign country, that has been purchased in a foreign country from the manufacturer and shipped by purchaser to this country, notwithstanding it is claimed that one person only has the right to sell all that is imported?"

2. "Is the U. S. Government justified in granting a patent upon a medicinal PRODUCT? *There is no question of the right to patent a* PROCESS *for manufacturing a certain product; but do our patent laws permit of a patent as well on the* PRODUCT *of this process?"*

The above questions were submitted to Mr. George H. Lothrop, of Detroit, a leading member of the bar and a recognized authority on patent law, for an authoritative opinion in reply. He answers thus:

1. If an article is patented in this country as well as abroad, and the American patent is owned by a different person than the owner of the foreign patent, the unlicensed sale in this country of the patented article, although purchased abroad from the owner of the foreign patent, is an infringement of the American patent.

If an article is not patented in this country, there is no law forbidding its sale by anybody who lawfully comes into possession of it.

2. Whether the United States Government is or is not justified in granting a patent upon a medicinal product is purely a question of expediency. The statute passed by Congress authorizes the issuance of patents for an art, machine, manufacture or composition of matter or improvement thereon, and this is broad enough to include a medicinal product.

The fact that the German patent law does not allow a patent for a medicinal product, but only for the process of its manufacture, is thought by some of our manufacturers to place them at a disadvantage, because it gives a German inventor greater rights in this country than he has in his own, or than an American inventor can have in Germany.

It will readily be seen how significant and important are these opinions. They bear directly upon the questions at issue in the phenacetine litigation now in the courts. In some respects Mr. Lothrop's views are apparently opposed to those of the attorneys retained to represent the Chicago druggists under prosecution for selling phenacetine and other drugs covered by American patents and not obtained from the licensed American agents of the owner of these patents, but direct from the German manufacturers and patentees. The Chicago attorneys are quoted as saying that "the product is not patentable, generally speaking." To be sure, Mr. Lothrop says that "granting a patent upon a medicinal product is purely a question of expediency," but as it has been deemed "expedient" by the government to grant a patent on the product subgallate of bismuth, and in some other instances, it would seem that a precedent is established with regard to medicinal products in general, that they are patentable.

Evidently the court will have some very troublesome points to decide when these phenacetine cases come to trial. The druggists argue that phenacetine cannot secure a patent in the country of its discovery and production, though a *process* for making it can be and is patented, and that the United States by granting a patent to the product as well as the process shuts off all incentive to and opportunity for invention and business activity, a result contrary to the fundamental spirit and intent of the patent laws.

OUR IMPORTS OF DRUGGISTS.

The old question whether pharmacy is a profession or trade may bother some people in their exalted moments, and for the benefit of these the publication of the fact that the U. S. Government has spoken upon the matter in a way which inferentially favors the professional aspect of the case will no doubt be consoling. This favorable declaration is found in the Treasury Department's report for 1894 upon Immigration and Passenger Movement at Ports of the United States, and under the head of "Statement, by Occupations," subhead "Professional," we find that 31 male druggists over 15 and under 40 years of age, and one over 40 years of age, arrived in the United States during the year ending June 30, 1894. During the same period 85 chemists, who are also considered as professional, swelled our population. It is quite gratifying to thus find the druggists (not pharmacists) classified with clergymen, lawyers, artists, actors, editors, musicians, teachers, etc., and even scientists, of whom the government report shows that we imported one. As this one came from Russia and is designated as "not otherwise described," he may, after all, have been a druggist. A circumstance which needs a stronger word than mere gratification to describe it, is the discovery in this connection that such ordinary people as bankers, butchers, capitalists, cooks, managers, merchants, manufacturers, milliners, etc., etc., are regarded by the Government as merely "skilled" or "miscellaneous," not worthy of inclusion in the lofty ranks of the professionals. Surely the old problem of professional status which has been agitating pharmaceutical circles has at last reached a most pleasant solution.

A further study of the statistics is quite interesting, especially the table showing the countries from which we received the professional people in whom we are interested. These tables show the arrivals as follows: Austria-Hungary, 2 druggists, 1 chemist; Belgium, 2 chemists; Denmark, 1 druggist; France, 4 chemists, 1 druggist; Germany, 18 chemists, 12 druggists; Greece, 1 chemist; Italy, 4 chemists, 4 druggists; Netherlands, 3 chemists; Russia, 1 chemist, 5 druggists; Sweden, 2 chemists, 1 druggist; England, 18 chemists, 3 druggists; Scotland, 7 chemists, 1 druggist; Ireland, 18 chemists, 2 druggists; Australia, 3 chemists; Hawaiian Islands, 3 chemists.

A New "Trust" Definition.

There has been much discussion on the part of the people of the United States as to what constitutes a "trust." The trouble has not been so much one of furnishing a definition, as it has been to find organized bodies to which the definition could be consistently attached. Texas has solved the problem through a legislative utterance which seems to cover everything in sight, and "combines" which want to do business in that State and keep out of jail should read and carefully study the following: A trust is described as a "combination of capital, skill or acts by two or more persons, firms, corporations or associations of persons, to restrict trade; to increase or reduce prices; to prevent competition in the manufacture, sale or transportation of goods; to fix any article intended for use in Texas at any standard price, or to make any agreement not to sell or carry an article below a common standard figure; or to keep the price at a figure so as to prevent free competition, or to agree to pool interests so as to affect prices."

It is hard to tell which will restrict trade the more, the law itself or the object at which it is aimed. It is reported that several corporations will have cases ready to test the law when it goes into effect on the 1st of August.

We have received a communication signed "Jobber," but otherwise anonymous, mailed at the general post office in this city, in which the writer reflects seriously upon the business integrity of certain named individuals. If the writer of this particular communication will disclose his identity and assume the responsibility of his statements, we will be glad to give consideration to his accusations.

M. Robbins, 1277 Tremont St., Boston Mass.—I find the Pharmaceutical Era indispensable in studying pharmacy, and believe that every young aspirant thinks likewise.

PRACTICAL HINTS.

——Have you had many calls for disinfectants this hot weather? If not, perhaps you have not told the public that you kept such things, and they have been buying their supplies from other merchants who do advertise.

——We once saw a shelf bottle in a drug store which was labeled "Hyd. Chlor." The clerk who compounded a prescription for a customer went to this bottle for solution of corrosive sublimate. If the customer ever discovered that it was really chloral hydrate in the bottle, he doubtless delivered a lecture to the druggist on his careless habits. A pretty good argument in favor of great care and exactness in labeling is afforded by this incident.

——Did you ever reflect what a splendid rule the Golden Rule, "Do unto others," etc., is for the conduct of the druggist and his clerks, and that if it is observed no other rules are necessary? Directed toward customers it is a trade winner and puts hard, cold dollars of profits into your pockets. This rule is capable of broadest extension and widest application. It means that you should treat customers politely and really strive to meet their wishes and please them, that even the drummer is not to be insulted, and that the ragged urchin, who requests a picture card, is not to be roughly driven away with words of contumely and abuse. It also means that you are to be just and honest in all your commercial dealings, but it does not debar you from tempering justice with mercy when occasion demands, especially when dealing with the poor whom necessity and want oppress. Think it over, and you will realize what a complete set of rules is embodied in this single one.

——Speaking of the Golden Rule, and while you may be in a mood to receive advice, we would repeat the Ten Commandments found in the pages of the Spatula. These commandments are intended for the guidance of the dispenser. They are, briefly stated: (1) Keep the prescription scales clean, and, if they have a cover, keep them covered while not in use. (2) Keep the bottles well filled and perfectly clean at all times. (3) Keep everything in its proper place. (4) After using a bottle do not leave it on the prescription counter, but return it to its proper place. (5) See that all bottles are properly and distinctly labeled, so as to avoid mistakes in dispensing. (6) When compounding prescriptions behind the desk, do not try to converse with some one in the front part of the store. (7) Keep the customers out from behind your prescription desk; it is no place for any one but the pharmacist and his clerks. (8) Do not neglect to label all poisons, simply because you are in a hurry. (9) When putting up prescriptions do not let your mind wander off to something else, but remember that you hold the life of a human being in your hands, and act accordingly. (10) Remember that your profession requires you to be prudent, careful, patient and polite, and, whether well or ill, busy or idle, always keep yourself in good humor.

ADVERTISING GLUES, MUCILAGES, CEMENTS, ETC.

The sample advertisement presented herewith suggests another line of goods which the druggist might manufacture and sell at a good profit. People will have to be told about it, however, and the fact that the druggist can make, as wanted, glues, cements, etc., for special purposes should be duly impressed upon them. Lots of people do not know that the druggist is chock-full of formulas, and has material right at hand for making dozens of things which they need every day in the shop and household—in fact, the druggist has been educating people the other way, and telling them that he cannot help them if he does not happen to have a "ready-made" article of the kind wanted in stock. People buy a great deal of such stuff from peddlers and canvassers, first, because they need it, and, second, because these itinerants call their attention to the articles. If the druggist will do a little of this "attention calling," he will do the seling, and it may surprise him to see the amount of these little things which people will use if they are simply invited to do so, and are told where they can

WE BELIEVE

IN MAINTAINING

THE UNION.

So we make

GLUE AND MUCILAGE.

Half a dozen different kinds for Dozens of different purposes, and

CEMENTS

For Leather, Rubber, Glass, Porcelain, Marble, Aquaria, Bicycle Tires, Hot Water and Steam Pipes, Celluloid, Ivory, etc., etc.

For general purposes and household use you cannot get anything better than our

STAR CEMENT .....10 cents per bottle
STAR MUCILAGE.....5 " "
STAR LIQUID GLUE.....10 " "

Special prices on Glues, Mucilages and Pastes in pints and gallons.

KNIGHT & DAY, Druggists.

be procured handily. Things will be mended which would otherwise go unmended or be thrown away.

Druggists as a rule have not advertised their ability to cater to the wants of the people in industrial matters, and our suggestions have mostly been directed toward initial announcements in various lines. These should be followed occasionally by others, of a more specific character, but relating to the same subject. Thus, an advertisement headed "Broken Dishes" will attract attention to cements because everybody is having almost daily experience with such things, and a reference to cements for bicycle tires would be a timely one. The druggist cannot depend entirely upon the ill health of the community for his subsistence—the heterogeneous character of his stock shows this, and there is no reason why he should not proclaim his ability to help mend a leather belt in a sawmill, when he has all the material in stock for making the cement.

Some formulas for sticking and mending things are given elsewhere in this issue.

VALUABLE INFORMATION.—The London Evening News and Post, says an exchange, has apparently recently purchased a second-hand book of general information, and one of its junior staff seems to have taken advantage of the opportunity thus afforded him of graduating as a professor of things in general. At least so we judge from the strange outburst on "Queer Physic," which must have startled the inhabitants of the great city. Pepsin is the first drug given attention, and that we are told, with more or less accuracy, is the dried inner lining of the pig's stomach; jellies and blanc mange are stated to be composed of the entrails of fish, colored with the juice of insects; and the act of taking a magnesia draught is said to be equivalent to swallowing building stone (dolomite). As the writer warms to his subject we learn that syrup of squills is extracted from the sea onion, and that from the sea shore comes a very effective blood mixture prepared "by burning seaweed, and distilling the resulting ash with manganese iodine combined with iodide of potash." After this one need not be surprised to find that prussic acid is used "in a mild way" to flavor candies and that the pure acid is so deadly that, "supposing a small bottle of it were broken in the center of a crowded theater, only those nearest the door would escape with their lives."

ACID CEMENT.—For cementing glass, porcelain or other vessels intended to hold corrosive acids. Nouv. Rem. through Pharm. Cent. gives the following: Asbestos, 2 parts; barium sulphate, 1 part; sodium silicate, 50° B., 2 parts. The following is adapted for hot acids and possesses more resistant powers than the preceding: Sodium silicate, 50° B., 2 parts; sand, 1 part; asbestos, 1 part. If the cement is wanted to set at once, use silicate of potassium instead of silicate of sodium.

COULD NOT DO WITHOUT IT.

Callum & Co., Greensboro, N. C. The Era beats all other journals and is the best of any.

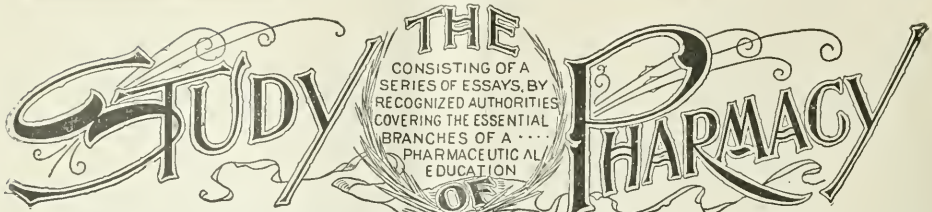
W. C. Wheelock, Jackson, Mich.—For the practical pharmacist, I think this year's Era has never had an equal.

Charles W. Avery, 1908 Mariposa street, Fresno, Cal.—Could not practice pharmacy without the Era.

D. H. Heimg, Ada, O.—June 23 and July 13 copies of the Era I failed to receive, and it was like missing a meal.

O. P. Allphin, Ansley, Neb.—Would like the Era if you want to send it. Will send you the dough. A sample copy has found its way to my desk, and I like it; it's the stuff.

C. T. Woods, Cheyenne, Wyo.—I wish to congratulate you on the success of your "column for advertisers." It contains much that is actually valuable to the retail druggists. I am becoming more thoroughly convinced of late than ever before that the right kind of advertising is one of the ways leading to success in the drug business. I hope the interest in this question will be kept up among your readers, and finally become so important a part of your journal as to be indispensable to it.



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[*Continued from page 105, July 25.*]

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XIX. INORGANIC PHARMACY.

(Continued.)

By Virgil Coblentz, Ph. G., A. M., Phil. D.

THE METALS OF THE ALKALI EARTHS.

Barium, Calcium, and Strontium.

Barium Compounds.

BARII DIOXIDUM. — U. S. P. — (BaO_2). Made by passing air over barium oxide heated to redness. It is used solely for preparing solutions of hydrogen dioxide.

Calcium Compounds.

Solutions of calcium salts are precipitated by soluble carbonates, sulphates, oxalates, etc.

CALX.—U. S. P.—(CaO).—Made by calcining limestone, marble, oyster shells, etc.; carbon dioxide and water being expelled ($CaCO_3 = CaO + CO_2$). That obtained from marble or oyster shells, should be used in preparing solution or syrup of lime. It likewise enters into Linimentum Calcis as Liquor Calcis and Potassa cum Calce.

LIQUOR CALCIS (Lime Water).—When water is added to calcium oxide (burnt lime), considerable heat is generated, with formation of calcium hydroxide $Ca(OH)_2$; this is soluble in 780 parts of cold water, but only in 1650 parts of boiling water. Each fluid ounce of lime-water would then contain about three-quarters of a grain of calcium hydroxide. Liquor calcis should be prepared from a calcium oxide which is made from marble, a very pure form of calcium carbonate. When the calcium oxide is made from ordinary limestone, it will be contaminated with alkalies, which dissolve readily in water; hence the Pharmacopœia directs, that the slaked lime should be first treated with a small portion of water, which removes these impurities. Lime water should not be added to salts of alkaloids or of metals, nor to acid solutions. When added to calomel (1 drachm to the pint) it forms the so-called black wash (lotia nigra). When added to corrosive sublimate (one-half drachm to the pint), it forms the yellow wash (lotio flava, or aqua phagedænica). In the latter case, care should be taken that no free corrosive sublimate remains in the solution, which may arise from deficiency of strength of the lime water. This solution should be kept in a well-stoppered bottle, away from access of the air, otherwise all of the calcium hydrate would soon be converted into and precipitated as carbonate.

SYRUPUS CALCIS. — Cane sugar unites with different oxides and hydroxides of the metals to form a class of soluble compounds called "Saccharates." This is the case with calcium hydrate, the sugar forms with it compounds of the general formula $C_{12}H_{22}O_{11}.y\ CaO$. This syrup should be kept in well-closed vials, to avoid absorption of carbon dioxide from the air.

CALCII CARBONAS PRÆCIPITATUS.—U. S. P.—($CaCO_3$).—This is obtained by interaction between solutions of sodium carbonate and calcium chloride. It is used as an antacid in tooth-powders, etc. It should not be substituted in place of prepared chalk in pharmaceutical preparations, as it lacks the adhesive properties of the latter.

CRETA PREPARATA.—U. S. P.—($CaCO_3$).—This chalk is freed from most of its impurities by the process of elutriation, and is then usually moulded in the form of cones. The cheaper grades are called "whiting." It enters into Pulvis Cretæ Compositus, trochisci cretæ and Hydrargyrum cum Cretæ. Its properties are those of an antacid.

CALCII HYPOPHOSPHIS.—U. S. P. —$Ca(PH_2O_2)_2$ made by boiling milk of lime with phosphorus, until the inflammable gas phosphoretted hydrogen ceases to be evolved ($8P + 3Ca(OH)_2 + 6H_2O = 3Ca(PH_2)_2 + 2PH_3$.) The liquid is filtered, concentrated at low temperature and crystallized. When heated above 85° C., the salt readily decomposes with violent explosion. For the incombustibles and precautionary measures to be observed in handling this salt, see Sodii Hypophosphis. Calcium hypophosphite enters into Syrupus Hypophosphitum.

CALCII PHOSPHAS PRÆCIPITATUS.—U. S. P.—($Ca_3(PO_4)_2$).—Made by precipitating a solution of bone ash in hydrochloric acid with ammonia. Because of its insolubility, it is employed as a subdividing medium in the preparation of medicated waters, also enters into Pulvis Antimonialis.

Strontium Compounds.

Solutions of strontium salts are readily precipitated by soluble carbonates, Sulphates and chromates. The halogen and organic salts are estimated in the same manner as those of the alkali metals.

STRONTII BROMIDUM.—U. S. P.—($SrBr_2 + 6H_2O$). Made by saturating hydrobromic acid with strontium carbonate, evaporating and crystallizing. This salt is readily soluble in alcohol, but precipitated by ether. Incompatible with soluble carbonates and sulphates, likewise, like all the other bromides, with the mineral acids, such as nitric, nitrous and nitromuriatic.

STRONTII IODIDUM.—U. S. P.—($SrI_2 + 6H_2O$). Obtained by evaporating a solution of strontium hydrate and hydriodic acid. Solubility and incompatibles same as in the above.

STRONTII LACTAS. — U. S. P. — ($Sr(C_3H_5O_3)_2 + 3H_2O$). Made by dissolving freshly precipitated strontium carbonate in lactic acid, evaporating and granulating.

MAGNESIUM GROUP.

Magnesium Zinc.

Magnesium Compounds.

Solutions of magnesium salts are precipitated by soluble carbonates and by phosphates in the presence of ammonia.

MAGNESII SULPHAS. — U. S. P. — ($MgSO_4 + 7H_2O$).—Epsom Salt. — This salt is of great importance because it is the source of most other magnesium compounds. It is made from the mineral kieserite ($MgSO_4 + H_2O$) or from a silicious magnesium hydrate or from dolomite, a double carbonate of magnesium and calcium. Magnesium sulphate enters into Infusum Senuæ Compositum.

MAGNESII CARBONAS.—U. S. P. —($MgCO_3)_4 + Mg(OH)_2 + 5H_2O$). A mixture of carbonate and hydroxide, obtained by mixing solutions of sodium carbonate and magnesium sulphate, evaporating to dryness, washing and straining. This yields the so-called "heavy magnesium carbonate," the light carbonate is obtained by precipitating from cold dilute solutions. This salt enters into Liquor Magnesiæ Citratis and Magnesii Citras Effervescens. It is used for the preparation of Magnesia.

MAGNESIA. — U. S. P. — (MgO).—Light-Calcined Magnesia.—Obtained by exposing magnesium carbonate (light) to red heat, thereby removing water and carbon dioxide. It enters into Ferri Oxidum Hydratum cum Magnesia, and Pulvis Rhei Compositus.

MAGNESIA PONDEROSA. — U. S. P.—(MgO).—Heavy Magnesia.—This is obtained like the light magnesia by calcination, but employing the "heavy" carbonate instead. It possesses only one-fourth of the bulk of light magnesia, hence is to be preferred for administration.

Zinc Compounds.

These are prepared either by the action of acids on metallic zinc, or from the carbonate or oxide. The chief impurities that occur are arsenic, cadmium, lead, copper, iron, aluminum and calcium. For the detection of these impurities the Pharmacopœia employs various tests. As tests of identity, solutions of the zinc compounds produce white precipitates of zinc sulphide with sulphuretted hydrogen and ammonium sulphide. Also a white ferrocyanide of zinc precipitate upon the addition of potassium ferrocyanide T. S.

ZINCI ACETAS, U. S. P. ($Zn(C_2H_3O_2)_2 + 2H_2O$).—Obtained by digesting zinc oxide with acetic acid, filtering, evaporating and crystallizing ($ZnO + 2HC_2H_3O_2 = Zn(C_2H_3O_2) + H_2O$). This salt is chiefly used as a local remedy.

ZINCI BROMIDUM, U. S. P. ($ZnBr_2$).—Obtained by interaction between concentrated aqueous solutions of potassium bromide and zinc sulphate, to which alcohol is subsequently added, to promote the precipitation of the potassium sulphate, the solution being then filtered through spun glass, evaporated and granulated ($ZnSO_4 + 2KBr = ZnBr_2 + K_2SO_4$). It can also be made by adding bromine to water containing granulated zinc, the zinc bromide which forms in the solution being obtained by evaporation. The per cent. of the pure salt present is determined by assay with decinormal silver nitrate V. S., depending for its results upon the amount of bromine present combined with the salt (see Decinormal Silver Nitrate V. S.). This salt is deliquescent, and is incompatible with silver and lead salts, also with the mineral acids.

ZINCI CARBONAS PRÆCIPITATUS, U. S. P. [$(ZnCO_3)_2.3Zn(OH)_2$]. This salt is made by interaction between solutions of zinc sulphate and sodium carbonate, whereby zinc carbonate precipitates. The precipitate is collected on a strainer and washed till free from sulphates ($5Na_2CO_3 + 5ZnSO_4 + 3H_2O = (ZnCO_3).3Zn(OH)_2 + 5Na_2SO_4 + 3CO_2$). It is used chiefly in preparing ointments, and replaces carbonate or calamine.

ZINCI CHLORIDUM, U. S. P. ($ZnCl_2$).—Made by digesting metallic zinc with hydrochloric acid, evaporating to dryness and fusing. This salt is assayed in a similar manner to the bromide of zinc. When the zinc contains iron, an impurity which usually occurs in this metal, it is necessary that it be removed, otherwise a discolored salt will result. This is accomplished by adding some nitric acid to the solution in hydrochloric acid, evaporating to dryness and fusing, the ferrous iron being thereby converted into the ferric condition. The fused mass is then dissolved in water and shaken with zinc carbonate whereby the iron is precipitated as ferric oxide, and is filtered off with the excess of zinc carbonate, the filtrate is again evaporated to dryness and fused. This salt is extremely deliquescent, hence should be kept in hermetically sealed bottles. Its properties are those of a caustic; in solution it is used as an antiseptic and disinfectant.

ZINCI IODIDUM, U. S. P. (ZnI_2).—This may be made by digesting zinc with iodine in the presence of water, evaporating and granulating; or by saturating hydriodic acid (HI) with zinc oxide or carbonate. The salt is very deliquescent, and also absorbs oxygen readily from the air, becoming yellow, then brown, from the liberated iodine; in this condition it should not be dispensed. The free iodine may be removed to a large extent by washing with ether. It is incompatible with salts of the metals and mineral acids. The method of assay is essentially the same as that given under the bromide of zinc.

ZINCI OXIDUM, U. S. P. (ZnO).—Obtained by calcining zinc carbonate until a portion ceases to effervesce when added to acids. Zinc oxide enters into Unguentum Zinci Oxidi and Oleatum Zinci.

ZINCI PHOSPHIDUM, U. S. P. (Zn_3P_2).—Obtained by passing the vapors of phosphorus with a current of hydrogen over fused zinc. It should be kept in well closed vials to avoid loss and oxidation of the phosphorus. It should not be combined with vegetable extracts, since the presence of any weak vegetable acids will cause decomposition.

ZINC SULPHAS, U. S. P. ($ZnSO_4 + 7H_2O$).—By the action of dilute sulphuric acid on metallic zinc, hydrogen gas is evolved and zinc sulphate is formed ($2Zn + 2H_2SO_4 + H_2O = 2ZnSO_4 + 2H_2 + H_2O$). The solution is evaporated and crystallized. It is commonly called "White Vitriol." Zinc sulphate is employed as the source of several of the zinc salts.

ZINCI VALERIANAS, U. S. P.—($Zn(C_5H_9O_2)_2 + 2H_2O$).—Obtained by interaction between hot solutions of zinc sulphate and sodium valerianate, crystals of zinc valerianate forming upon the surface of the liquid ($2NaC_5H_9O_2 + ZnSO_4 = Zn(C_5H_9O_2)_2 + Na_2SO_4$). This salt is incompatible with acids, since its valerianic acid is liberated.

SILVER GROUP.

Silver Compounds.

Solutions of the silver salts are incompatible with the soluble chlorides, bromides, iodides or cyanides, also their acids, likewise with alkali hydrates, organic and reducing substances.

ARGENTI CYANIDUM, U. S. P. ($AgCN$).—Prepared by passing hydrocyanic acid into a solution of silver nitrate, or by mixing solutions of potassium cyanide and silver nitrate ($KCN + AgNO_3 = KNO_3 + AgCN$). This salt is intended for the extemporaneous preparation of hydrocyanic acid.

ARGENTI NITRAS, U. S. P. ($AgNO_3$).—Obtained by dissolving silver in nitric acid and crystallizing ($3Ag + 4HNO_3 = 3AgNO_3 + NO + 2H_2O$). This salt is assayed by means of decinormal solution of sodium chloride V. S. Silver nitrate is used internally in pill form (0.02 gm. doses); locally as a caustic, also largely as a hair dye and for indelible ink. For preparing solutions of silver nitrate only distilled water should be used; it should not be combined with solutions containing the halogens or cyanogen, or any of their compounds; likewise organic or reducing substances; among the latter may be mentioned vegetable extracts, pyrogallol, hypophosphites, sulphites, etc. It is used in preparing Argenti Nitras Dilutus, U. S. P., which is made by fusing together one part of silver nitrate and two parts of potassium nitrate; also Argenti Nitras Fusus, U. S. P., or Lunar Caustic, which is made by fusing the nitrate and adding a little hydrochloric acid—this gives rise to the formation of silver chloride which toughens and renders the sticks into which it is formed less friable. Both of these preparations are used as caustics.

ARGENTI OXIDUM, U. S. P. (Ag_2O).—Made by precipitating a solution of silver nitrate with a solution of potassa, washing and drying ($AgNO_3 + 2KOH = Ag_2O + 2KNO_3 + H_2O$). Silver oxide should not be triturated with readily oxidizable or combustible substances (explosives), also should not be brought in contact with ammonia (formation of explosive, NI_3). Kaolin and petrolatum form the best excipients for a pill mass. It is used internally in place of the nitrate.

Gold (Au).

The only salt of gold employed in medicine is the chloride of gold and sodium.

AURI ET SODII CHLORIDUM, U. S. P.—Obtained by dissolving gold in nitrohydrochloric acid, evaporating to dryness, taking up with water, adding a weighed quantity of dry sodium chloride and again evaporating. This is assayed by determining the quantity of gold precipitated from a weighed amount of the salt, on addition of oxalic acid and heating. This salt is very deliquescent, hence should be kept in a dry place in well sealed vials.

COPPER AND MERCURY GROUP.

Copper (Cu).

The copper salts are not employed to any extent in pharmacy, there being but one official, namely,

CUPRI SULPHAS ($CuSO_4 + 5H_2O$).—This is made from waste copper by the action of dilute sulphuric acid, evaporating and crystallizing. When deprived of its water of crystallization, it forms a white powder, which is employed for testing absolute alcohol, the presence of traces of water causing the white salt to take on a blue color. Copper sulphate is used for preparing Fehling's Solution, a reagent for invert sugar.

ACETATE OF COPPER ($Cu(C_2H_3O_2)_2 + H_2O$).—Verdigris is frequently employed in the preparation of collyria and lotions. The aceto-arsenite of copper, or "Paris Green," is exceedingly poisonous.

Mercury Compounds.

Preparations Containing Metallic Mercury.

In these preparations the mercury is reduced to a very fine state of subdivision by trituration with some inert substance. In this form the mercury possesses greater activity. For this subdivision or extinguishment of mercury various agents have been employed, these acting by inclosing each globule

of mercury, as rapidly as separated, with a thin coat of material, which prevents it from reuniting with the rest. Among these extinguishing agents are chalk, honey, fats, oleic acids, resinous tinctures, confection of rose, wool-fat, mercurial ointment, oleate of mercury, etc., the Pharmacopœia referring in those instances where it is to be used externally, oleate of mercury; and when for internal use, honey or honey of rose. The viscid nature of the latter enables the operator to bring about the complete extinguishment of the mercury with but little difficulty. In these preparations containing metallic mercury both mercurous and mercuric oxides are apt to form on long standing, owing to slow oxidation of the finely subdivided mercury. As these are toxic when present in any quantity, it is necessary that the sample be tested for their presence as directed by the Pharmacopœia.

MASSA HYDRARGYRI, U. S. P.—Blue Mass or Pill—This contains one-third its weight of mercury, made into a mass with licorice, althæa and honey of rose, with a small amount of glycerin to keep the mass in soft condition. No globules of mercury should be visible under a magnifying glass of ten diameters.

HYDRARGYRUM CUM CRETA, U. S. P.—This contains 38 per cent. of mercury subdivided with prepared chalk and honey. No globules of mercury should be distinguishable with a lens magnifying 4 diameters.

UNGUENTUM HYDRARGYRI, U. S. P.—Blue Ointment.—This contains 50 per cent. of mercury by weight, the mercury being extinguished by means of oleate of mercury, and afterward incorporated with lard and suet.

EMPLASTRUM HYDRARGYRI, U. S. P.—This contains 30 per cent. of mercury, combined with lead plaster.

EMPLASTRUM AMMONIACI CUM HYDRARGYRO, U. S. P.—Contains 18 per cent. of mercury with ammoniac and lead plaster.

Salts of Mercury.

HYDRARGYRUM AMMONIATUM, U. S. P. (NH_2HgCl)—White Precipitate.—Obtained by precipitatiug a solution of mercuric chloride in au excess of aqua ammoniæ ($HgCl_2 + 2NH_4OH = NH_2HgCl + NH_4Cl + 2H_2O$). This compound is used in making "Unguentum Hydrargyri Ammoniati."

HYDRARGYRUM CHLORIDUM CORROSIVUM, U. S. P. ($HgCl_2$)—Corrosive Sublimate.—Obtained by sublimation by heating a mixture of mercuric sulphate and sodium chloride ($HgSO_4 + 2NaCl = NaSO_4 + HgCl_2$). Internally it is a powerful poison, the antidote being the white of an egg or milk followed by an emetic. It is also a powerful germicide and antiseptic, being employed as a wash usually 1 to 1,000. With potassium iodide it forms the red mercuric iodide ($HgCl_2 + 2KI = HgI_2 + 2KCl$), soluble in excess of the reagent. (When so dissolved the solution forms the so-called Mayer's reagent, which precipitates all alkaloids from their aqueous solutions as insoluble double salts.) With lime water corrosive sublimate forms the Lotio Flava, or Yellow Wash, N. F. With free iodine it forms the yellow mercurous iodide (Hg_2I_2). When added to alkalies, yellow mercuric oxide is precipitated ($HgCl_2 + 2KOH = HgO + 2KCl + H_2O$). When mixed with sulphurous or hypophosphorous acid or their salts, it is reduced to calomel (Hg_2Cl_2).

HYDRARGYRI CHLORIDUM MITE, U. S. P. (Hg_2Cl_2)—Calomel—Mild Mercurous Chloride.—Mercurous sulphate ($HgSO_4 + Hg$) and sodium chloride are mixed together in a retort and heated, whereby calomel sublimes, this is afterward washed with water to free it from the traces of soluble mercuric chloride formed ($Hg_2SO_4 + 2NaCl = Hg_2Cl_2 + Na_2SO_4$). Calomel should not be dispensed in conjunction with the chlorides of ammonium, sodium and potassium, hydrochloric acid, tincture of chloride of iron, or other soluble chlorides, owing to the liability of the formation of mercuric chloride. With lime water it forms the Lotio Nigra, or Black Wash, N. F. Calomel is distinguished from ammoniated mercury in that when heated with liquor potassæ or sodæ the former forms a black, the latter a yellow, deposit, also the latter evolves the odor of ammonia. The presence of mercuric chloride in calomel may be detected by agitating with water or alcohol (in which the former is soluble), and testing the filtrate with hydrogen sulphide, giving a precipitate of black mercuric sulphide, or the addition of silver nitrate produces a white precipitate of silver chloride. Calomel enters into Pilulæ Antimonii Comp. and Pilulæ Cathartieæ Comp.

HYDRARGYRI CYANIDUM, U. S. P. ($Hg(CN)_2$).—Made by dissolving mercuric oxide in hydrocyanic acid, evaporating and crystallizing ($2HCN + HgO = Hg(CN)_2 + H_2O$). On heating, it is decomposed into metallic mercury and cyanogen ($CN)_2$. Upon the addition of an acid hydrocyanic acid vapor is given off ($Hg(CN)_2 + 2HCl = HgCl_2 + 2HCN$). It should be administered with caution.

HYDRARGYRI IODIDUM FLAVUM, U. S. P. (Hg_2I_2)—Yellow or Green Iodide, or Protiodide of Mercury. Made by precipitating a solution of mercurous nitrate with potassium iodide, in the presence of some nitric acid, washing with alcohol until all traces of mercuric iodide are removed. Small quantities of mercuric iodide are formed along with mercurous iodide in the reaction, and since the former is far more poisonous than the latter, it is essential that this be entirely removed. The Pharmacopœia directs that the product be tested, by washing with alcohol and adding to the filtrate hydrogen sulphide.

HYDRARGYRI IODIDUM RUBRUM, U. S. P. (HgI_2)—Red Iodide or Biniodide of Mercury.—Obtained by interaction between solutions of mercuric chloride and potassium iodide, avoiding an excess of the latter, otherwise the mercuric iodide formed will be redissolved. The reaction is $HgCl_2 + 2KI = HgI_2 + 2KCl$. This salt is employed in the preparation of Liquor Arseni et Hydrargyri Iodidi.

HYDRARGYRI OXIDUM FLAVUM, U. S. P. (HgO)—Yellow Mercuric Oxide.—Made by interaction between solutions of mercuric chloride and sodium hydrate, taking the precaution to pour the mercuric chloride solution into an excess of the soda, otherwise red oxychloride of mercury will be formed ($HgCl_2 + 2NaOH = HgO + 2NaCl + H_2O$). This oxide when digested with a solution of oxalic acid, is dissolved, forming white mercuric oxalate ($HgO + H_2C_2O_4 = HgC_2O_4 + H_2O$), which distinguishes it from the red iodide which is not soluble under these conditions. The yelow oxide is used in making Oleatum Hydrargyri, which is prepared by dissolving the freshly precipitated and dried salt in oleic acid, and Unguentum Hydrargyri Oxidi Flava. In making the former preparation (Oleate of Mercury), heat should be avoided if possible, in order to prevent partial reduction and separation of metallic mercury, which eventually takes place on long standing.

HYDRARGYRI OXIDUM RUBRUM, U. S. P. (HgO)—Red Precipitate.—Obtained by exposing nitrate of mercury to the action of heat whereby oxygen and nitrogen dioxide are given off ($2Hg(NO_3)_2 = 2HgO + O_2 + 4NO_2$). When exposed to red heat oxygen is given off and metallic mercury separates, which is also volatilized at a higher temperature. When digested with a solution of oxalic acid, no change of color takes place; this serves to distinguish it from the yellow oxide, which forms the white mercuric oxalate. It will be observed that the yellow and red mercuric oxides have the same composition but differ in regard to color; this is ascribed to a difference in the physical arrangement of the molecules. The salt enters into Unguentum Hydrargyri Oxidi Rubri. Also is used in the preparation of Liquor Hydrargyri Nitratis, which is a solution of the red oxide in nitric acid and water, being used as a liquid caustic.

HYDRARGYRI SUBSULPHAS FLAVUS, U. S. P.—Yellow Mercuric Subsulphate, Turpeth Mineral.—Normal mercuric sulphate, obtained by dissolving mercury in sulphuric acid, when mixed with boiling water precipitates a basic mercuric sulphate ($Hg(HgO)_2SO_4$), which separates as a yellow precipitate, while the acid sulphate remains in solution. This salt of mercury is rarely used in medicine.

UNGUENTUM HYDRARGYRI NITRATIS, U. S. P.—Citrine Ointment.—This is classed separately, because of its importance as a preparation of mercuric nitrate. By the action of nitrous acid or mercuric nitrate on the "non-drying oils" (olive, almond, lard, neatsfoot, etc.), the olein of the oil is converted iuto an isomer called elaidin, which is characterized by its yellow color and butyraceous consistency. The preparation of citrine ointment depends on the formation of this elaidin, which serves as a vehicle for the mercuric nitrate. The oil is first heated with a portion of the nitric acid, which suffers reduction to nitrous acid, the latter in turn converting the olein of the oil into elaidin; to this is then added the solution of the mercury in the rest of the nitric acid, stirring till cold.

Overheating causes the ointment to assume a brown color. Either a horn, porcelain or wooden spatula should be employed for stirring, because of the readiness with which mercuric nitrate attacks metals.

Aluminum Compounds.

The aluminum compounds are not employed to any great extent in pharmacy. Because of their astringent properties they are chiefly used in preparing washes, etc. Under the title:

ALUMEN ($Al_2K_2(SO_4)_4 + 24H_2O$), the U. S. P. recognizes potassium alum, which contains about 45 per cent. of water of crystallization. When added to drinking water in small quantities it serves to precipitate the various organic impurities. This salt is employed to produce

ALUMEN EXSICCATUM, made by exposing the crystalline salt to the temperature of a sand-bath until aqueous vapors cease to be disengaged. It is employed as mild escharotic.

ALUMINI HYDRAS is prepared by the U. S. P. by precipitating an aqueous solution of alum with a solution of sodium carbonate. A solution of the aluminum hydrate in sulphuric acid, when crystallized yields the

ALUMINI SULPHAS ($Al_2(SO_4)_3 + 16H_2O$) of the U. S. P. This salt is used as an antiseptic.

Lead Compounds.

Solutions of the lead salts are incompatible with sulphuric acid or sulphates, soluble carbonates, chromates and iodides, since these various radicals unite with lead, forming insoluble salts. The salts of lead are more or less poisonous.

PLUMBI ACETAS, U. S. P. ($Pb(C_2H_3O_2)_2 + 3H_2O$)—Sugar of Lead.—Made by digesting lead oxide with acetic acid, evaporating and crystallizing. The commercial salt, which contains both carbonate and oxide, should be purified by recrystallization. On heating with sulphuric acid, vapors of acetic acid are evolved ($Pb(C_2H_3O_2)_2 + H_2SO_4 = PbSO_4 + 2HC_2H_3O_2$). On exposure to air the salt is gradually decomposed into lead carbonate which is insoluble in water; also when the salt is dissolved in ordinary hydrant water, it yields a turbid solution due to the carbonic acid present in the water; in these instances a clear solution may be obtained by the addition of a little acetic acid to the solution.

LIQUOR PLUMBI SUBACETATIS (Goulard's Extract, Acetum Plumbicum or Saturninum.—On boiling lead acetate and oxide with water, there are obtained, according to the relative proportions of the two, various basic lead acetates, that of the U. S. P. being

$$\underset{\text{Lead Acetate.}}{Pb(C_2H_3O_2)_2} + \underset{\text{Litharge.}}{3H_2O + PbO} =$$
$$\underset{\text{Lead Oxyacetate.}}{PbO_2(C_2H_3O_2)_2} + \underset{\text{Water.}}{3H_2O}$$
$$378 \qquad 222.36 \qquad 546.4$$

If 170 gm. of lead acetate are employed, 245.74 gm. of subacetate (oxyacetate) are obtained:

$$\underset{378}{\text{Lead Acetate.}} : \underset{546.4}{\text{Lead Oxyacetate.}} :$$
$$\underset{170}{\text{Lead Acetate.}} : \underset{x}{\text{Lead Oxyacetate.}}$$
$$x = 246 \text{ gm. Subacetate of Lead.}$$

If the solution be made up to 1,000 gm., it will contain about 24.5 per cent. of the subacetate.

This solution is not of constant strength, since it readily absorbs carbonic acid, which precipitates the lead as carbonate. It should be prepared in a flask, in order to avoid contact with air as much as possible; only boiled distilled water should be employed in order to avoid any decomposition of the lead acetate from carbonic acid that may be present. The litharge should be first tested for carbonate by the addition of a little diluted nitric acid, and any sample which contains it should not be employed.

Solution of lead subacetate is incompatible with hydrochloric or sulphuric acid or preparations containing these; also with the soluble iodides, bromides or chlorides, alkalies, mucilage of acacia, many organic acids, tannin and vegetable solutions (infusions, fluid extracts, etc.), which contain much coloring matter. It enters into the diluted solution of lead subacetate, or lead water, made by adding 30 cc. to sufficient water to make 1 liter; and also into Goulard's cerate.

PLUMBI CARBONAS, U. S. P. ($(PbCO_3)_2Pb(OH)_2$—White Lead.—This is sometimes called "Flake white," being intended for a cosmetic; zinc carbonate would be preferable, because of the poisonous properties of lead preparations. It enters into Unguentum Plumbi Carbonatis.

PLUMBI IODIDUM, U. S. P. (PbI_2).—Obtained by precipitating a solution of lead nitrate by potassium iodide ($Pb(NO_3)_2 + 2KI = PbI_2 + 2KNO_3$). This salt enters into Unguentum Plumbi Iodidi.

PLUMBI OXIDUM, U. S. P. (PbO)—Litharge.—Obtained chiefly as a by product in the extraction of silver from some of its ores.. Red lead is a higher oxide (Pb_3O_4) employed only in the arts. Litharge is employed in making Emplastrum Plumbi, which is an insoluble soap, obtained by boiling together litharge, olive oil and water.

Arsenic Compounds.

The various official compounds of arsenic are obtained from the arsenous acid.

ACIDUM ARSENOSUM, U. S. P. (As_2O_3)—Arsenic Trioxide—White Arsenic.—This is the anhydride of the hypothetical arsenous acid (H_3AsO_3), obtained by roasting the various arsenical ores and collecting the sublimate in chambers. It is purified by resublimation. Arsenic appears in the market either as an opaque white powder, which is frequently adulterated, or in masses which are colorless like glass, or opaque resembling porcelain, frequently the same piece has an opaque outer crust (crystalline) inclosing in the interior a glassy transparent mass (amorphous). This transparent glassy variety is amorphous, but on exposure gradually becomes opaque, assuming a crystalline form. Arsenous acid is readily dissolved by hydrochloric acid, the alkalies and their carbonates. Adulterants in the powdered white arsenic are readily detected by assay in which the arsenic is dissolved by boiling with sodium bicarbonate, then titrated with decinormal iodine V. S. (See Liquor Potassii Arsenitis.) The antidotes for arsenical poison are emetics, and the official Ferri Oxidum Cum Magnesia.

LIQUOR ACIDI ARSENOSI (Liquor Arsenici Chloridi, U. S. P., 1880).—This is simply a solution of arsenous acid in hydrochloric acid and water, and not a definite compound. It is about twice as strong as Valangin's solution, which contains about 0.4 per cent, while the official product contains 1 per cent. of arsenous acid. Its properties are much the same as Fowler's solution, but its action is not reliable. Dose 0.12 to 0.6 cc. (2 to 10 minims). For assay, see Liquor Potassii Arsenitis.

LIQUOR POTASSII ARSENITIS (Fowler's Solution).—This solution contains 1 per cent.* of arsenous acid (As_2O_3) in solution as potassium arsenite ($K_2As_2O_4$). On boiling potassium bicarbonate and arsenous acid together, the following reactions probably take place:

$$(a)\quad 2KHCO_3 + As_2O_3 + Aq = \underset{\text{Potassium Metarsenite.}}{2KAsO_2} + 2CO_2 + H_2O + Aq.$$

$$\text{or } (b)\quad \underset{\text{Potassium Bicarbonate.}}{4KHCO_3} + \underset{\text{Arsenous Acid.}}{As_2O_3} + 3H_2O = \underset{\text{Acid Potassium Orthoarsenite.}}{2K_2HAsO_3} + 4H_2O + 4CO_2$$

The German and British Pharmacopœias employ normal potassium carbonate instead of the bicarbonate; a slight excess of alkaline carbonate remains in the solution. This solution should not be kept longer than a year at the most, since it becomes weaker in therapeutic effect, owing to the gradual oxidation of the arsenous to arsenic acid; the arsenic salts being less potent than the arsenous. The solution should, therefore, be kept in well filled bottles. Only the pure arsenous acid in lumps should be used, and not the commercial.

The object of adding compound tincture of lavender is to impart sufficient taste and color to the solution to prevent its being mistaken for water.

The solution is incompatible with salts of iron, magnesium and calcium. In cases of arsenical poisoning, emetics, calcined magnesia or the official arsenic antidote, viz., ferric hydrate with magnesia, should be administered as soon as possible. The two latter form insoluble, inert double compounds with soluble arsenic salts.

Assay.—The pharmacopœial method consists in adding decinormal iodine V. S., to the solution of arsenous salt containing an excess of sodium bicarbonate and mixed with a little starch, until the blue color produced ceases to disappear. The addition of iodine to arsenous acid in alkaline solution causes its oxidation to arsenic acid, the iodine thereby being reduced to hydriodic acid, with the disappearance of color. As soon as all of the arsenous is oxidized to arsenic acid, then the next drop of iodine (which is

*Practically 1 per cent., there being 10 gm. of As_2O_3 in 1,000 cc. of solution, which weighs 1,000 gm.

free) will strike a blue color with the starch added to the solution. The reaction is as follows:

As_2O_3	+	$4I$	+	$4NaHCO_3$†	=
Arsenous Oxide. 197.68		Iodine 4×126.5		Sodium Bicarbonate.	

As_2O_5	+	$4NaI$	+	$4CO_2$	+	$2H_2O$
Arsenic Oxide.		Sodium Iodide.		Carbonic Acid.		Water.

The addition of the extra 2 gm. of sodium bicarbonate serves the purpose of combining with the liberated hydriodic acid, which, if present in free condition, would interfere with the reaction. From the equation we see that 4 atoms of iodine (4 × 126.5) are necessary to oxidize 1 molecule (197.68) of arsenous to arsenic oxide. Hence, 1 atom of iodine is equivalent to ¼ of a molecule of arsenous oxide.

	Iodine.	Arsenous Oxide
	126.5 parts. . .	49.42 parts
1000 cc. $\frac{N}{10}$ V. S.	12.65 gm. . .	4.942 gm.
1 cc. $\frac{N}{10}$ V. S.	0.01265 gm. .	0.004942 gm.

50 cc. of $\frac{N}{10}$ V. S. Iodine = 50 × 0.004942 = 0.247 + gm., As_2O_3

Hence, if 24.7 cc. of the solution had been taken, and 0.247 gm. of arsenous oxide were found contained in it, then the solution must be of 1 per cent. strength.†

LIQUOR SODII ARSENATIS.—This is a form of administering the official sodium arsenate (Na_2HAsO_4), containing 1 per cent. of the salt. The dose, antidotes, and uses are the same as those of Fowler's Solution.

ARSENII IODIDUM, U. S. P. (As_2I_2).—Obtained by intimately mixing powdered metallic arsenic and iodine, and fusing. Since this does not yield a pure arsenic iodide, it is preferably made by adding powdered arsenic to a solution of iodine in carbon disulphide until the solution has lost its purple color—that is, until all of the iodine has combined with the arsenic. The solution is then set aside to crystallize. This salt is very poisonous, the dose being 0.004 gm. It is used in making Donovan's Solution.

LIQUOR ARSENI ET HYDRARGYRI IODIDI, U. S. P.—Donovan's Solution.—This is an aqueous solution containing one per cent. each of arsenic iodide and red mercuric iodide. The solution should be kept in a dark place, as the action of light causes a partial separation of iodine with change to yellow color. When in this condition it should not be dispensed. It is incompatible with alkaline solutions, since they cause the precipitation of the mercury; it is also incompatible with solutions of silver salts, owing to the precipitation of the silver as insoluble iodide; also with weak alcoholic or aqueous solutions containing alkaloids, since it forms with them insoluble double salts.

Antimony Compounds.

ANTIMONII SULPHIDUM, U. S. P. (Sb_2S_3).—Obtained from the native antimony sulphide (stibnite) by fusion, thereby freeing it from mechanical impurities. Thus purified it contains small quantities of iron and frequently traces of arsenic, copper and lead. This so-called "crude antimony" is used as the chief source of the metal and the various other compounds of antimony.

ANTIMONII SULPHIDUM PURIFICATUM, U. S. P. (Sb_2S_3).—The finely powdered sulphide is freed from coarser particles by elutriation, then macerated for five days with ammonia water which dissolves any arsenic that may be present. Hager recommends the use of ammonium carbonate with the aqua ammoniæ, since the former is a better solvent for the arsenous sulphide and the mixture is less liable to take up the antimony sulphide. Commercial antimony sulphide is frequently adulterated with coal dust or mixtures of coal dust and chalk. The latter will cause brisk effervescence on the addition of dilute hydrochloric acid. For the detection of the former or the presence of other metallic sulphides, the Pharmacopœia directs that the powder be fused with sodium nitrate (forming white sulphantimoniate of soda), then afterward boiled with water; the residue should be white or nearly so, not yellowish or brownish or black. This compound is used in preparing Kermes' mineral. It should not show more than traces of arsenic by the U. S. P. test.

ANTIMONIUM SULPHURATUM, U. S. P. (Sb_2S_3)—Kermes' Mineral.—Purified antimony sulphide is boiled with a solution of soda and strained; in this operation a large part of the antimony sulphide is taken up by the alkali, forming sodium antimonite and sulphantimonite, according to the equation,

Sb_2S_3	+	$4NaOH$	=	$NaSbO_2$	+	Na_3SbS_3
				Sodium Meta-antimonite.		Sodium Sulphantimonite

While the liquid is still hot, dilute sulphuric acid is dropped in until no further precipitation ensues, whereby both compounds are decomposed and antimonious sulphide is precipitated ($NaSbO_2 + Na_3SbS_3 + 2H_2SO_4 = Sb_2S_3 + 2Na_2SO_4 + 2H_2O$). This compound enters into Pilulæ Antimonii Compositæ.

ANTIMONII OXIDUM, U. S. P. (Sb_2O_3).—Antimony sulphide is dissolved in hydrochloric acid ($Sb_2S_3 + 6HCl = 2SbCl_3 + 3H_2S$), whereby antimonous chloride results, and sulphuretted hydrogen gas is given off. The solution is then poured into water, when antimony oxychloride precipitates ($12SbCl_3 + 15H_2O = 2SbCl_3.5Sb_2O_3 + 30HCl$). This precipitated oxychloride is then digested with aqua ammonia and thoroughly washed, whereby antimony trioxide results ($2SbCl_3.5Sb_2O_3 + 6NH_3 = 3H_2O + 6Sb_2O_3 + 6NH_4Cl$). Antimony oxide is rarely administered internally uncombined. It enters into Pulvis Antimonialis (James' Powder) to the extent of 33 per cent., with 67 per cent. of precipitated calcium phosphate.

ANTIMONII ET POTASSII TARTRAS, U. S. P. ($2K(SbO)C_4H_4O_6 + H_2O$)—Tartar Emetic.—This most important antimony salt is made by boiling antimony oxide and acid potassium tartrate (cream of tartar) together with water, filtering, evaporating and crystallizing.

$2KHC_4H_4O_6$	+	Sb_2O_3	=
Acid Potassium Tartrate.		Antimonous Oxide.	

$2KSbOC_4H_4O_6$	+	H_2O
Antimony Potassium Tartrate.		

Solutions of tartar emetic are incompatible with inorganic acids (oxysalts being precipitated), alkalies and their carbonates (antimony oxides being precipitated), tannin or astringent drugs (insoluble compounds) and salts of the metals. When taken internally in overdose tannin should be given as an antidote.

The salt is assayed by means of decinormal iodine V. S. upon the same principle as that followed in the assay of arsenic. To a solution of the salt and sodium bicarbonate,* test solution of starch is added and then decinormal iodine V. S., run in until a permanent blue colored solution results. The reaction being thus: $Sb_2O_3 + 4I + 4NaHCO_3 = Sb_2O_4 + 4NaI + 4CO_2 + 2H_2O$.

Tartar Emetic enters into Syrupus Scillæ Compositus, of which it forms about 0.2 per cent.; also into Vinum Antimonii which contains about 0.4 per cent.

Bismuth.

Acid solutions of the bismuth salts when added to water produce white precipitates of insoluble basic or sub-salts. The chief impurities found in metallic bismuth, the source of the various salts, are lead, copper and arsenic. These are removed in the operation of preparing the official salts.

BISMUTHI SUBNITRAS, U. S. P. ($BiONO_3.H_2O$).—Made by dissolving the metal in nitric acid, pouring into a solution of sodium carbonate, washing, then dissolving the precipitated subcarbonate again in nitric acid, then pouring the solution into ammonia water, whereby subnitrate of bismuth is precipitated. This is then washed and dried. The bismuth nitrate ($2Bi + 8HNO_3 = 2Bi(NO_3)_3 + 4H_2O + 2NO$) is first precipitated in a solution of sodium carbonate in order to remove the arsenic present, which unites with sodium forming a soluble arsenate. Any arsenic not removed in the first operation, is eliminated in the subsequent treament. This salt is insoluble in all the usual solvents except acids.

BISMUTHI CITRAS, U. S. P. ($BiC_6H_5O_7$).—Made by dissolving the subnitrate in a solution of citric acid ($BiONO_3.H_2O + H_3C_6H_5O_7 = BiC_6H_5O_7 + HNO_3 + 2H_2O$), and evaporating to dryness. This insoluble salt is used in preparing the ammonio-citrate of bismuth.

BISMUTHI ET AMMONII CITRAS, U. S. P.—Made by dissolving bismuth citrate in ammonia water, evaporating till of syrupy consistence, then spreading on glass plates; when dry it forms scales. This is the only soluble bismuth salt official. It is used in preparing various elixirs; when combined with weak acids, as is necessary in pepsin combinations, the sodio-bismuthic

†The $NaHCO_3$ merely plays the part of a solvent for the As_2O_3, hence the formula $KAsO_2$ or $(NaAsO_2)$ is not used here.

*The sodium bicarbonate serves to neutralize the hydriodic acid generated in the reaction.

tartrate should be used, as the ammonio compound is precipitated in acid solutions.

BISMUTHI SUBCARBONAS, U. S. P. ($(BiO)_2CO_3H_2O$).—Made by precipitating a solution of bismuth nitrate in ammonia water, collecting, washing and again dissolving in nitric acid; it is precipitated a second time in a solution of sodium carbonate and after thoroughly washing, it is dried. This salt, like the subnitrate, is insoluble in water, but readily soluble in acids without effervescence.

(To be continued.)

CONDENSED MILK PREPARED BY HOT AND COLD PROCESS.*

By Byron F. McIntyre, Ph. G.

The residents of our large cities are familiar with the unsweetened varieties of condensed milk, and to a larger extent the people of the whole country are acquainted with the sweetened or canned condensed milk, and yet how little is known of the detail and method of preparation of these important food products.

The farmer contributing his share of the raw milk to a condensing factory can testify to the restrictions, inspections and obligations exacted by the factory management to secure pure milk, but the consumer rarely discovers the untiring vigilance and scientific methods put forth to insure a palatable and pure condensed milk.

The art of condensing milk has been perfected largely through improvements in mechanical details, but the so-called "vacuum principle" of removing water from milk, remains unchanged, and is the universal process of condensing not only milk but many liquids injured by high temperatures. A brief consideration of this "vacuum principle" and the mechanical appliances necessary for its operation, may refresh our knowledge, and be helpful by way of contrast with the essential features of the preserving or cold process of condensing.

A vacuum is defined as an inclosed space void of air or matter, and by vacuum principle we express briefly such a combination of pumps, condensers and tight inclosures or pans, as will permit of drawing from the whole apparatus the larger proportion of air contained therein, so that a boiling process can be carried on in the pans at a very low temperature or under vacuum conditions. The importance of this reduction of quantity of air in the pan is seen when we consider that normally, or with the atmospheric pressure at fifteen pounds to the square inch, a boiling temperature would register 212° F. With but seven and one-half pounds of atmospheric pressure, or one-half of the air pumped out of the apparatus, the boiling temperature would register 170° F., and with nearly all of the air pumped out, the boiling would continue actively at 100° F. In other words, a vacuum process is perfect just in proportion to the low temperature obtained and held during the working of same.

It is apparent that there must be destructive changes in the milk when heated to 212° F., otherwise the necessity for vacuum conditions would not exist, so that an inquiry as to the chemical changes, must apply to temperatures below 212° F. Authorities can be quoted confirming the statement that serious chemical changes are wrought in milk by vacuum process temperatures, decreasing the nutritive value of the milk, and producing a series of decompositions, occasionally noticed in burned flavors, that renders the product unlike plain milk in its constituent parts.

The consumer and non-expert observer will notice that the physical characteristics of vacuum process condensed milk are: loss of fresh milk odor, almost complete destruction of fresh milk taste, and when mixed with water, to dilute to original milk, there is no separation of cream or milk fat, as in plain or fresh milk. The toleration by the human stomach of material digestible, and questionable, is well known, particularly in food stuffs, both cooked and uncooked, and while we have in normal milk a universal food suited to all ages of the human family, whether in health or sickness, there is a growing volume of evidence from scientific physicians and chemists, unfavorable to the reputation of milk in any form that has been artificially heated, whether for sterilization or condensation.

It is a fact that there can be no successful condensation of milk, either by the boiling or freezing process, without a rigid inspection of milk from properly fed cows. Fresh or new milk, because of excess of inorganic constituents, and deficiency of albuminoids, should be evenly distributed throughout the year, by proper management of the sexual relations of the herds, and every precaution must be exercised in the aerating, cooling, care of milk in transit from dairy to factory, and in the cleanliness of utensils. Negligence of these details opens the door to disastrous germ contamination.

The cold process of condensation involves principles the opposite of boiling, the central idea being to duplicate artificially the phenomena as observed in nature, and by securing an upper surface refrigeration of freezing effect, all solids are rejected and pure ice only is formed. The familiar fact of boyhood days of lifting a transparent pure sheet of ice from the surface of a mud puddle, may be duplicated from the milk in the freezing process. The successful production of thin layers of ice is a special feature of the process and can only be accomplished by having the freezing trays of metal, and suspended in a zero chamber, free from insulation or direct contact with the walls of the chamber. Under these conditions there is perfect rejection of solids until such time as the layers of ice become sufficiently thick to act as an insulating covering, when the ice and solids freeze at metal contact. This layer of ice, however, is crushed at periodic intervals, and thereby the freezing effect is confined to the upper surface, and no ice is formed at metal contact. The production of solid ice for the removal of water from solutions has been an industrial process of limited application, applied to the concentration of acids and alcoholic liquors, and in every instance known to the writer, the ice freezes solid from either a metal, stoneware or wooden base, and this ice appropriates very largely inseparably dissolved salts, mechanically suspended particles, gases and odors.

In the surface process of freezing, there must be space contact on one side and liquid contact on the other side of the film of ice, to have a perfect rejection of solids. The ice formed by this process on black coffee, or strong hydrosulphuric water, if rinsed is odorless, tasteless and pure, when frozen in thin layers.

In the boiling of water, we find that, irrespective of the force of the heat and rapidity of the boiling, if the steam is unconfined, the temperature of 212° F. is not exceeded, and in the freezing chamber or closet, irrespective of temperature, which may be ten degrees below zero, the milk will remain at 32° F. as long as there is unfrozen milk.

From recent reliable data, working with the highest type of refrigerating apparatus, as compared with a single-effect vacuum apparatus, there is practically the same efficiency in converting the water of milk into steam and ice respectively. The direct product in each example is condensed milk, and the indirect or by-product is steam in the boiling process, which is in practice a waste, and in the freezing process it is ice, with a marketable value as a refrigerant.

The several features of the process covered by letters patent and patent applications of the inventor need not be detailed in full, but briefly it may be stated that when the milk is first received in the factory, it is examined and a sample put aside at the receiving platform, and at once passed over Baudelot coolers, where the temperature of the milk is reduced to within two degrees of the cooling medium, after which it is standardized to a definite percentage of milk fat. All possible germs are thus at once arrested in their development, a marked contrast to the vacuum process, where the milk is held warmed and ready for the vacuum pan for one or two hours, but unfortunately under very favorable conditions for germ growth. The cold milk from the cooler flows into shallow metal pans properly mounted on trucks and track, connecting with the freezing closets, in which are arranged direct ammonia gas expansion pipes. The pans have an upper surface area of about fifty square feet, and one or two hundred gallons have been found a proper charge for each pan. The rapidity of the freezing effect can be doubled by spreading the milk over one hundred square feet of surface. The temperature of the freezing closet is kept at or near zero, and the milk is permitted to freeze until a film of ice is formed, when an automatic stirring apparatus breaks the ice into particles or crystals. This operation of film freezing and breaking up continues until all of the milk is converted into a mushy mass of ice crystals, with thick milk held between the crystals of ice.

*Reprinted from the Alumni Journal.

This mixture of crystals and thick milk is poured into a rapid running centrifugal machine, with an instant separation of the condensed milk from the crystals, the latter forming a heavy bulk of hard snow. When assayed this snow shows about two-tenths of one per cent. of milk solids.

The first freeze usually separates one-half of the water in the milk, and two additional freezes are required to reduce it to proper consistence.

Estimating that milk contains eighty-six per cent. of water, seventy-eight per cent. of this water can be frozen to ice and readily separated with a centrifugal speed of fifteen hundred revolutions per minute in a thirty-inch basket.

The limit of condensation is not a question of converting water into ice, but rather a problem of detaching the heavy, tenacious condensed milk from the ice crystals, which is accomplished by increasing the speed of the centrifugal proportionate to the density of the milk.

In practice the condensation is usually four to one on a milk fat basis, which forms milk of sufficient density to meet the public demand. When the condensed milk is diluted with water, it dissolves completely, forming milk of normal flavor, taste, and from which cream will separate as from ordinary milk. When subjected to the Babcock method of fat testing, the fat separates clear as with ordinary milk, quite unlike this test when applied to the condensed milk by the boiling process, which gives a mixture of clear and broken-down products, that prevent a satisfactory reading of the milk fat.

In keeping qualities the cold process condensed milk will rank with the so-called pasteurized standard, the destruction of germ life at 32° F. seems quite as extensive, as the heating or pasteurizing by heat at 174° F.

The prolonged keeping qualities of ice cream at low temperature, often for weeks without impairment of taste or flavor, naturally confirms the statement that no detrimental changes are wrought in the milk by the freezing temperatures, and careful chemical examination fails to discover decomposition effects in the constituent parts of the milk.

Butter and cheese can be made from the diluted condensed milk and the action of the organized ferments is the same as in normal milk.

The cold process has been applied to other products requiring condensation, with signal success, in albuminoid solutions, and particularly when the integrity of flavors is desired, and where ferments are wasted and made inert by heat, or their power diminished by the production of secondary products of little value.

An incidental advantage of the process is that unskilled labor can be used, and that in whatever way the process may be employed in its industrial applications, the by-product ice has some compensating value to offset the fuel account.

East Orange, N. J.

——The customs authorities tax "Heavenly Hope" at 25 per cent. ad valorem. The quoted words, however, form the title of an imported booklet.

NOTE ON THE DETECTION OF FORMALIN.*

By H. Droop Richmond and L. Kidgell Boseley.

A solution of formaldehyde, called "formalin," having come into use as a food preservative, it becomes of importance to be able to detect and estimate it. The literature of formaldehyde is very voluminous, and numerous tests for it have been proposed. As is well known, aldehydes reduce Fehling's solution and ammoniacal silver nitrate, and give Schiff's reaction. These reactions, however, are by no means characteristic of the aldehyde. Legler's method for the estimation of formaldehyde by titration with ammonia is to a certain extent characteristic of formaldehyde, but is not applicable to dilute solutions. Legler states that 3 molecules of ammonia are equal to 4 of formaldehyde, while Lösekan maintains that 3 molecules are equal to 6 of formaldehyde. This discrepancy is explained by Eschweiler, who shows that with methylorange, cochineal, tropæolin and congo-red 6 molecules are indicated, while with litmus and phenolphthalein only 4. This is due to the acid reaction of the hexamethylene-tetramine formed.

Plöchl states that when a neutral solution of formaldehyde is mixed with ammonium chloride it becomes acid; on heating CO_2 is evolved, and trimethylamine is formed. Kleeberg shows that formaldehyde combines with phenols in the presence of HCl, but he did not succeed in purifying the compounds formed. Pulvermacher, in a series of papers, describes many condensation products with substituted ammonias; and also shows that the very insoluble formalazine is produced by mixing formaldehyde and hydrazine hydrate; this yields a platinochloride $(C_2H_4N_2)_6H_2PtCl_6$.

Trillat gives the following tests for formaldehyde: The solution is to be mixed with dimethylaniline acidified with sulphuric acid and agitated. After heating for 30 minutes on the water bath, it is made alkaline, boiled until the smell of dimethylaniline has disappeared, then filtered. If the filter paper be moistened with acetic acid, and powdered lead oxide be sprinkled on it, a blue color, due to the formation of tetramethyl-diamido-diphenylmethane is produced if formaldehyde is present. Or the formaldehyde solution may be mixed with a solution of aniline (3 grams to 1 liter), when a white precipitate of anhydro-formaldehyde aniline appears, which may be weighed. A precipitate is also given by acetaldehyde. Trillat says that, as formaldehyde easily forms condensation products, it is not always detected in food after a lapse of time.

Three years ago one of us worked with formaldehyde as a preservative for milk, and used as a method for its detection the reduction of Fehling's solution, or of ammoniacal silver nitrate solution. Quite recently Thomson (Chem. News, lxxi., 247) has proposed the use of the latter, and, although he modifies the test by working in the cold, he does not succeed in obtaining a reaction which is characteristic of formaldehyde.

*Reprinted from the Analyst.

Schiff's reagent has been used as a test for formaldehyde. It is, however, very unsatisfactory unless care be taken, for if an excess of sulphurous acid is used, no reaction is obtained with traces of formaldehyde, and any alkali combined with an acid weaker than SO_2 also gives a red coloration. The red coloration appears on warming Schiff's reagent, on blowing air through it, or even on placing it in an uncorked bottle, so that unless great precautions are taken the test is unreliable. Still, it is useful as a confirmatory test. In applying it as such to milk, we precipitate the casein with a little sulphuric acid, filter and then add a little Schiff's reagent to the filtrate; any red color which may appear roughly indicates the amount of formaldehyde present.

Another test which we believe to be well known, though it has not actually appeared in print, was pointed out by Hehner. It is the formation of a blue color when milk, formaldehyde and sulphuric acid are mixed together. This was first brought to our notice by Bevan, who had obtained a blue color in a Leffmann-Beam experiment, which he could not account for. We suggested that it might be due to formaldehyde, but we were unable to obtain the reaction with other milks, owing to our having used an excess of formaldehyde. We find that when formaldehyde is in large quantity, say 0.5 per cent., no blue color is obtainable.

We have since found that the above reaction is due to the albuminoids of milk. We have also obtained it from egg albumen and peptone, but not from gelatin. To obtain the reaction it is only necessary to add sulphuric acid (94 per cent. H_2SO_4 gives the best results) to the milk, when a blue ring is formed at the junction of the two fluids. The food suspected may be distilled and the formaldehyde obtained in plain aqueous solution; but we prefer the use of peptone for testing, as the blue color is not then obscured by the charring of the organic matter by the acid.

Bearing in mind Pulvermacher's researches, we have found a reaction between formalin and diphenylamine. A solution of diphenylamine in water is made, just sufficient sulphuric acid being added as will effect solution. The liquid to be tested (or the distillate) is added to this solution and boiled. In the presence of formaldehyde a white flocculent precipitate is deposited, which is often colored green if the acid used contained nitrates.

We find it most convenient to distill into the diphenylamine solution and then boil. This simple test we believe to be characteristic of formaldehyde.

We are engaged in determining the composition of the precipitate, and in working out the quantitative estimation of formaldehyde in this manner. We are able to confirm Trillat's observation that after a certain time formaldehyde cannot be detected. We can obtain the reaction in milk which has not curdled. We think from the list of methods enumerated that there is not the slightest difficulty in definitely proving the presence of formaldehyde in foods when present. Hehner's reaction, confirmed by the diphenylamine test, Schiff's test, and those proposed by Trillat, Pulvermacher and Plöchl, should be amply sufficient.

PLANT DISTRIBUTION.*

By J. Robert Walker.

In dealing with this subject it is not my intention to give a detailed account of the flora peculiar to various countries, but rather to simply touch upon some of the leading principles of plant distribution. Plants, though possessing the means of spreading themselves over the greater part of the globe, are restricted from doing so indefinitely by various influences, of which the chief are climate and geographical drawbacks. We are aware that where a moist and cool atmosphere is essential to the growth of some plants, others do not flourish in such; or, again, that while a tropical climate is necessary for the culture of many species, it is disastrous in its effects upon others. But though the requirements of heat or cold differ for the various species, all plants grow best within a certain range of temperature, and each has its own zero, below which it will not thrive. Excessive heat and intense cold have alike a destructive influence upon the plant.

Some botanists, of whom Meyen may be specially mentioned, have drawn up "zones of vegetation" based upon the climatal difference of bands drawn round the earth parallel to the equator and proceeding to the poles; but in such plans the varying altitude of the earth's surface has not been taken into account, hence there must necessarily be very uneven temperatures in different parts of any one zone. For this reason these "zones of vegetation" have been abandoned, and what are known as "isothermal lines" are now used to indicate the regions of similar plant life, each line connecting spots on the earth's surface which have the same annual temperature, and hence the lines are not identical with the parallels of latitude.

It will be evident that plants growing on the summits of equatorial mountains are such as will also flourish at a low altitude in regions far away from the equator; indeed, in some cases, polar regions.

The type of vegetation existing in dry climates differs very considerably from that found in countries with a regular and constant rainfall. In the former case we have the structure of the plants succulent in the interior, but their outer covering is tough and leathery—a provision against undue transpiration. Or the plants may be possessed of bulbs or fleshy leaves, or they may have their outer integuments covered with a resinous exudation or thick coating of hairs, each and all of these enabling the plant to resist a continuous absence of rain. Of such plants illustrations are seen in the cacti and euphorbias. Plants growing in moist climates, on the other hand, are characterized by their pliability and the more delicate structure of their epidermis or coverings, there being no need for the storage of water and prevention of too rapid transpiration.

This, then, shows the influence of climate upon the distribution of vegetable life, and though it is the most important, yet it is not the only important condition. There is no doubt that the distribution is much affected by, and indebted to, the carrying power of water, wind and animal life, about each of which a few words may be said in turn. The effects of marine currents are seen in the occurrence of the coco-nut palm upon the shores of most, if not all, of the Pacific Isles. The winds are responsible for the conveyance of the minute spores of the cryptogams, and though not to the same extent, those of the phanerogams.

The furs of wild animals are a useful means of carrying seeds for long distances, and migrating birds effect the same purpose, voiding many seeds in an uninjured state. But there is another side to the influences which animals have upon vegetation, and that is, they may destroy plant life of various types, as when districts are raided by locusts or other insect pests. Man also has taken his share in the extension and extermination of the vegetable world, cultivating the useful varieties of plants, destroying the useless. Some members of the natural orders, Leguminosæ, Compositæ, Filices, and some few others, occur in all regions. Other plants are of very rare occurrence, as, for instance, insular plants, where the islands are so far distant from any country that the transportation of their seeds is out of the question. Still, we find similar plants in several districts between which there seems to be no connection. Their origin cannot be traced to any of the influences already mentioned, so we have to look for an explanation elsewhere. It is suggested that, as the dry land has been at various times submerged beneath the surface of the sea, communication has been created between different parts of the earth previously isolated, and that plants have by this means been transported from one point to another, and so when the elevation of the land has again taken place such plants have continued to thrive in their new localities, and these localities are separated from one another by a seemingly insurmountable distance.

There are eight principal regions of the earth producing distinct types of vegetation. In the equatorial zone we find the most profuse and luxuriant, owing to the combined heat and sufficiency of moisture. The trees are large, with trunks of enormous diameter, the flowers display a varied and pleasing brilliancy of color, and aerial plants abound, weaving the forests into dense networks of vegetation. Palms, bananas and orchids are on every side, while those curious and interesting anomalies, the pitcher plants, here ply their trade for the entrapping of insect life. One curious plant peculiar to this zone is the rafflesia, whose flower has a diameter of 3 feet. The plant is a parasite of fungoid structure and possessing neither stem nor leaves. Rivaling this is the aristolochia, or snake root, so called from its supposed value in curing snake bites. It bears helmet-shaped flowers, in some cases large enough to be worn as caps by the Indian boys in the Brazilian woods. In this zone we also find some of the most sterile tracts of land, notably the Sahara Desert and a portion of Arabia. These districts owe their lack of vegetation to their waterless condition.

The tropical zones, again, exhibit palms and bananas, but a distinctive character is given to the zones by the prominence of tree ferns and pepper plants.

In the sub-tropical zones palms and bananas are still in evidence, but in decreasing numbers. Arborescent grasses are a noticeable feature, and myrtles, acacias, and heaths flourish. Evergreen shrubs begin to make their appearance in the warmer temperate zones, and oaks, beeches, chestnuts, and pines are abundant. The vine here attains its most perfect development and such trees as the pomegranates, when bedecked with their brilliantly colored blossoms, create a striking feature in the landscape.

Shrubs, such as roses and brambles, are distributed throughout the cooler temperate zones, and these are the homes of the ivy and hop. It is here that the vegetation presents such contrasting appearance in summer and winter—the leaves falling from the trees, and herbs dying down as the winter approaches. Conifers are especially characteristic of the sub-arctic zone; rhododendrons, sedges and lichens of the arctic zone; and herbaceous perennials, such as the saxifrages, of the polar zone, where also the cryptogams predominate, lichens being especially abundant.

As regards the relative distribution of cryptogams and phanerogams, it would appear that the proportion of the latter to the former is much larger near the equator, but as we proceed from the equator to the poles this proportion decreases. The proportion of monocotyledons to dicotyledons increases as we recede from the equator to the poles; and, as a rule, the moister the climate the greater the proportion of monocotyledons.

The history of our vegetation, as well as that of bygone periods, is arrived at by studying the remains and traces of plants which are met with in most stratified rocks which have been produced by successive geological changes of the earth's surface. From the results of such researches we are led to believe that the earliest forms of vegetation consisted entirely of cellular plants, such as mosses and lichens, and that there has been a gradual increase in complexity of structure up to the present time.

The fossil plants of the earliest formations show that the vegetation of that period consisted of algæ and other low forms. These were succeeded by cryptogams, ferns, lycopodiums, and equisetums, and these again by gymnospermous plants, such as conifers, with tree ferns and some few monocotyledons. In the later periods angiosperms made their appearance, commencing with incomplete, passing to polypetalæ, and leading up to gamopetalous plants, which now prevail. Thus there is sufficient evidence to show that there has been a succession of types of vegetation each somewhat more complex in morphological structure than the

* Read at meeting of the School of Pharmacy Students' Association, Thursday, May 16. From Pharm. Journ.

preceding type, but we are also led to the conclusion that this succession has not been continuous, but has been interrupted in different localities.

As regards the distribution in altitude I may say a few words. It has already been stated that the lofty tropical mountains show a varied vegetation, the plants found above the limit of eternal snow being representatives of the species found in regions nearer the poles. The surfaces of these mountains are hence divided into regions corresponding to the tropical, temperate and frigid zones. Meyen has classified them into regions similar to his divisions of the earth's surface into zones.

His region of palms and bananas corresponds to the equatorial zone, the region of tree ferns to the tropical zone. The elevated East Indian forests in the equatorial zone abound in the genus Ficus, presenting an appearance of gloomy grandeur and dense vegetation. The region of laurels and myrtles corresponds to the sub-tropical zone, and the region of evergreen trees to the warm temperate zone. Conifers, representing the subarctic zone, occur on most mountains, usually as pines and firs. The vegetation in the region of alpine herbs generally occurs as patches situated on ground which lies beneath a mantle of snow during the greater part of the year. Here lichens flourish in abundance, and the plants in general are characterized by their large-sized and showy flowers.

The altitude to which the various classes of vegetation attain is also to a great extent determined by local circumstances, as shown by the differences in distribution on mountains in the same zone.

Syrup of Ferrous Iodide.*

By Charles F. Carter, Ph. G.

The United States Pharmacopœia designates syrup of ferrous iodide as "a syrupy liquid, containing about 10 per cent., by weight, of Ferrous Iodide [FeI_2 = 308.94], or about 13.4 gm. in 100 c.c."

This preparation has always been considered as tedious to make, and also as difficult to maintain in a perfect state, on account of the unstable character of the ferrous compound, which is prone to decompose with the liberation of iodine. To guard against the presence of free iodine, the Pharmacopœia orders that, to be official, a syrup should not show a blue color when it is mixed with a small quantity of starch test solution.

With the idea of ascertaining the condition of the article as supplied to the retail trade by manufacturing firms, ten samples were procured and examined in regard to both free iodine and amount of ferrous iodide contained.

Some of the samples were obtained directly from the producers; the others were bought from retail pharmacists.

That a comparison of the results might be made with those obtained from a product of the official process, the author prepared a sample by this means. It possessed the standard pale green color.

The test with starch was employed to detect the presence of free iodine. The content of ferrous iodide in the samples was determined by the official method, which consists of completely precipitating the iodide, in the presence of nitric acid, by the addition in excess of a known volume of decinormal silver nitrate volumetric solution, and of subsequent titration of the excess of silver in the known volume with a decinormal potassium sulphocyanate volumetric solution.

The estimation is ordered to be performed in the presence of ferric ammonium sulphate, which will indicate, by the production of a red color of ferric sulphocyanate, upon the continued addition of the potassium sulphocyanate solution, the complete precipitation of the excess of silver.

In adjusting the strength of the potassium sulphocyanate solution, by titration against decinormal silver nitrate volumetric solution, the Pharmacopœia directs .5 c.c. of ferric ammonium sulphate test solution to be used as the indicator, whereas, in the estimation of ferrous iodide in the official syrup, it orders 5 c.c. of the same test solution.

Tentative experiments having shown that the results obtained when the smaller volume was used were as uniform as those afforded in the presence of the larger volume, the smaller amount was adopted, for the reason that the solution of potassium sulphocyanate was standardized by its aid.

The following results show about one-half of the syrups of ferrous iodide placed on the market by manufacturing pharmacists to be of good quality.

The percentage results were calculated from the amount of decinormal potassium sulphocyanate volumetric solution over 1 c.c. required to completely precipitate the silver; each c.c. in excess of this amount, which is prescribed by the Pharmacopœia, denotes a deficiency of 1 per cent. of ferrous iodide.

No. of Sample.	Location of Manufact'r'r	Color.	Free Iodine.	Percentage of FeI_2.
1	Boston.	Greenish brown.	Present in small am't.	10
2	Baltimore.	Pale green; later brownish green.	Present.	10
3	Philadelphia	Pale greenish yellow.	None.	8 6
4	Indianapolis	Pale green.	None.	10
5	Detroit.	Pale green.	None.	10
6	Philadelphia	Pale green.	None.	7.5
7	Philadelphia	Pale green.	None.	10
8	Philadelphia	Brown.	Present in large quantity.	5 1
9	Philadelphia	Greenish brown.	Present.	6 8
10	Detroit.	Pale green.	None.	10
11	Own make—Phila.	Pale green.	None.	10

The experience of the author leads him to believe that the present official process, when conducted with the proper care, will furnish a syrup of good quality. In conclusion, he would recommend every one who makes or uses the preparation, to test it according to the Pharmacopœia, for both free iodine and the amount of ferrous iodide.

* Reprinted from Amer. Journ. Pharm.

THE DRUG-STORE MAN.

(With Apologies to Mr. W. S. Gilbert.)

"Oh, I am a cook and a draper bold,
And the boss of a pharmacee,
And a grocer bright and a cunning wight
To measure a pound of tea."

"Oh, composite man, it is little I know
Of the manners of merchantree;
But I'll eat my hand if I understand
How you contrive to be

"At once a cook and draper bold,
And the boss of a pharmacee,
And a grocer bright and a cunning wight
To measure a pound of tea."

Then he worked his eye and he jerked his [thumb
Till I really felt afraid
And I couldn't help fearing the man must be [sneering
Until he coolly said:

"I started life as a draper bold
("And there's little in that") said he;
"For after a while I was fain to file
A petition in bankruptcee.

"And after that, as a grocer bright,
I sought the world to woo;
And then for a year I dealt in beer,
And in wine and whisky, too.

"And then I started a baker's shop
With muffins and buns galore;
But there with beak I had to speak
On a question of 'averderpore.'

"I loved that beak as a brother, I did;
And the beak, he worshiped me;
But he'd see me fried ere I went outside
Under ten-quid line, you see!

"So then I worked for a while the 'mill,'
A device some bakers learn,
Where a scale goes wrong, and a sordid throng
For a full-weight quartern yearn.

"And after that as an oilman I
In pursuit of fortune ran,
Till I gained in tone and was widely known
As 'Italian warehouseman.'

"And then I started a monster shop
With varied kinds of wares—
Cigars and tea, and some hosiery,
And foods and liquors rare.

"Thereto I added a counter, which
Was famed for the sale of pig,
For the butter bright, and the pastry light,
And the German sausage big.

"And since a profit is said to lurk
In the wares of pharmacee,
A 'Minor' man for a trifle ran
A department there for me.

"So I bought my drugs in the cheapest mart
For poison, drug, or pill;
They were bad at best, for my only test
Was the cheapness of the bill.

"And I grew full fat, and a stovepipe hat
Was the only kind I wore,
For my source of pelf, as you see yourself
Is to be (as I said before)

"At once a cook and a draper bold,
And the boss of a pharmacee,
And a grocer bright and a cunning wight
To measure a pound of tea."

(*Chem. and Drug.*)

GUTTA-PERCHA FROM LEAVES.—There is now a prospect that the supply of gutta-percha will become permanent. The old native method of cutting down a tree to get the gum, and thus killing the goose that laid the golden eggs, is giving place to that of plucking the leaves and extracting the gum from them. This plan has been put in practice by M. Hourant, at Sarawak, with success. The gum from the leaves is not only purer, but there is more of it. An adult tree of 25 to 30 years' growth yields only one catty of gum when the tree is sacrificed, whereas two pluckings of the leaf yield as much without injuring the tree. Moreover, the saplings from the roots of trees already cut down are useful in yielding leaves. (Chem. Tr. Jr., Jr. Soc. Chem. Ind.)

PHARMACY.

HYDROGEN PEROXIDE AS A PRESERVATIVE of syrups, cider, vinegar, beer, wine, etc., is a recent suggestion. Ten gms. to each liter is directed.

ACIDYLSCOPOLINE is the mongrel name given to the product of the reaction between scopolin and the corresponding acid chloride. The free base is derived by decomposition of the salt thus formed.

BRAIN OF THE THROAT.—West. Drug. has given publication to the important statement of physicians that there is a small ganglion in the throat that has control of the muscles of that region, and acts very much like a true brain.

LUTEOL is the latest indicator recommended for alkalimetric work. It has the disadvantage of being insoluble in water, but is easily soluble in alcohol, in which solvent it should be used in the proportion of one gram to 300 cc. With alkalies it gives a yellowish color, and is extremely sensitive to ammonia.

COD LIVER OIL IN ENEMA.—Zoppino (Sem. Med.) proposes to administer the oil in enema when it cannot be borne by the stomach. He presents these combinations. (1) Cod liver oil, 600 gm.; yolks of 2 eggs; lime water, 400 gm. (2) Oil, 100; yolks 4 eggs; salt, 7 gm.; water, 35 gm. (3) Oil, 600 gm.; tragacanth, 2.5 gm.; acacia, 50 gm.; calcium hypophosphite, 2.5 gm.; lime water to make 1,000 cc.

FOR GETTING RID OF FLIES a wise housekeeper says: "I buy five cents' worth of oil of lavender at the drug store and mix it with the same quantity of water. Then I put it in a common glass atomizer and spray it around the roems wherever flies are apt to congregate, especially in the dining room, where I sprinkle it plentifully over the table linen. The odor is especially disagreeable to flies, and they will never venture in its neighborhood, though to most people it has a peculiarly fresh and grateful smell."

BALSAM OF COPAIBA PILLS.—W. Rollo (Pharm. Ztg.) remarks that pills of copaiba made with yellow wax—the usual excipient—possess a great many drawbacks. They not only require a long time to prepare, and, on long standing, become brittle, but, on account of the non-digestibility of the wax, only a small quantity of the copaiba is assimilated, most of it passing through the body unchanged, and thereby liable to cause diarrhœa and gastric disturbances. The author recommends the use of calcined magnesia for forming the mass. He proceeds by first adding from one to three drops of water to each 1 gm. (15½ gr.) of the balsam, and then adds enough calcined magnesia to form a pill mass, to which any other ingredient may be added before forming it into pills. Pills of balsam of Peru can be prepared in the same way.

SYRUP OF IODIDE OF IRON can be extemporaneously prepared, says Miss Austa Worthrop in Pac. Drug Rev., by placing 480 grains iodine in a flask, adding 2½ ozs. water and by degrees 150 grains reduced iron. When reaction has ceased, and the liquid has become green filter the solution into sufficient hot syrup (heated nearly to boiling point) to make 10 fl. ozs. Finally add a 50 per cent. solution of citric acid containing 10 grains of the acid. The syrup keeps well, and the method of preparation is a rapid one.

GLYCERITE OF FERRIC CHLORIDE.—F. A. Silker tells the readers of the Monatsblatt d. N. Y. Deutsch. Ap.-Ver. that a preparation very similar to the non-alcoholic article upon the market may be made thus: 15 cc. of U. S. P. solution of ferric chloride is mixed with 390 cc. glycerin, 5 gm. citric acid are dissolved in 30 cc. water, and the two solutions mixed. Then enough ammonia water (about 33 cc.) is added to nearly neutralize the product, leaving it slightly acid. Then dilute with water to 480 cc. Each fl. oz. is equivalent to 60 minims tincture of ferric chloride.

NON-RESINOUS FLUID EXTRACT OF GRINDELIA can be prepared, says M. Jurgens (Ph. Ztsch. f. Russ.) by moistening 100 parts coarsely powdered grindelia robusta with hot water, packing in percolator, adding enough hot water to leave a layer of liquid above the drug, and after macerating 12 hours, exhausting with hot water. The first 60 parts of percolate is reserved, the remainder evaporated at not above 50 cc. to a soft extract, dissolved in the reserved portion, and finally there are added 25 parts of 90 per cent. alcohol and enough distilled water to make 100 parts. Allow to stand, then filter.

NITRATE SHIPMENTS TO THE UNITED STATES.—Vice - Consul Greene, of Antofagasta, Chile, writes under date of April 6, 1895 (Con. Rept.): Over $200,000 (American gold) value in nitrate of soda has been shipped during the March quarter to the United States, but, as heretofore, mainly for the arts and manufactures and almost nothing for agriculture. In a report recently asked for by the Secretary of Agriculture, I took occasion to explain that, by showing our planters and farmers the advantages found in its use in Europe, and by explaining its economical use, he can build up a great and valuable trade with Chile and Bolivia. Home cargoes of nitrate will give outward cargoes of American goods.

THE KEELEY CURE DISCLOSED.—In taking testimony at Pittsburg, Pa., to secure the pardon of a wife murderer, on the ground that he was insane when he committed the crime from the fact that he had taken the Keeley cure, Dr. D. E. Wiles, for two years in charge of the Pittsburg Keeley Institute, gave out this much of the formula of the celebrated "gold" cure. He said the treatment consisted first of an internal treatment of simple tonics, of which cinchona was the principal ingredient. The second part of the treatment consisted of the hypodermic injections of what is known as the red mixture. This, he said, was composed of a portion of thein, eight to ten drops of hyoscyamine solution and a solution of pilocarpine, one grain to the dram, with morphia to suit the condition of the patient. The doctor said the pilocarpine was a strong relaxant, and the other drugs caused a rush of blood that was particularly dangerous to men who suffered from fatty degeneration of the heart.

PERMANENT SYRUP OF ALTHÆA.—M. L. Gesche (Jour. de Pharm. d'Anvers, A. M. S. Bull.) comments upon the difficulty with which the above preparation, as made according to the Belgian and other pharmacopœias, can be made to keep; he then offers an improvement for its preparation, as follows: Twenty parts of althæa root are macerated with 225 parts of cold distilled water, and the liquid strained and evaporated on a water-bath to 30 parts. By this means certain inert substances are separated. Thirty parts of 90-per-cent. alcohol are now added to the evaporated liquid, which is then filtered and brought up to 229 parts with water. By now adding 409 parts of sugar and dissolving it by heat, a clear syrup is obtained which keeps well, it is maintained.

THE ALCOHOL QUESTION.—The discussion on the subject of reorganizing the duty on alcohol, which has occupied so much time of the French Parliament of late, gave rise to a discussion on the same subject at a recent meeting of the Paris Academy of Medicine. The object was to call attention to the importance of providing measures against alcoholism and its disastrous results. Drs. Bergeron and Laborde submitted the following proposition:

"This Academy considers that the continual growth of intoxication through industrial alcohols, essences, and compounds used for the artificial manufacture of wines and liqueurs is a source of serious danger to the public health. It is likely to engender impulsive and criminal madness, either directly or by hereditary channels. It tends also to the physical and intellectual degeneration of the organism and the species."

After stating that alcoholism is one of the causes of the depopulation of France, the document in question urges the necessity of combating the evil "in the interests of the nation and humanity." The following suggestions are made to this end: "To assure, by legislation, the absolute rectification of all alcohol, as a means of preventing the sale of any impure product. Further, that the sale be absolutely prohibited of all products or compounds destined for the artificial manufacture of wine and liqueurs, or liable even simply to be added or mixed with them, such as 'bouquets,' oil of wine, aldehydes, etc." Drs. Bergeron and Laborde also add that "science has shown, both by experiments and observation, that the most impure and poisonous alcohols, of whatever composition, or however obtained, can be made by suitable rectification to appear similar to the best alcohol, though still remaining deleterious." (Ch. & Dr.)

NEW FANCY DRINKS FOR THE SODA FOUNTAIN.

Creme De Menthe.

Crush or mash some fresh green mint leaves with a little coarse or granulated sugar; add some shaved ice, a small quantity of milk of almond syrup or sweet cream, flavored with almond; shake well and fill up the glass with apollinaris.

Charlotte.

A small quantity of shaved ice in a tumbler; add one whole egg, a little sweet cream and highly-flavored maraschino syrup; shake the whole well and fill up the glass with ordinary soda water.

Vienna.

A small quantity of shaved ice, some delicately-colored pistachio syrup (green) and a small quantity of sweet cream; shake the whole well and fill up the glass with vichy water.

Jeannette.

Shaved ice as usual, plain vanilla syrup and a small quantity of sweet cream; shake well; add a little Eau de Noyeau liquor; again shake well and fill up the glass with vichy-water.

Helena.

Shaved ice, a small quantity of plain syrup, a yolk of an egg, a little Curacoa liquor; shake well and fill up with apollinaris.

Henrietta.

Shaved ice, juice of one lemon, some plain syrup, a few drops of lime, a small quantity of chartreuse; shake well and fill up with ordinary soda.

Nadja.

Shaved ice, a little heavy raspberry syrup, the white of one egg and a little cream; shake well and fill the tumbler with vichy water.

Yama.

Shaved ice as usual, a small quantity of ginger syrup, a few drops of cognac and one whole egg; shake well and fill up with apollinaris.

Orgeat Syrup.

Take two pounds of almond paste; add two ounces of blanched bitter almonds, pounded fine, and mix and pound the whole with one quart of water, one gill of orange-flower water, one ounce of vanilla extract, and press this mixture through a towel or napkin so as to get the milk of almonds all out of it; add four pounds of powdered sugar to above, dissolved with the milk, and place in a large bottle, placing it on ice to keep it from fermenting.

Cleopatra.

Place the usual quantity of shaved ice in a tumbler; add the usual quantity of orgeat syrup, same as for soda; the yolk of one egg and a little sweet cream; shake well and fill up the glass with seltzer water.

Fedora.

Shaved ice as usual, usual quantity of orgeat syrup, a small timball glass of kirschwasser; shake well and fill the glass with vichy and throw in one or two white French cherries for decoration.—Confectioners' Jour.

MUCILAGES, GLUES AND CEMENTS.

Mucilage.

1.) Allow 1 part of white glue (or gelatin) and 2 parts of gum arabic to swell in 10 parts of water; then dissolve, after adding one-fourth part white sugar, at a gentle heat, and strain if necessary. To prevent from spoiling add a few drops of carbolic acid or oil of cloves.

2.) Gum acacia .....34 ounces
Water .....66 ounces
Hydronaphthol .....30 grains

Place the gum and hydronaphthol in a cork bag or one extemporized with cheese cloth and suspend the same in a crock containing the water.

3.) Dextrin, white ..... 6 ounces
Acetic acid, dilute .... 1 ounce
Oil of cloves .....10 drops
Glycerin ..... 1 ounce
Water, to make .....16 ounces

Mix the dextrin thoroughly with 6 ounces of cold water, add 8 ounces of boiling water, boil five minutes, stirring constantly; add hot water sufficient to make 14 ounces. When it is cold add the acetic acid, oil of cloves and glycerin. The oil must be thoroughly mixed with the remainder.

4.) White dextrin ... 4 ounces av.
Gum arabic..... 2 ounces av.
Sugar (granulated). 1 ounce av.
Water ..... 12 fl. ounces.

Dissolve the gum arabic and sugar in 6 fluid ounces of the water. Dissolve the dextrin in 6 fluid ounces of hot water by the aid of heat, and mix the solutions when cool. This makes a white, not a clear, mucilage, very adhesive, and much better than gum arabic for paper labels.

5.) Dextrin .....10 drams
Glucose .....½ dram
In which is dissolved a solution of
Alum .....15 grains
Glycerin ..... 1 dram
Water, to make..... 2 ounces

Postage Stamp Mucilage.

Dissolve 1 pound of gum dextrin in a pint of boiling water, strain through flannel and add 2 ounces of acetic acid. When nearly cold add 4 ounces of alcohol, stir constantly, and finally add enough warm water to make 1 quart.

Stick Mucilage.

1.) Glue, 5 ounces; sugar, 1 ounce; dissolved in water, boiled down, poured into molds and dried.

2.) Isinglass and parchment glue, each 1 ounce; sugar candy and gum tragacanth, each 2 drams; add to them 1 ounce of water; boil the whole till the mixture appears, when cold, of the consistence of glue. Then form into small rolls for use.

For Labels.

1.) Rye flour .....4 ounces
Powdered alum .....½ ounce

Rub to a smooth paste with 8 ounces of cold water, strain through a cheese cloth and pour into 1 pint of boiling water. Continue heat until thickened to suit. When nearly cold, add:

Glycerin ..... 1 ounce
Oil of cloves .....30 drops

This is suitable for tin or wood boxes or bottles, and keeps sweet for a long time.

2.) Gum arabic .....12 grams
Gum tragacanth .... 3 grams
Water .....60 grams
Thymol ..... 0.10 gram
Glycerin .....12 grams

Dissolve the gums in the water, strain through cloth, then add the thymol, previously mixed with the glycerin, and enough to make the whole weigh 120 grams.

Paste for Labels on Tin.

Brush the surface over with a thin streak of butter of antimony or with oleate of mercury; clean well and apply the label.

Bichromated Paste.

(To attach paper to glass and for use in damp climates.)

Flour .....2 teaspoonfuls
Water .....4 ounces
Bichromate of potash .....5 grains

The flour must be rubbed to a smooth batter with the water, then placed in a saucepan over a fire and kept stirred till it boils. Add the bichromate slowly, stirring all the time. Then stand to cool. This paste must be kept in the dark and used as soon as possible. Soak the paper in it and attach to the glass, and then place in direct sunlight for a day. This sets up a chemical change in the bichromate and renders the paste insolnble.

Liquid Glue.

1.) Clear gelatin .....100 parts
Cabinet makers' glue...100 parts
Alcohol ..... 25 parts
Alum ..... 2 parts

Mix with acetic acid (20 per cent.) and heat on water bath for six hours.

2.) Good white or colored gum .....5½ av. ounces
Acetic acid .....5½ fl. ounces
Carbolic acid .....5 grains
Water .....1 pint

Soak the glue in 6 ounces of the water for 12 hours. Then heat by means of a water bath until the glue is dissolved, and add to the solution the acetic acid and enough water to measure 1 pint.

3.) Fill a jar or bottle with small pieces of glue, and cover with acetic acid. Then place in a vessel of hot water for several hours until all the glue is dissolved.

Mouth Glue.

1.) Pieces of ordinary glue are soaked for two days. The water is then poured off and the glue melted over a moderate fire. To 1 pound of glue add ½ pound of white sugar, mix thoroughly and then pour the mass into suitable molds and allow it to stand quietly for a few days. In using the glue it is moistened with the tongue.

2.) Dissolve 100 parts of white gelatin and 50 parts of crystallized sugar in 150 parts distilled water by aid of the water bath, and continuing the operation until the product measures 200 parts, when it can be formed into sticks.

Cement for Porcelain Letters.

Boiled linseed oil.....3 ounces
Litharge .....2 ounces
White lead .....1 ounce
Gum copal .....1 ounce

Free the surface from grease before applying.

Transparent Cement for Porcelain.

The glues generally employed are inconvenient, as they cause yellowish stains. The following method gives an absolutely colorless glue: Mix in a hermetically sealed flask 60 grams of chloroform and 75 grams of rubber cut in very small pieces. After the rubber is dissolved, and when the liquid is completely fluid, add 15 grams of mastic. Let the solution remain for 8 hours, until all the mastic is dissolved. The glue so prepared is used as usual.

To Fasten Metal Letters on Glass or Other Polished Surfaces.

Copal varnish	15 parts
Linseed oil varnish	5 parts
Raw turpentine	3 parts
Oil of turpentine	2 parts
Carpenter's glue, dissolved in water	5 parts
Precipitated chalk	10 parts

To Fasten Glass to Brass.

A cement, and one which is waterproof, consists of a pasty mixture of 13 parts of fresh beaten blood, 4 parts slaked lime and a little alum. This should be used immediately and applied with a brush. One or two coats will render any cloth waterproof.

Cement for Glass.

Dissolve casein in a cold saturated solution of borax. Paste with this solution strips of bladder, previously softened with water, on the cracks, and dry at a gentle heat. If the vessel is to be heated, coat the bladder on the outside just before it is dry, with a concentrated solution of soda and quicklime, or plaster of paris.

Cement for Bicycle Tires.

1.) For cuts and cracks in the tire: In 10 ounces carbon bisulphide dissolve 20 ounces caoutchouc and 10 ounces gutta-percha, add 5 ounces fish glue. Bind the tire with cord until the cement has well set.

2.) To a melted mixture of one part each of shellac and gutta-percha add, stirring constantly, one-tenth part each of red lead and melted sulphur. Use hot.

To Cement Leather to Metal.

Digest 1 part crushed nutgalls with 8 parts distilled water for 6 hours, and strain; macerate glue with its own weight of water for 24 hours and dissolve; spread the warm infusion of the galls on the leather and the glue on the roughened metallic surface; place the prepared surfaces together and dry gently; the leather then adheres so firmly to the metal that it cannot be removed without tearing.

Cement for Leather.

To 10 parts bisulphide carbon and 1 part spirit turpentine add enough gutta-percha to make a tough, thickly-flowing liquid. The surfaces to be joined must be perfectly free from grease, which is accomplished by laying a cloth upon them and applying a hot iron for a time. The coat is applied to both surfaces, and pressure made till the joints are dry.

ANTHION is a new product used in photographic work to remove the last traces of hyposulphite from the prints. It is chiefly potassium supersulphate.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Formula Wanted.

(W. A. C.) wants a formula for "Tuttle's Elixir."

Unanswered Queries.

(W. W. S.), Highland Falls, N. Y., and (C. D. S.), New Orleans, La., both write anonymously, which is the reason their queries have not been answered.

Dispensing Bromide of Sodium in Powders.

(M. U. R.) Carefully fold each dose in waxed paper, and again wrap in ordinary white paper.

Repairing Mirrors.

(W. H. F.) A process, with very full working directions, was given in the Sept. 1 Era of last year, page 208.

School of Pharmacy in Colorado.

(C. E. M.) There is a school of pharmacy in Denver, Col., which is a department of the University of Denver. Information regarding it, catalogue, etc., may be obtained from the Secretary, John Kochan, corner Fifteenth and Larimer streets, Denver.

Destroying Stumps of Trees.

(J. L. W. & Co.) There is no "acid" used to "rot" out stumps. A plan which has been recommended by agricultural journals is as follows: In the fall bore a hole in the center of the stump about 18 inches deep, and 1 to 1½ inches in diameter. Put in about 2 ozs. of saltpeter, and fill the hole with water; plug it up tight. In the spring, take out the plug, pour in 8 or 10 ounces petroleum, ignite. The stump will smolder away, it is claimed, to the extremities of the roots, leaving nothing but ashes. Dynamite is also extensively used.

Compressed Tablets of Potassium Permanganate.

(G. E. A.) Manufacturers make a tablet of this nature by compression in a machine, the substances added as a medium varying with the ideas of the manufacturer and the character of the machinery used. In a general way the substance is reduced to a granular form without or with the addition of a medium composed of one-tenth of the weight of the substance of cane sugar and one-twentieth of acacia and water. Before the granulated substance is compressed a lubricant (a hydrocarbon oil) in the form of a spray is added, the amount depending upon the character of the material. Sometimes French chalk is used in connection with the hydrocarbon oil for a like purpose. However, the more perfect and even the granulation has been prepared, the smaller the quantity of these substances it is necessary to use. The exact quantities and the necessary detail can only be determined by experiment, but by working along the lines indicated we think you will have no difficulty.

Pharmacists in the U. S. Navy.

(J. H. C.) The pharmacist in the navy is not a commissioned officer. In fact, the pharmacist's position in either the army or naval service of the United States is rather a degraded one. His salary is $60 per month, and he is ranked along with the boilermakers, blacksmiths, sailmakers, etc., who get the same pay that he does. The term of enlistment is five years. For further information we suggest you write to the Surgeon General of the Navy, Washington, D. C., and also to the Supervising Surgeon General of the United States Marine Hospital Service, Washington.

Uterine Tonic Compound.

(J. E. W.) We do not know of any specific formula under this title. Most of the preparations of this character upon the market are constructed upon the style of the Compound Elixir of Viburnum Prunifolium of the National Formulary. A formula from another source is this one.

Aletris or stargrass	1 ounce
Blue cohosh	1 ounce
Cramp bark	1 ounce
Helonias or star-wort	1 ounce
Syrup	2 fl. ounces
Alcohol	2 fl. ounces
Sherry wine, enough to make	16 fl. ounces

Extract the drugs reduced to suitable powder, with 16 fluid ounces of wine, to which the alcohol has been added, and obtain 14 fluid ounces of liquid, mix with the syrup and filter if necessary.

Arsenical Fly Paper.

(E. A. F.) The Era Formulary gives these:

1.) Make a solution of 2 parts arseniate of potassium or arseniate of sodium, 4 parts white sugar, 40 parts water. Saturate stout unsized paper in this solution, then dry. To use the paper moisten it with water and place in saucers.

2.)

Arsenious acid	6 ounces
Boiling water	1 gallon
Sodium carbonate	8 ounces

Dissolve the arsenious acid, previously reduced to a powder, in boiling water, with sodium carbonate, and, while hot, immerse sheets of coarse unsized paper in the solution. After the paper is saturated with the solution, drain and hang on the lines to dry. Mark each sheet "poison." Glucose or sugar may be added to make it more attractive to the flies. Great care should be taken with arsenical fly-paper, as it is very poisonous.

Phosphates for the Soda Fountain.

(G. J. B.) Here are formulas from several sources, the first one being used in each of the others:

Acid Solution of Phosphates.

Potassium phosphate	80 grains
Magnesium phosphate	160 grains
Sodium phosphate	80 grains
Calcium phosphate	4 drams
Orthophosphoric acid	8 fl. ounces
Water, enough to make	8 pints

Wild Cherry Phosphate.

Wild cherry syrup...6 pints
Grape syrup .....1 pint
Sherry wine .....1 pint
Acid solution of phosphates ....8 fl. ounces

Tangerine Phosphate.

Tangerine syrup...7 pints
Pineapple syrup .. ½ pint
Muscatel .... ½ pint
Acid solution of phosphates .....8 fl. ounces

Strawberry Phosphate.

Strawberry syrup...7 pints
Vanilla syrup ..... ½ pint
Pineapple syrup ... ½ pint
Acid solution of phosphates .....8 fl. ounces

Raspberry Phosphate.

Raspberry syrup ..8 pints
Acid solution of phosphates .. ..8 fl. ounces
Soluble spirit of rose .... ¼ fl. ounce

Lemon Phosphate.

Lemon syrup .....7 pints
Pineapple syrup.....1 pint
Acid solution of phosphates ....8 fl. ounces

Ginger Phosphate.

Simple syrup.....8 pints
Acid solution of phosphates .. ...8 fl. ounces
Soluble essence of ginger .....2 fl. ounces
Soluble essence of lemon ..... ½ fl. ounce

Solution of Bromides of Arsenic, Gold and Mercury.

(F. M. P.) We cannot give you a formula for a preparation which shall contain the above salts in solution. It is a pretty well established fact that bromide of arsenic cannot exist in aqueous solution. If brought in contact with water it breaks up into arsenious and hydrobromic acids. Further, a solution of gold tribromide cannot exist in the presence of arsenious acid. The latter is a strong reducing agent, and would, therefore, precipitate gold bromide.

These reactions show the chemical impossibility of a solution containing the above salts true to their respective names.

However, it is said a solution may be prepared by first oxidizing the arsenious acid into the arsenic state before the addition of the gold salt, and the following formula has been given:

Arsenous acid.....18¾ grains
Bromine water, q. s., or about..... 2¼ ounces
Gold tribromide.... 24 grains
Distilled water, enough to make.. 16 fl. ounces

Introduce the arsenious acid and 2⅛ ounces of bromine water into a flask or porcelain capsule, and heat gently until all free bromine has disappeared. Then add bromine water, 10 to 20 drops at a time, until it will be present in slight excess or until the solution does not become colorless after some time. Expel the excess of bromine with the aid of a gentle heat, dilute to 16 fl. ounces, in which solution dissolve the gold tribromide. The result, if the oxidation of the arsenious acid be complete, will be a perfectly transparent red solution, 10 minims of which contain 1-32 grain of gold tribromide and the equivalent of 1-16 grain arsenic tribromide. The oxidation of arsenious acid into arsenic acid by the bromine may be represented by the following equation:

$$As_2O_3 + 2Br_2 + 5H_2O = 2H_3AsO_4 + 4HBr$$

Mercuric bromide, it will be noticed, is not given in this formula. It may be added in the desired amount, after dissolving the gold tribromide.

In the Western Druggist for March, 1894, appeared an article on the subject by C. F. Bachmann, from which we take the following:

Two main steps are necessary to make the solution: 1, the formation of gold bromide, and 2, the formation of arsenic bromide.

1. Dissolve in two ounces of a mixture of 4 drams nitric acid and 12 drams hydrochloric acid, 83 1-5 grains pure gold metal; after perfect solution, evaporate to dryness. The salt thus formed is gold chloride. This is dissolved in 4 ounces of distilled water, to which a solution of 140 grains of bromide of ammonium in 2 or 3 ounces of water is slowly added. Thus by permutation is formed bromide of gold and chloride of ammonium. These salts are repeatedly shaken with sulphuric ether until the aqueous layer is decolorized, and the ethereal layer—containing the bromide of gold—is carefully separated by means of a separating funnel; this accomplished, agitate the ethereal solution, then drive off the ether with the aid of gentle heat, and pure bromide of gold remains. This is dissolved in 1 pint of distilled water and set aside for further use.

2. Dissolve 195 grains of pure arsenious acid in 1 pint of water by boiling for one hour. Let this solution cool, then add 4 drams of bromine, shake, let stand 24 hours or longer, and then drive off excess of bromine by boiling the solution until clear.

Preparation.—Mix solution 2 with the 1 pint of bromide of gold solution, and add enough distilled water to make 1 gallon of the finished preparation.

The solution is of a clear wine-red color, faint odor, slightly acid, and has a styptic, metallic taste. It is readily miscible with water, alcohol and glycerin, but incompatible with alkalies, alkaline carbonates, metallic salts and alkaloids. The solution contains gold bromide and traces of hydrobromic acid and oxybromide of arsenic (not arsenic tribromide as at first erroneously stated on the labels). It also contained chloride of ammonium at first, which was, however, thought rather to assist the remedy in its action (being a mild hepatic stimulant), and no pains were taken to remove it; but it can readily be eliminated with ether, as above stated. The solution keeps well under diffused light, but if exposed to concentrated sunlight it may decompose, as will most bromides.

The average dose is 10 drops in water three times daily; 10 drops represent 1-32 grain gold bromide and 1-16 grain of oxybromide of arsenic.

I have similarly prepared a solution of gold and mercury, and a solution of three bromides—gold, arsenic and mercury.

From the same authority we take the following:

Formula for making solution of bromide of gold and arsenic 30 years ago: (1) Dissolve 3 grains gold foil in about 1 dram of nitromuriatic acid; evaporate carefully to dryness, redissolve in about 2 ounces of water, evaporate again to about ½ ounce, so that all traces of nitric acid may be expelled. Add to this solution 13 grains of potassium bromide previously dissolved in 2 ounces of water. Heat carefully to boiling point, let cool and filter; wash filter down to make 4 ounces. (2) Dissolve 12 grains pure arsenious acid in about 2 ounces of water by boiling for about an hour; add, if necessary, 2 or 3 grains bicarbonate of potassium to facilitate the dissolution of the arsenic; filter this solution and wash to 3 ounces. Mix both solutions and add 1 ounce of pure glycerin to make in all 8 ounces.

POSSIBILITIES OF BEET SUGAR INDUSTRIES.—The beet sugar industry in the United States is steadily forging ahead, but so enormous is the consumption of sugar that, even with a much more rapid rate of growth, it will be many years before the production of sugar from this and other domestic sources will suffice to meet the home demand. In connection with these remarks the following data, quoted by Journ. Franklin Inst., from the Sugar Beet will throw some light on the condition of that industry: "The total area devoted to beets for the seven beet sugar factories in the United States (this includes the small output of Virginia) was in 1893-94, 19,647 acres, from which were obtained 195,895 tons of beets and 45,191,296 pounds of sugar, corresponding to a yield of 2,300 pounds of sugar per acre, and an average of 230.7 pounds per ton of beets worked on an average extraction of 11.5 per cent. The average yield of beets per acre was 9.9 tons. Accepting these figures as a basis of calculation for the requirements of the Union, the consumption of sugar during 1894 was 2,024,648 tons, or 4,535,211,520 pounds. To obtain this sugar there would be needed at least 2,000,000 acres of land, if the yield be 10 tons to the acre, and, if beets sell for $4 per ton, the money for these roots would represent the enormous sum of $80,000,000 that would be put into circulation among our farming population. If we admit that farmers receive gratuitously 50 per cent. in weight of beets, furnished by the residual pulp as it leaves the process, this would be sufficient to feed not less than 2,000,000 head of cattle during the three winter months, when fodders are most expensive. If we admit 2 pounds increase per head and diem, there would result 400,000,000 pounds of meat from a product that is now receiving only a limited amount of attention."

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ALCOHOL CLAIMS.

There is no doubt now that the retail druggists are going to get their rebates on alcohol, if the test case at Washington ends favorably. In New York City as well as in all parts of the East the pharmacists are now buying 10-gallon casks of alcohol in place of the four and four-fifths gallon packages, and have begun to keep their records as suggested by the Era. They are all quite willing to put up with the little work and bother required and accept the Era's view of the matter, that even if nothing is gained nothing will have been lost.

But there are some druggists now who do not "see the use" of keeping a record and getting a stamped package. The Era representative met one in a Sixth avenue store this week.

"Are you keeping a record of your use of alcohol for manufacturing purposes?" was asked.

"No. Why should I?"

"Haven't you seen by the Era that if the test case in Washington is decided in favor of the petitioner you will stand a good show of receiving $2.06 on every gallon of alcohol you have used in manufacturing—that is, if you have prepared your claims properly?"

"Oh, yes. I saw that, but I don't take any stock in the matter. I don't believe the petitioner is going to win anyway."

"But if he should? There is a good chance that he will. Where will you be then? Why don't you get your alcohol in 10-gallon packages and get the stamp with it?"

"Why, I get along with out a stamp by getting four and four-fifths gallons now. There is no need of going to the extra expense just to get the stamp."

The Era man told the druggist that he could get 10-gallon packages cheaper by the gallon than the amount he is buying now, and that a stamped package is cheaper even if he didn't want to keep a record.

The druggist apparently didn't want to be convinced, so the Era man asked him how much alcohol he used in making tinctures, etc. He said about $600 worth a year. He was told that if the rebate was allowed by the Court of Claims, he would get $500 of that $600 back. Then apparently he began to think. He is one of those druggists who will be mad with themselves if the case is won by the petitioner, and they will only be able to blame themselves.

The Era man has found several druggists who talk just the same way as the Sixth avenue pharmacist did, but they are hardly representative men. As a rule the New York druggist is an intelligent man, quick to see a chance to save as well as to make money. Because a druggist does not think the case will be won at Washington is no reason why he should not get the benefit if it is decided favorably. Here are some of the druggists who are going to try for the rebate. It is an addition to last week's list of those who sent in for the Era's blanks: J. Erskine Mills, Middletown, N. Y.; T. N. Boggess, Huntington, W. Va.; Benedict & Van Noy, Andover, N. Y.; George W. Schools, Lebanon, Pa.; Dr. W. P. Miller, Wilmington, Del.; John M. Conklin & Co., Patchogue, L. I.; George S. R. Wright, Philadelphia; Breen & Froatz, No. 2300 Seventh avenue, New York; William H. Gano, Philadelphia; Adrian Paradis, Brooklyn; George W. Johnston, Rondout, N. Y.; Edwin Baker, Shelburne Falls, Mass.; the G. I. Robinson Drug Co., Thomaston, Me.; Albert B. Baltzly, Seventh avenue and 134th street, New York; Andrew Blair & Co., Philadelphia; A. H. Kinsey, Crestline, O.; R. Groblewski, Plymouth, Pa.; C. H. Ware & Co., Baltimore; Isidor Schnekind, No. 2086 Third avenue, New York; E. A. Brodhead & Son, Kittanning, Pa.; E. B. Conrad, Newton, Kan.; W. E. Moore, Newark, N. J.; W. B. Linn, Canton, Mo.; C. O. Ingvoldstad, Sergeant Bluffs, Ia.; John Horne, Mt. Ayr, Ia.; S. W. Smith, Ansonia, Conn.; Chas. H. Osmun, No. 13 Seventh avenue, New York; C. H. Andreas, Canal Dover, O.; A. L. Dickinson, Danbury, Conn.; J. S. Banker, Genoa, N. Y.; George C. Ketchum, Lawrence, Mass.; W. F. Nick & Son, Erie, Pa.; Louis Riegel, No. 858 E. 138th street, New York; W. F. Kuder, Cleveland, O.; Chitton Bros., New Castle, Pa.; J. T. Brown, Angelica, N. Y.; J. T. Smith, New Berlin, Pa.; Cappell & Colwes, Pittsburg; Quigley's drug store, Littlestown, Pa.; A. L. Embree, Stamford, Conn.; Charles H. Webster, Newburyport, Mass.; Charles H. Bowersox, Columbus, O.; S. H. C. Bixler & Co., Greencastle, Pa.; John P. Jacobs, Hollidaysburg, Pa.; George F. Ropes, Salem, Mass.; Pharmacie Française Amesbury, Mass.; Wilkinson & Co., Keokuk, Ia.; A. Niederer, Carlstadt, N. J.; M. C Dow, Cincinnati, O.; Dr. Louis P. A. Dorian, Haverhill, Mass.; C. R. Cramer, Fairport, N. Y.; Emil Jungman, Philadelphia; Geo. Stratton, Linesville, Pa.; R. H. Lansing, Chillicothe, O.; S. A. D. Sheppard & Co., Boston; B. B. Slade, Whitesville, N. Y.; F. B. Holcomb, Westfield, Pa.; John H. Grier, Lawrence, Mass.; A. C. Wallace, Bellefontaine, O.; W. T. Cox, No. 382 Tenth avenue, New York; C. E. Anderson, Coshocton, O.; W. B. Tice, Johnstown, Pa.; C. M. Davey, Allegheny, Pa.; M. Breechbill, Leechburg, Pa.; S. S. Lighthody, Vassalboro, Me.; J. H. Hipple, Andover, O; T. C. Mattison, Berea, O.; Clinton Pharmacy Co., Syracuse, N. Y.; J. P. Urben & Son, Allegheny, Pa.; H. N. Snyder, Lancaster, Pa.; George Blinkhorn, Philadelphia; D. G. E. Musselman, Philadelphia; W. S. Tower, Melrose, Mass.; E. L. Gross, Harrisburg, Pa.; H. W. Estlack, Philadelphia; C. F. Maize, Germantown, Pa.; H. A. Nolte, Philadelphia; A. R. Williams, Frenchtown, N. J.; B. F. Wolfenden, Philadelphia; C. T. Kilian, South Easton, Pa.; Louis Emanuel, Pittsburg; Columbia Pharmacy, Washington, D. C.; Pease & Dandiman, New Bedford, Mass.; Dr. E. W. Samuel, Mt. Carmel, Pa.

The Alcohol Rebate Bureau.

Philadelphia, July 26.—W. Nelson Stem, one of the committee which inaugurated the Bureau of Retail Apothecaries for collection of alcohol rebates, is very jubilant over the manner in which the retail druggists of this city have co-operated with the Bureau. Yesterday in conversation with an Era representative he said: "The Era did a good thing in printing our circular, and it has helped us considerably. The stand taken by the Era is right, and it will do good. It will stir up the druggist who has heretofore done nothing. We have noticed a change, and since the publication of the articles in the Era we have had a large number of inquiries. The druggists are buying alcohol in larger quantities and are sending their canceled stamps to us."

The collector of Internal Revenue in this city reports that a separate room had to be set aside for the filing of the alcohol claims, and while he thinks nothing will be done in the premises, the attorneys are of a different opinion.

The Wholesale Drug Co. and the N. W. D. A.

Philadelphia, July 29.—The Philadelphia Wholesale Drug Company, Ltd., is not a member of the N. W. D. A., and is not anxious to become one. Last year there was a desire to join the N. W. D. A., and application was made for admittance, but on examination it was rejected. The members of the Drug Company think they were treated unfairly, as they contend that their business is a more legitimate one than the so-called wholesale druggists, as there is no deviation from prices and no one outside of the company is solicited to buy. Since the company was reorganized it has been more prosperous, and it is thought that early next year the business will be greatly increased.

It is the intention of the officers of the Wholesale Drug Co. to increase the capital stock, and then enter a field which has heretofore been neglected. A number of druggists who are not members have been seen, and all have given their word that they will take some of the stock. It was the intention to push this matter earlier, but the depression in business caused the officers to defer making a change until there was an improvement. It is now thought that the time has come to make the innovation.

Drug Men and the Low Case.

The news sensation in New York City during the past week was doubly interesting to the drug trade because it presented in widely different lights two characters well known in trade circles. One was Charles N. Crittenton, the Fulton street wholesale druggist, and the other was Henry J. Champney, the manager and vice-president of the Bovinine Co., whose office is at N. 495 West Broadway. Mr. Crittenton's part in the affair was, as might be supposed, purely one of a ministering Christian, who sought to turn a man from atheism to Christianity at the open grave of a loved child.

The case was that of Lillie Low, daughter of James Low, Jr., a well-to do man, with a remarkable history. His daughter had become estranged from her parent, and after suffering from the brutality of some man, whom the police think they have in custody, had killed herself in a lonely spot on Washington Heights. Quick detective work not only brought her name and family to light, but developed such a strange story of criminality that three arrests followed in short order. Among the persons arrested was Henry J. Champney, who lived at the house of Miss Hanson, on Thirty-fourth street, and afterward on Fifty-eighth street, where Miss Low was sheltered after her estrangement from her father. Champney, Miss Hanson and a Dr. Biggs were arrested as being mixed up in the cause of the girl's suicide, that is practically as witnesses. After that the police suggested that a conspiracy had been formed to get money from one of the Low family through the girl, in other words, by blackmail. This Champney and the others deny stoutly.

The trade was greatly surprised at the arrest of the manager of the Bovinine Co. His conduct was supposed to be most exemplary, and the impression he gave to all who came in contact with him was that he might have been better fitted for orders than for business.

Mr. Champney says that the Low girl excited great pity among the boarders at the Hanson house on Thirty-fourth street because stories were told of her father's brutal treatment of her. He felt a kindly interest in her, and so did Miss Hanson. "When Miss Hanson finally sold out her boarding house, which she did for $2,500," says Mr. Champney, "I went to live with her at the apartment she had taken on Fifty-eighth street. Miss Hanson is a woman of beautiful character, and I had boarded with her so long I asked to be taken as a boarder in her new home, and she kindly consented. Miss Hanson took Miss Low in for purely sympathetic reasons."

Mr. Champney's attention was called to the statement of Mr. Low that he, with Dr. Biggs and Miss Hanson, had attempted to blackmail Joseph Low, a brother of James, who is worth more than $1,000,000. To this charge Mr. Champney said: "As for blackmail, it is absurd. I am manager and vice-president of the Bovinine Co., which is widely known, and has the best of credit all over the United States. The company is capitalized at $100,000. It is a successful concern, and I am a fourth owner. If you wish to look up my record go and ask any of the big wholesale druggists. I have been established in business for years, and numbers of the most reputable people can testify as to my honor and probity. Such an assertion that I am a blackmailer is, on the face of it, false and malicious, and something worse."

Mr. Champney said he had written to Joseph Low at one time calling that gentleman's attention to the pitiable condition of the young girl, and asking if she could not be provided with a sum which would relieve her from the necessity of depending on the charity of strangers. No answer was ever received from the millionaire.

"Miss Hanson," continued Mr. Champney, "is the soul of virtue, and the best of women. It has been hinted that her boarding house was not what it should be. Why, that is ridiculous. Miss Low was the only woman boarder she ever had in her house. The rest were all men, and business men of integrity and reputation."

The three arrested persons were held in $2,500 for the inquest. All secured bail.

James Low, the father, has for years been an atheist. He took the body of the girl to the grave in Woodlawn without having even a prayer said over her, and was about to have the grave closed when Charles N. Crittenton asked Mr. Low to allow a prayer to be said. The reply was that the girl, like her father, was a free-thinker, and that she had always said that when she died she wanted no preacher at her grave. Mr. Crittenton had previously pleaded with Mr. Low on the same subject. Finding that his efforts were in vain, Mr. Crittenton said nothing until the grave digger began to throw dirt upon the box. Then the evangelist beckoned with his hand to them to stop, told Mr. Low that that was the honest moment in his life, and begged him to allow a prayer to be offered. The old man broke down, and amid sobs consented. Mr. Crittenton prayed for five minutes, and Mr. Low said "Amen" as he shook hands with the man who had made him do something he had sworn should never be done.

At the inquest held July 30, the three arrested persons, Henry J. Champney, Dr. Biggs and Miss Hanson, were discharged.

A Charge and Denial of Discrimination.

Boston, July 27.—A druggist in Somerville is so indignant over the alleged unjust interference of the police with his business on Sundays, that he has sold his stock of drugs and says that hereafter he will carry on only a variety store. C. A. French is his name, and Spring Hill his place of business. He asserts that the chief of police warned him to sell no more candy, cigars or soda on the Sabbath, stating, as a reason, that the members of a Baptist church near by had complained that money which should be used for religious purposes, was diverted from its proper channel, Mr. French reaping all the benefit. Thinking that it was an outrage to single him out from thirty druggists, Mr. French decided to forsake his calling and follow a new line of trade, as stated above.

Now, the chief of police gives a different version of the affair, saying that he merely cautioned Mr. French to sell no more candy to children on Sundays, as their parents objected to the misuse of pennies intended for the Sunday school. Nothing was said, according to the chief's story, about anything else. Both he and the judge of the district court express the opinion that it is not a good defense for one druggist who violates a law to say that others also do it. They add that if anybody remonstrates against any other stores a warning will be given there, too; otherwise a strict observance of the law will not be required.

Spingarn Arrested Again.

THE CARTER MEDICINE CO. SAYS HE SELLS BOGUS LITTLE LIVER PILLS.

In last week's Era the arrest was noted of Louis Spingarn, druggist, at Rector and Greenwich streets, New York City, on complaint of the County Medical Society, which charged him with prescribing contrary to law. Now the same druggist has been arrested again, this time on the complaint of the Carter Medicine Co., for having knowingly and fraudulently sold counterfeits of Carter's little liver pills.

The Carter Company has known for some time that a spurious article imitating its product was on the market, and strenuous efforts were made to find out what druggists were disposing of them. General Counsel John H. Bird, of the company, began an investigation, and found that Spingarn was selling the counterfeits. He engaged several persons to call at the Spingarn store and ask for Carter's pills. Almost invariably, so the company says, the bogus article would be furnished. The counterfeit very closely resembles the genuine pills, and the ordinary purchaser would have great difficulty in detecting the fraud. Mr. Bird himself bought two bottles on the representation of the seller that they contained the genuine pills. August Overbeck, who sold pills to some of the callers, was also arrested on the same day, Friday last, with Spingarn. In Overbeck's case it was found that the bottle contained genuine pills, which had been made exclusively for the English market. It developed that these pills had been stolen, and as they are unsalable in this market, having a different wrapper, the latter had been exchanged for a counterfeit one.

The Carter Co. has spent many thousands of dollars in protecting its goods against infringers, and is determined to punish every druggist who is caught selling the counterfeit. Spingarn and Overbeck were held for trial, and other cases which the company has found will soon be given publicity in the courts.

Chicago Gossip.

Chicago, July 26.—The general condition of the city retail trade at this season is reported to be slower than at other times. Many druggists do not give such glowing accounts of the retail trade as others are inclined to give. Nearly all wholesalers whose trade lies to a great extent in out of town districts report a general improvement, while others trading chiefly among the retail druggists of the city, complain that so many people are out of town on vacations at the various summer resorts and watering places that collections are slow and summer trade dull. All, however, look confidently for an unusually good fall trade. Recent rains in Illinois have brightened the hopes of the farmer and encouraged the small dealer, while the prospect of abundance in Western crops has an effect upon the general tone of business that is perceptible and encouraging in all lines.

One dealer, remarking upon the slowness of the summer trade among stores situated in the outskirts and suburbs of the city, made the statement that he attributed it to the encroachment of the department stores upon the drug trade. Recalling a particular instance he said: "I was over on the west side the other day in the store of one of the leading druggists of the city. While we were talking a cable train went by loaded to the brim with shoppers on their way downtown. He turned to me and said: 'A few years ago we used to have fifty per cent. of that trade. Now the department stores get it.' Downtown druggists, however, seem to be sufficiently aggressive to hold their own even against the giants. Relating to the injury the department stores are doing to the retailers, the manager of the drug department of one of the leading department stores, said the other day that the retailers were not being injured, that they retained the better class of their patrons, while the department stores gathered in the poorer classes who were unable to pay the exorbitant (?) prices charged by the retailers!"

The reporter, by an effort, kept from betraying emotion at this astonishing statement.

In regard to the new pharmacy law the same gentleman said that, of course, he would do whatever the law required.

"Suppose this reference to medicines in the law means patent medicines as well as prescriptions, will you, in that case, register your girls in this department as apprentices?"

"Yes, sir. But does the term medicines include patent medicines within the meaning of this act?"

To this query the reporter was unable definitely to reply, but, as there is only one instance in the law where patent medicines are mentioned particularly, suggested that it did include them. The gentleman expressed his intention of writing to the State Board of Pharmacy and ask how they intended to enforce the law. Some interesting developments are promised in this line in the near future.

May Indict the Clerk.

WILLIAM GRIER, OF KENT'S PHARMACY IN PATERSON, SOLD MORPHINE TO A MAN WHO COMMITTED SUICIDE.

Coroner May, of Ramsey's, N. J., proposes to lay the case of Drug Clerk William Grier, of Kent's Pharmacy, Paterson, before the grand jury of that district, with a view to having an indictment returned for a serious offense.

Grier is the clerk who sold morphine pills to Tiemau Vanderbeck, a German baker, who was intent upon suicide, and had tried to secure the poison in other drug stores before he went to Kent's. The baker was accompanied in his search for the poison by Rudolph Diephius, whose story and those of the clerks at Kent's differ in their essential points. Diephius says he and Vanderbeck went to Oates' store on Main street, Paterson, where the baker asked for 25 cents' worth of morphine. Upon Diephius protesting to the clerk the latter refused to sell the drug. Then the pair went to Kent's. According to Diephius, the clerk there, Grier, laughed at his warning and said: "Well, if he wants to kill himself he can do so, and I will give him all the stuff he wants to do it with." When Vanderbeck had secured the poison he went back to Oates' store and showed the clerk that he had got what he wanted. Shortly afterward he took the pills and died.

The proprietor of Kent's store says the remarks of Diephius are wholly untrue and continues: "Vanderbeck said he wanted the morphine pills for asthma, that he knew the dose, was familiar with the properties of the drug and had taken it before when suffering from asthma, and could not sleep without it. Diephius said, 'Don't sell it to him.' The clerks questioned Diephius as to why we should not sell, but he gave no reason. The matter came before the head clerk and one of the prescription clerks, both of whom are graduates of the New York College of Pharmacy."

R. W. Phair's Brother Drowned.

Charles Phair, a well-known young man, of Summit, N. J., and a brother of R. W. Phair, of Platt street, was drowned at South Bound Brook on July 22. He had been spending his vacation with his uncle, Albert Brown, and had gone with him and Mr. Brown's 12-year-old son to fish in a small stream near Bound Brook. Young Phair, while at some distance from his uncle and cousin, fell from the embankment into twelve feet of water. He could not swim, and cried out for help. Mr. Brown and his son rushed to his rescue, and jumped into the stream. Phair was then under water, but caught hold of the younger Brown's leg, and he disappeared too. The father made frantic efforts to get at them without success. Finally Phair ceased struggling, and his cousin rose to the surface and was pulled out. The body of Charles Phair was found an hour later and taken to his home at Summit. R. W. Phair arrived in London the day after his brother was drowned.

California Fig Syrup Again.

Boston, July 26.—In the United States Circuit Court of Appeals to-day a decision was filed in the case of the California Fig Syrup Co., complainant, appellant, against Kate Gardner Putnam and others, defendant appellees, heard last spring by Judges Nelson and Aldrich. In the new finding the decree of the Circuit Court, dismissing the appeal, is affirmed.

A glance at the history of this controversy may be interesting. The California Fig Syrup Co. sought an injunction to restrain the defendants from using the words "fig syrup," which act, it was claimed, violated the law of trademarks. The company manufactures a compound which it calls Syrup of Figs, and uses a label bearing those words, as well as the following: "The California Liquid Fruit Remedy—Gentle and Effective," besides a symbol. Judge Colt, who heard the case in the Circuit Court, discovered that the plaintiff's compound was not a syrup of figs; that if that phrase was meant for a description of the medicine, it was a deceptive one, the compound being more properly syrup of senna. The judge also found that the popularity of the complainant's medicine arose from a belief in the mind of the ordinary buyer that he was getting a laxative, the essential ingredient of which was the California fig, whereas, in fact, he was buying a medicine the active property of which was senna. It was therefore held that the complainant was practicing a deception upon the public, and the injunction was not granted, the bill being dismissed with costs. Now the Court of Appeals takes the same ground.

Opinions of the New Rebate Plan.

Philadelphia, July 26.—Secretary Bower, of the Proprietary Committee of the N. W. D. A., has just returned after several weeks' tour of the trade centers. He was in Chicago, the northern section of Ohio and Illinois and New York State. His business was in regard to the new rebate plan. Mr. Bower reports that the trade as a whole is in favor of the plan. In Chicago where, at first, there was considerable opposition to it, there are only two houses that reply in the negative. In the other places visited, the trade was willing to adopt the plan and seem to be anxious to have it go into effect. Mr. Bower was accompanied by two members of the committee, and the trip was a successful one in all ways. In the northwestern part of New York it was found that considerable cutting is being indulged in, which made the druggists anxious for some plan to protect them. Most all the prominent proprietary manufacturers of the country have either been seen, or have been in correspondence with, and they are willing to sign the plan. It seems that they are more desirous of entering into the scheme now than ever before, and it is said that if they live up to the agreement it will not be long before the cutter will be forced to dispense with proprietary articles, unless he wishes to sell at a loss. The retail druggists in this city are more

anxious than ever for some plan which will protect them. Their lines are very hard now, as there seems to be more cutting indulged in of late than ever before. The druggist has not only his neighbor to contend with, but the dry goods houses as well as the grocery man. However, some of the retailers have more back-bone than the majority, and one on Girard avenue recently commenced to sell notions at a low figure, such as were being sold by a notion house a few doors above. The proprietor of the notion house objected, but the druggist kept on his fight, the outcome being that the notion man sued for terms, and now each one deals exclusively in such goods as pertain to his trade.

The Drug Trade in St. Louis.

St. Louis, July 26.—The drug trade in and about St. Louis for the last few weeks has not been what was expected, although in a few cases an improvement is noticeable. This condition of affairs is thought to be largely due to the climate of this section of the country. There has been very little sickness in St. Louis for some time, and while this may be a pretty good thing for the city, it is not a condition that will cause the average druggist to become a gold man. Many announce themselves perfectly willing to gather in all the silver that comes their way, no matter whether it was coined free or at a ratio of 32 to 1. The retail druggists seem to have felt the relapse more than any one else, and not a few have been forced to sell out for fear of being crowded to the wall. The soda water business, however, is in good shape and is keeping some of the downtown druggists going at a lively pace. The wholesale houses do not appear to have been affected by the dullness in the drug trade.

Learned in St. Paul.

St. Paul, Minn., July 26.—One of the best "straws" showing which way the trade winds blow in the Northwest is furnished by Noyes Bros. & Cutler, the wholesale druggists of this city. They report that their sales for July are steadily increasing and promise from this time forward to be much larger than last year, when business fell off considerably in July.

Two months ago one of the daily papers of this city published a little paragraph stating that the oil of lavender was an excellent thing to exterminate flies. As a direct result, it is believed, of this publication, one of the largest wholesale drug houses in St. Paul is now selling more oil of lavender in one week than it disposed of heretofore in a whole year.

Dr. F. W. Walker, now of St. Croix, Wis., a prosperous physician, was in the city this week calling on old friends, on his way to his Iowa property. The doctor has never forgotten his old friends in St. Paul, whom he knew when clerking in drug stores here, and they all rejoice in his well deserved prosperity.

Fun for the Tramp but not for the Druggist.

Boston, July 25.—Some days ago A. C. Mason, a druggist in Franklin, put $100 in a box and stowed it away on a shelf. This act was observed by two boys. On Sunday afternoon, the store being closed, the boys crept in through an open window and stole the money. They were only ten years old, and were troubled to dispose of their booty after getting it. The leader, who took $65 as his share, buried it in a field.

Now comes the amusing part of the story. Comfortably resting near the place of concealment was a tramp. For a wonder he was willing to work in order to gratify his curiosity as to what had been buried. When he discovered the prize he had no more time to waste in Franklin and was off in a twinkling. The boy was powerless to interfere, but later he made a confession of his guilt.

Narrow Escape for the Druggist.

Philadelphia, July 25.—Leo Myers, who conducts the drug store at 22d and Wharton streets, and with his family lives in the dwelling portion of the building, had a narrow escape this morning from being burned to death. Mr. Myers had closed his store for the night and had retired. Shortly afterward a woman who lives opposite was attracted by a strange light and was surprised to see flames behind the counter of the drug store. She immediately cried "Fire!" A gentleman was just passing by, and he began ringing Mr. Myers' door bell in a vigorous manner. The clanging of the bell awakened Mr. Myers, and he aroused his family and got them safely out of the house. After a stubborn fight the fire was extinguished. The loss is covered by insurance.

Contested Sales of Fly Paper.

St. Paul, Minn., July 26.—The Iowa State Board of Pharmacy registers a kick against the sale of poison fly paper by general dealers. It has forwarded a complaint to Noyes Bros. & Cutler, the wholesale druggists of this city, who have sold large quantities of the article in question to grocers, etc., in Iowa. The firm replied to-day, informing the Hawkeye board that in their opinion, while pharmacists should be fully protected in the matter of selling poisons, it would be impossible to confine to druggists the sale of fly paper. The sale to general dealers of fly paper is less liable to question than the sale, for example, of Paris green. Two years ago an attempt was made in Wisconsin to restrict the sale of Paris green in the same way as an effort had been made before that to confine the sale of concentrated lye, and both attempts failed. Finally, the firm present a clincher in the shape of a quotation from the Iowa law, which merely forbids the sale of poisons for medicinal use by other than registered pharmacists. Whether the point raised by the Iowa board will be pushed further remains to be seen.

THE DARTFORD BURROUGHS MEMORIAL.

We take pleasure in publishing the following letter, trusting that there will be many to accept this opportunity to show their appreciation of Mr. Burroughs' life and work in so suitable a manner as that proposed. Subscriptions can be sent through the Era, if desired.

Dartford, Kent, England,
July 13, 1895.

To the Editor.

Your exceedingly comprehensive and sympathetic notice on the late Mr. S. M. Burroughs has been read with much appreciation by his many friends in England, and especially by those living in this town, where he was so well known and respected.

I feel sure there are many on your side of the Atlantic who would consider it a privilege to have the opportunity of connecting themselves practically with some memorial that would perpetuate the memory of a man who by his unswerving friendship, his inspiring enthusiasm, and his splendid generosity did so much for his generation. I am therefore emboldened to bring under your notice and that of your readers the effort which is being made to complete the latest movement with which he was connected, and which was very dear to his heart.

As you justly remark in your notice the Livingston Cottage Hospital in this town owes its origin to Mr. Burroughs' noble gift of £1,000 (which I may also add was supplemented by another £150 only two days before his death). It has been determined to clear off the remaining debt of £800, to connect his name with the title of the hospital, and to name the men's ward the "Burroughs Ward," as the most appropriate memorial we can raise to his memory, and one which we feel sure would most have commended itself to him.

This is only a small town, with a purely artisan population, but we have done our best in reducing this debt to £300. Will some of his friends on your side join with us in bringing it to a successful completion? Perhaps you would kindly consent to receive any donations through the medium of your paper, or I shall be very pleased to acknowledge them, and, if necessary, to furnish any further information.

Anticipating your very valued services in this direction, I am yours very faithfully, FRED. W. GILL,
Hon. Secretary Burroughs Memorial Fund.

An Old-Time Apothecary Dead.

Boston, July 25.—Alfred Williams, one of the best known citizens of Roxbury, died yesterday at Bar Harbor of apoplexy. He was 72 years old. On leaving school Mr. Williams learned the drug business, and subsequently he opened a store of his own on Tremont street. When the gold fever was at its height he sailed around Cape Horn, reaching San Francisco after a voyage of 140 days. He remained in California for six years, dividing his time between mining and selling medicines. Returning to Roxbury he established another store, but gave it up in order to serve in the Civil War. After this conflict was over he received an appointment as clerk of the court of Roxbury, and from that time till his death he was connected with the court in one capacity or another.

NEW YORK AND VICINITY.

——Albert Plaut, of Lehn & Fink, sails to-day for home.

——G. A. Kelly, of Pittsburg, has been in New York for a few days.

——C. C. May, of St. Louis, has been in town with Mrs. May, visiting friends.

——E. W. Goode, of S. A. Way & Co., has been calling on friends in this city.

——R. L. Palmer, of Atlanta, Ga., has been in New York buying holiday goods.

——J. H. Sisler has bought the Johnson pharmacy at No. 445 Grand street, this city.

——Henry Spriggs, senior clerk at Ferris Bros.' pharmacy at Westchester, N. Y., has resigned.

——P. C. Crandall, of No. 72 Wall street, has sold that store to G. Giel, of Plainfield, N. J.

——Isidor Schulkind has purchased the drug store, corner of DeKalb and Tompkins avenues, Brooklyn.

——H. L. Benze has sold his store at No. 195 Main street, Astoria, N. Y., to Messrs. Runyon & Cannon, of Smithfield, O.

——George F. Marsh, of the Brooklyn department of McKesson & Robbins, is spending his two weeks' vacation at Westfield, N. J.

——David Mott Wells, N. Y. C. P., '95, the valedictorian of his class, has accepted a place with Reuben R. Smith, Ninth avenue and 22d street, in this city.

——A M. Brannon, of the firm of Brannon & Carson, Columbus, Ga., has been in this city for several days. This is his first visit to New York since 1868.

——Henry C. Fick, Chicago representative of Lehn & Fink, has returned to Chicago with Mrs. Fick. He will make the Great Northern Hotel his headquarters.

——A. J. McGrath, of the Low Art Tile Co.'s New York force, has been quite ill recently, and has had many notes of sympathy from friends in and out of town.

——Walter Knight's drug store on Emmons avenue, Brooklyn, was entered a few days ago by a runaway horse, which stopped inside the store without smashing a thing.

——Rudolph Gies, N. Y. C. P., '95, is the druggist who bought out the Charles Doepfner pharmacy at No. 396 Third avenue, the sale of which was mentioned in last week's Era.

——W. N. Douglas, one of the city salesmen at McKesson & Robbins, is at Pen Argyl, Pa., a favorite summer resort near the Delaware Water Gap, for his two weeks' outing.

——F. W. Schnitzlein, the druggist at No. 81 Catherine street, in this city, was one of a party of bicyclists who made a century run to Pearsalls on Long Island, a few days ago.

——Joseph Corcoran, assistant chemist in Wilcox's lard refinery on Miles avenue, Jersey City, fell into a naphtha tank on July 24 and was dead when pulled out. He lived at No. 279 West 45th street, New York.

——C. S. Woodhull Davis, N. Y. C. P., '95, will have a position with Ferris Bros., Westchester, N. Y. He has been located at Warren's pharmacy, Amsterdam avenue and 79th street.

——D. W. Ribble, a druggist at Washington, N. J., died a few days ago. He had undergone an operation for appendicitis and was thought to be in a fair way to recovery, but a relapse came. His widow is conducting the store at present.

——Among the recent incorporations is that of the Dr. Williams Medicine Co., of Schenectady, with a capital of $5,000. The directors are T. Hanson, Lansing; De F. Gates and Lewis A. Skinne, of Schenectady, and George T. Fulford, of Brockville.

——The members of the firm of Schieffelin & Co. seem to prefer the Adirondacks above all other places as a recreation resort. W. S. Mersereau is just back from there, W. S. Clark goes there this week and W. N. Clark will be there through August.

——David L. Rose, one of the members of last year's junior class at the New York College of Pharmacy, has resigned his position at E. Wigren's pharmacy on Staten Island to take a clerkship with Horace G. Pierson, No. 149 Main street, Hornellsville, N. Y.

——Druggist T. B. Breen, of Breen & Froatz, No. 2300 Seventh avenue, is enjoying his vacation at Glens Falls, N. Y. He took his wheel with him. Mr. Breen is one of the members of the local branch of the Interstate League and a firm believer in its power to improve the condition of the local pharmacists.

——The rate for the N. W. D. A. members going to the Denver convention from here will be a one and one-third fare for the round trip. Word was received to this effect last Friday and the terms are considered very reasonable. Members are requested to buy tickets to Colorado Springs instead of to Denver, as it doesn't cost any more, and the Colorado Springs coupon can be utilized during the convention.

——Col. J. W. George, in charge of the Southern selling department of Schieffelin & Co., is spending two weeks on Long Island fishing, a sport of which he is very fond. Fred Rebikka, of the buying department of the same house, is in New Jersey. George Hess has returned from his trip up the State. W. G. Simms spent his vacation on Long Island. C. M. Mersereau, E. P. Montague, A. T. Sneeden, R. Foster and T. A. McAllen are to begin their outings this week.

——The latest swindle up the State is the "watch repairing" one. It has been played on a clerk of the Broadway pharmacy in Albany with success. A man with clock-repairing tools enters a store and asks if the clock needs fixing. If it does not he offers to repair watches cheaply, gives his office address as a few doors away, and if he secures the timepiece never returns. Clerk Stephens gave a caller an order for his watch, which was at home, and he has not seen watch nor man since.

——Bosch & Son, of No. 192 Throop avenue, Brooklyn, have a good-sized yard back of their store and keep a few pups there. They are playful animals, and until recently the neighbors seem to have been fond of them. Now some of the neighbors have made complaints that the Bosch dogs are noisy at night and that somebody in the store amused himself by shooting them. Druggist Bosch says that the complainants are in most cases tenants of his who owe him money, and until he ordered them to move they never complained of the canines. In refutation of the statement that one of his clerks was shooting the dogs, he says that a clerk was practicing with an air gun and by accident hit one of the pups in the leg.

——Another of Dr. Charles Perry's Sun pharmacy staff is on his way to Europe. Walter Boston sailed yesterday on the Paris to visit his father at Coldstream, England, "among the Cheviots." John McGarigle is now in London, and Mr. Boston will meet him there. The other clerks at Perry's have been entertained recently by Mr. McGarigle's letters about the London music halls and the newest songs. The writer of the interesting communications was formerly an actor and has a keen perception of what catches the public's attention and appreciation.

——Alexander J. F. Durham, formerly a traveling salesman for J. B. Rabotheau, the sponge importer at No. 57 Maiden lane, committed suicide on Friday night last at Bremer's Hotel, on Sixth avenue, by inhaling illuminating gas. He was an excellent salesman, and Mr. Rabotheau gave the police such facts as he knew about the dead man, especially commenting on his worth. In a note to his former employer the suicide asked him to be kind to his wife. Durham also left a note in which he said that his "will was so stubborn to inhalation that it would surprise a scientist."

——The mother of Leopold Zimmerman, six years old, says that the boy's recent death was due to a druggist's mistake, but the druggist denies it. It seems that the boy and his grandfather, who lives at No. 113 East 116th street, were ill at the same time, and a doctor prescribed for both. Two bottles of medicine were secured from a nearby druggist. The boy grew worse after taking the medicine, and the doctor told the mother that the wrong medicine had been given. She says the druggist must have labeled the bottles wrongly. The druggist says that neither medicine would kill the child.

——A good story is told of Mr. Henry Hynson, of Hynson, Westcott & Co., who is a brigade hospital steward in the Maryland militia, anent the encampment of the Fifth Regiment at Cape May. The regiment broke camp on Sunday evening, July 21. That afternoon Mr. Hynson had gone down the shore some distance with several friends to dine. The dinner was good and Mr. Hynson, who despite his solemn appearance can crack a joke and is a capital entertainer, neglected to heed the fleeting hours. The regiment reached the railroad station and the roll was called, every member responding except the jovial steward, who did not arrive until long after the train had left. He then went back to the deserted camp, turned in and slept the sleep of the just, awakening just in time to catch the train the following afternoon. All the explanations he can make now only provoke a wink of the left eye.

HERE AND THERE.

——At Yukon, Okla., Hooper & Son succeed D. N. Keeker in the drug business.

——E. R. Gatchell, of 10th and Spring Garden streets, Philadelphia, is spending a few days at Atlantic City.

——Howard T. Osgood, a popular druggist of Oakland, Cal., and Miss Elsie R. Killum were married July 7.

——A druggist at Brooten, Minn., is charged with practicing pharmacy without being a registered pharmacist.

——H. F. Seeley, 2407 Fairmount avenue, Philadelphia, has just returned from a pleasant trip to Wild Wood, N. J.

——Dr. Otto J. Fischer, a well-known St. Louis graduate of pharmacy, was married to Miss Emily Ploeser, on July 25.

——Robert C. Brodie, of Brodie & Stern, 20th and Callowhill streets, Philadelphia, is enjoying a brief vacation at Atlantic City.

——H. O. Wilson is a Chicago druggist who was arrested a few days ago on a charge of selling liquor without a license.

——H. Hassinger, 23d street and Fairmount avenue, Philadelphia, is building himself up for his fall work at Ocean City, N. J.

——Samuel E. Kindig, a salesman for a Philadelphia wholesale drug house, was arrested July 12, charged with embezzling $4,000.

——Fire at the Columbia Lithia Spring Water Co.'s bottling plant, Revere, Mass., caused a loss estimated to be about $25,000.

——C. H. Dietler, a drug clerk, goes from Richland Center, Wis., to Trinidad, Colo., to enter the employ of D. B. Wenger & Co.

——The Peironnet Chemical Company have established chemical works in Los Angeles, Cal., and will be in full operation by October 1.

——Mrs. Leland Stanford, of California, proposes to find a market for 1,000,000 gallons of brandy to be used for medicinal purposes only.

——Druggist Louis Dahl, of Freeport, Ill., had four ribs broken and sustained other injuries through being struck by a cable car in Chicago a few days ago.

——Druggist Gilbert Williams, at Jacksonville, Fla., gives away once every month a diamond pin worth about $40 to some one of his soda-water customers.

——Max Schneider, President of the St. Louis Drug Clerks' Society, and George W. Smith, also of St. Louis, have opened a store at Boyle and Laclede avenues.

——Isaac H. Fry and wife, of Chicago, have departed for Denver to avoid the crush. During his absence Mr. Fry has left his store in charge of Chas. Feldkamp.

——Paul Weeke, of St. Louis, has bought the old Land Pharmacy, at Seventeenth and Cass avenue, and will make a number of improvements in the store.

——E. V. Snuggs, the recording secretary of the St. Louis Drug Clerks' Society, has moved from North Broadway to Thirty-second and Chestnut streets.

——Professor D. H. Robinson, author of "Robinson's Latin Grammar of Pharmacy," resident of Lawrence, Kan., is dead. A notice to this effect gives no further particulars.

——Mr. Sempill, of Dale & Sempill, Chicago, is away from the city on a business and pleasure trip. He also intends to go to Denver next month to attend the A. Ph. A. meeting.

——During a heavy wind storm at Hampton Roads, Va., July 16, the smokestack of the Norfolk & California Chemical Works was blown down, instantly killing the foreman of the works.

——Druggist Chas. King, of Gallipolis, O., was recently arrested for selling soda water on Sunday. The mayor had ordered everything to be closed on that day, and this will be made a test case.

——J. J. Hauss, druggist, of St. Mary's, O., visited the Era office on July 27. Mr. Hauss and wife had just returned from a two months' trip through England, France, Switzerland, Germany and Belgium.

——Five soda water cylinders, which were lying in the sun in a back yard in Hudson, Mass., exploded the other day, some of the pieces going 400 or 500 feet. Half a dozen people narrowly escaped injury.

——Oswald Richter, a drug clerk, who came from New York and was working at Devine's pharmacy, Santa Monica, Cal., was found dead July 17. Whether from suicide or naural causes is not known.

——A bachelor druggist in a Western town, having secured the popular song, "Girl Wanted," placed a copy in his show window. In less than an hour he had a dozen applicants. The town is laughing yet.

——The American Soda Fountain Co. has declared a quarterly dividend on the first preferred stock, 1½ per cent.; second preferred, 2 per cent.; common, 2½ per cent., payable on Aug. 3 to stockholders of record July 25.

——There is one drug store in Baltimore, the proprietor of which, J. W. Browning, is a colored man. It is located at the corner of Druid Hill avenue and St. Mary street, neat and attractive in appearance, and well stocked with drugs.

——"Woman," shouted the orator, "woman has had a long struggle in the race with man for equality, but she is gaining every day. She is getting closer, closer—so close, in fact, that he can almost hear her pants as she breathlessly struggles along."

——The Columbia Chemical Company, of Washington, D. C., in a suit against the Hammond Sanitarium Company, Wm. A. Hammond and Mahlon Hutchinson, has secured an order restraining the defendants from manufacturing, advertising or selling certain animal extracts discovered by Dr. Hammond.

——A. F. Burnett, druggist at Elwood, Ind., has been arrested, with Frank Lytle, for complicity in the murder of one Myers, who carried heavy life insurance. It is claimed that the druggist with the other parties involved poisoned the victim.

——Let it be recorded that for once Massachusetts druggists are profiting by "blue laws." There is a spasm of virtue in old Marblehead—a town made famous in verse by Whittier—but, for a wonder, the apothecaries are allowed to do business on Sundays, while all other stores are ordered to be kept closed.

——Influenced by the commotion caused by the Nicholson law, the chief of police of Muncie, Ind., has ordered all slot machines out of the drug stores. The order covers all machines with an element of chance, and no such machine is now in use in that city.

——The cases against druggists Haswell, Herr and Scholtz, of Denver, for selling liquor without licenses, came up in court July 20, and were dismissed on the advice of the District Attorney, who decided that the Justice's Court did not have jurisdiction, and that the cases should come before the police magistrate.

——Dr. Emil Schultze, a druggist at 306 Hanover street, Baltimore, has received a gold medal from the Pabst Brewing Company, of Milwaukee, Wis., for an essay on "Signs and Omens." This company some months ago offered cash prizes for the best essays on the subject. Dr. Schultze's paper did not draw a premium in money, but was considered so good as to deserve a special medal.

——The officers of the Maryland Naval Reserve have presented to Isaac E. Emerson, who is the commander and also the president of the Emerson Drug Co., of Baltimore, a fine diamond pin of the shape of a diamond-back terrapin, the occasion being his birthday. The back of the terrapin is studded with diamonds, the head is represented by an emerald. Mr. Emerson has made himself very popular and has already been mentioned as a candidate for mayor.

——The druggists of Richmond, Va., held a meeting July 25, to discuss the matter of Sunday closing. A resolution that the stores be kept open Sundays from 8.30 to 10.45 A. M. and 3.30 to 7.45 P. M. was liberally discussed, and finally the matter was laid over for two weeks. A committee was appointed to form a local society. Resolutions were adopted to the effect that the members present carry on their business on Sundays not for profit, but purely for the convenience of the sick, and asking the co-operation of the physicians in the community to this end.

——On the first day of next October the Seed Division of the Agricultural Department will be abolished. Secretary Morton has long been opposed to this division, as its work had become of a nature which carried its operations beyond the statutory provisions for distributing only such seeds as are "rare and uncommon to the country, or such as can be made more profitable by frequent change from one part of the country to the other." The final report of the division for the year ending June 30, 1895, will contain a full history of the work of free seed distribution in this country.

——The last Michigan Legislature passed a law providing for teaching in every public school in the State the principal modes by which each of the dangerous communicable diseases is spread, and the best methods for the prevention and

restriction of such diseases. The duty of supplying the necessary data and statements for such teaching devolves upon the State Board of Health, and the first effort in this direction is an edition of 20,000 pamphlets just printed in which are given directions for the prevention of consumption, pneumonia, influenza, diphtheria, typhoid and scarlet fevers, measles, whooping cough, smallpox and cholera.

——The Medicus Bicycle Club of Philadelphia is a thing of the past. After an existence of two years, the only club of an athletic nature in Philadelphia, in which druggists were interested, has been disbanded. Last year there were a number of runs made by this club, which were all successful, but for some reason there was little attention given to bicycle riding this year by the old timers. The club was in a flourishing condition, and last fall a committee was appointed to select a building for a club house, which was to be a model one. The committee visited quite a number of houses, but for some reason or other they could not agree. Many prominent druggists and doctors were members of this club.

Denver Notes.

——C. S. Kline hopes to be able to add a large list of names to the A. Ph. A. during August.

——Jno. P. O'Leary & Bro. are succeeded by E. A. Lanover at Eighth and and Larimer streets.

——The W. S. Haswell Drug Co. has recently been incorporated. It has two stores, one at 16th and Lawrence, and one at 16th and Champa.

——The Cook Drug Co. is another Denver firm recently incorporated, place of business 13th and Blaine avenue.

——Fred. C. Ewing, of Glenwood Springs, was in the city recently attending a banquet of the Shriners. He reports business fair in his town.

——A. W. Clark, Eighth and Santa Fe, is moving across the street to larger and more elegant quarters; the new store is being fitted up in fine style and a bright prospect for trade is ahead.

——Dr. Weis, of the Weis-Chapman Drug Co., Del Norte, was in the city recently. He is a P. C. P. man and hopes to meet a number of his classmates at the August meeting.

——John Stromberg, of Forbes & Stromberg, Denver, Georgetown and Rico, has just returned from Pueblo where he has been trying the beneficial effects of the magnetic springs upon his rheumatism. He is improving slowly and hopes soon to be at his desk again.

——F. W. Rand disposes of his store at 11th and Santa Fe to Fred. Rauscher, who has for a number of years past presided at the prescription counter at Steinhauer & Walbrach's Larimer street store. Mr. Rand will devote his whole time to his South Broadway store, near Overland Park.

——Prof. C. M. Ford, Chairman of the Transportation Committee of the A. Ph. A., has done some very good work in securing such favorable rates from all parts of the country, and was very ably assisted by his committee, also by Mr. Townsend, of the Missouri Pacific, who said he would announce a separate rate unless the others came to an agreement.

ASSOCIATIONS,
CLUBS, SOCIETIES.

CALENDAR OF MEETINGS.

AUGUST.

13, Wisconsin—Sheboygan.
14, A Ph. A.—Denver, Colo.
14, Colorado—Denver.
21, Vermont—Burlington.

SEPTEMBER.

2, N. W. D. A.—Denver, Colo.
2, Manufacturers and Dealers in Proprietary Medicines—Denver.

AMERICAN PHARMACEUTICAL ASSOCIATION.

The following is a copy of an official circular letter issued by the Transportation Committee of the A. Ph. A.: The forty-third annual meeting will convene at Denver, Colorado, commencing on Wednesday, August 14, 1895, at 3.30 P. M.

Hotel Accommodations.—Headquarters of the association will be at the Brown Palace Hotel. Rates reduced from $6.00 to $3.00 for members of the A. Ph. A. and their friends. The Windsor and the Albany, both also first-class hotels, have reduced their rates to $2.00 per day. For quarters, address E. L. Scholtz, Local Secretary, A. Ph. A., Denver, Colo.

Proposals for membership should be sent to the secretary of the committtee, Geo. W. Kennedy, Pottsville, Pa., not later than August 7, or after that date may be addressed to him at Denver, Colo., care of the Brown Palace Hotel. For further information address the chairman of the committee on membership, H. M. Whelpley, 2342 Albion place, St. Louis, Mo.

Reports and essays intended for use at the coming meeting should be sent at once to the chairman of the respective sections, viz.: Scientific Papers, A. R. L. Dohme, Baltimore, Md.; Education and Legislation, James M. Good, St. Louis, Mo.; Commercial Interests, Geo. J. Seabury, New York, N. Y.

Credentials of delegates should reach the permanent secretary at least two weeks in advance of the meeting, as provided by Chapter VIII, Article 5, of the By-laws. Those sent later should be addressed in care of the local secretary, Edm. L. Scholtz, Denver, Colo.

A session of the council will be held at the Brown Palace Hotel on Wednesday, August 14, at 9.30 A. M., for the purpose of arranging the business of the association in compliance with Chapter VI, Article 6, of the By-laws.

TRAVELING ARRANGEMENTS.

Particular attention is directed to the following information furnished by the Committee on Transportation. The Western, Southern and Central Passenger Associations have made a rate of one fare for the round trip from all points in their territories, covering the entire section lying west of a line drawn through Toronto, Can., Buffalo, N. Y., Parkersburg and Charlestown, W. Va., East of this line is the territory of the Trunk Lines Association. On June 11 they refused to consider our application for a rate; on June 25 they made us a rate of one and one-third fares for the round trip. Following the favorable action of all the other Passenger Associations this seems an extraordinary procedure, and there is reason to think that in a few days it will be favorably reconsidered. We shall then have half rates from practically every point in the United States and Canada east of the Rocky Mountains. It is with regret the committee announce their utter failure to get any concessions for members on the Pacific Coast. The Missouri Pacific R. R. has announced an extension until Sept. 1, on the return portion of tickets over their line. Other lines will doubtless follow with similar announcements and thus all visitors will be enabled to enjoy the benefits of such extension.

ROUTES.

While members are at liberty to select whatever route they may choose, the following have been recommended by the committee:

FROM THE EAST.

Leave Boston via Fall River Line or by any preferred route so as to make connection with the party which will leave New York, via B. & O., Friday, August 9, 6 P. M.; Philadelphia, 8.23 P. M.; Baltimore, 10.50 P. M.; Washington, Saturday, August 10, 12.01 A. M. Arrive Cincinnati 5.30 P. M. Leave Cincinnati 8.15 P. M.; Vincennes, Sunday, August 11, 2.38 A. M. Arrive St. Louis 7.12 A. M. Leave St. Louis, via Missouri Pacific, Monday, August 12, 9.00 A. M.; Jefferson City, 1.05 P. M.; Sedalia, 3.00 P. M. Arrive Kansas City, 6.00 P. M. Leave Kansas City, via Union Pacific, Monday, August 12, 11.00 P. M. Arrive Denver, Tuesday, August 13, 5.00 P. M. The lay over of 26 hours in St. Louis has been arranged for so as to enable the party to see something of that city. At Kansas City an informal reception is to be tendered the visitors by the local pharmacists.

FROM CHICAGO.

Leave Chicago, via Santa Fe R. R., Sunday, August 11, 5.00 P. M.; Kansas City, Monday, August 12, 9.00 A. M.; Colorado Springs, Tuesday, August 13, 8.30 A. M. Arrive Denver, 11.00 A. M. A stop-over of one day at Colorado Springs, including a trip to Manitou and other resorts, is contemplated by those taking this route; resuming the journey to Denver the day following, arriving in ample time for the first session of the association.

Sleeping Cars.—One berth will accommodate two persons, though more comfortable for one. The price for one berth to Denver from each of the places named will be: New York, $11.00; Baltimore, $11.00; Washington, $11.00; Cincinnati, $8.00; St. Louis, $5.50; Chicago, $6.00; Kansas City, $3.50.

C. A. Mayo, 37 College place, New York City, will receive applications for berths to St. Louis from parties leaving New York and other eastern points on August 9, and W. J. M. Gordon, 710 Plum street, Cincinnati, and N. R. Warwick, 131 Vine street, Cincinnati, Agents

of the Mo. Pacific R. R. will do similar service for those desiring reservations at Cincinnati. Special arrangements for Pullmans will be made at St. Louis by the Missouri Pacific, and at Chicago by the Santa Fe Railroad. Those wishing sleeping car reservations at St. Louis should address H. C. Townsend, General Passenger Agent, Missouri Pacific Railway, or H. M. Whelpley, 2342 Albion place.

A choice of any direct route from Denver will be permitted returning; choice to be designated at time and place of purchasing ticket. Members from the east of Parkersburg may return via the Denver & Rio Grande to Pueblo and thence via the Mo. Pacific to St. Louis or via Kansas City and Chicago. Members from Chicago who go out over the Santa Fe are recommended to return via Union Pacific to Kansas City and thence to Chicago on the Santa Fe. While the above are recommended there are other excellent routes which the members are at liberty to select.

Tickets may be purchased at Chicago and St. Louis and western points August 11 and 12: at all points further east tickets will be sold August 9, 10 and 11, but not to reach Chicago or St. Louis prior to August 11 or later than August 12. Members outside the territory of the Trunk Line Association (see paragraph on rates) can purchase at any regular ticket office a round trip ticket to Denver for one first-class fare. The return route must be designated at the time of the purchase of these tickets. Where the tickets themselves are not on sale a partial ticket will be issued with an exchange order for the remainder of the ticket which is to be presented at a specified ticket office. Tickets are good going only on date of sale as stamped on the back and for continuous passage to Colorado. After reaching Colorado stop-overs will be allowed either going or returning at Pueblo, Colorado Springs and Denver. Members convenient to the Baltimore and Ohio can purchase tickets through the nearest member of the committee. Those residing in the Trunk Line Association territory and not convenient to the B. & O., may either purchase tickets on the "association plan," paying one and a third fares for the entire round trip, or may purchase round trip tickets at the regular rate to the nearest point in the territory of the Central Traffic Association (see paragraph on rates), and at this point purchase a round trip ticket for one fare.

Any further information may be obtained from the members of the Transportation Committee. Charles M. Ford, Chairman, 700 Fifteenth street, Denver, Colo.; Caswell A. Mayo, 37 College place, New York; S. A. D. Sheppard, 1129 Washington street, Boston, Mass.; W. J. M. Gordon, 710 Plum street, Cincinnati, O.; H. M. Whelpley, 2342 Albion place, St. Louis, Mo.; Harry Sharp, Marietta and Walton streets, Atlanta, Ga.; A. E. Ebert, 426 State street, Chicago; L. F. Chalin, Carrolton and St. Charles avenues, New Orleans, La.; Wm. M. Searby, 400 Sutter street, San Francisco, Cal.

THE STOP-OVER AT ST. LOUIS.

St. Louis, July 26.—A committee was appointed by the St. Louis College of Pharmacy to look after the entertainment of delegates to the Denver meeting of the A. Ph. A. who will stop over one day at this point. The delegates are expected to arrive Sunday morning, August 11, and the St. Louis druggists expect to entertain them in royal style. Many of the outside druggists have not been here since the convention of 1871, and their local friends expect to show them many things, among them the new Union Station, the new City Hall, the new water works, the new Merchants bridge and last, but not least, the druggist Mayor of the city, Hon. C. P. Walbridge. Among other things the delegates will be given a carriage drive through the principal streets of the city, which will be followed by a banquet at "The Cottage" in Forest Park. Altogether the St. Louis druggists intend to give the Eastern delegates no reason to regret the one day stop-over at this point.

South Dakota Pharmaceutical Association.

The South Dakota Pharmaceutical Association held its annual meeting at Lake Madison, July 19th. The following officers were elected: W. S. Branch, Parker, president; F. C. Smith, Madison, and H. S. Howell, Artesian, vice-presidents; I. A. Keith, Lake Preston, secretary; C. C. Maxwell, Arlington, treasurer. Names for appointment on the Board of Pharmacy were O. H. Tarbell, Watertown; M. J. Blesser, Milbank, and W. A. McClaren, Mound City.

The following papers were read: "Losses and Leaks in the Retail Drug Business," by J. A. Bower, of Iroquois. "Experiences from Life in a Country Drug Store," by J. H. Ferris, of Carthage, and C. C. Maxwell, or Arlington. "How to Run a Drug Store Successfully," by J. Deetkin, of Deadwood. "Pharmacists and Physicians," by E. C. Bent, of Dell Rapids. "Necessity of More Knowledge in the English Branches by Applicants for Registration," by C. F. Ayer, of Sioux Falls. "Pleasures and Annoyances of the Retail Pharmacist," by W. S. Branch, of Parker. "Knowledge," by F. J. Haron, of Worthing. "Should Students in Pharmacy be Required to Attain a Specific Period of Practical Experience in a Drug Store before being Permitted to Register, regardless of Knowledge Possessed?" by D. F. Jones, Watertown. "Advertising," by J. W. Brewer, of Clark. "How can we Bring About a Closer Relationship between Pharmacists and Physicians, and a more Extended use of Home-Made Pharmaceuticals?" by Emil Hargens, of Hot Springs. "How to Avoid the Accumulation of Dead Stock in a Drug Store," by C. E. Blount, of Huron. "The Importance of a Careful Examination of the Drugs we Purchase by the Application of Pharmacopœial Tests for Identity and Purity," by Z. A. Crain, of Redfield. "Profitable Side Lines for Druggists," by S. H. Scallin, of Mitchell. "Should Graduates in Pharmacy be Required to Pass an Examination before the State Board of Pharmacy?" by J. B. Fairchild, of Castlewood.

The report of the Board of Pharmacy for the past year was presented by O. H. Tarbell, of Watertown. This report showed that thirty applicants have been examined during the past year, of which eleven received licentiates' certificates on first examination, three on second examination, one on third examination, and one on fourth examination. Five received assistants' certificates on first examination; nine failed to pass. There are now 489 registered pharmacists' certificates in force in the State, and 23 assistants' certificates. Secretary Keith's report showed the deaths of these members during the year, viz.: J. W. Cook, Warner; A. Wettergreen, Bridgewater; W. C. T. Newell, Garden City; R. J. Andrews, De Smet; H. E. Walker, Montrose, and Wm. H. Clark, Howard. The net receipts for the year were $1,409; expenses, $1,424.46. This leaves a balance in the treasury of $235.78.

The question of insurance came up, and it was announced that the Druggists' Mutual Insurance Company would be put in motion again, and the company will be ready to begin business this fall. The officers of the company are: President, James Lewis, of Canton; secretary, I. A. Keith, of Lake Preston; treasurer, H. C. Bockoven, of Clark.

The next meeting will be held in Madison.

Arkansas Association.

The Arkansas Association of Pharmacists met in 13th annual session at Pine Bluff July 10, with President J. M. Anderson, of that city, in the chair. A report of the executive committee was made, after which President Anderson made his annual address, which was an able effort and proved to be most interesting to his audience. Mr. Anderson, in his address, recommended that the association make an effort to have the American Pharmaceutical Association meet in that State next year. The suggestion received the hearty approval of the members of the association present. The committee on Legislation made an interesting report, as did also the committee on National Formulary. The Arkansas association claims the honor of being the first and only association in America that ever made a display of manufactured pharmaceutical wares before a national medical association. This was done at Hot Springs last fall before the Mississippi Valley Medical Association, and the display was most creditable. The following officers were elected: W. L. Morgan, Camden, Ark., president; W. L. Carr, Texarkana, first vice-president; J. H. Mann, Pine Bluff, second vice-president; J. F. Dowdy, Little Rock, secretary; John A. Jinkins, Little Rock, treasurer. A resolution indorsing legislation advocated by the committee of the American Pharmaceutical Association, looking to the higher official recognition of pharmacists in the army and navy of the United States, and requesting the Senators and Representatives in Congress to use their efforts in securing the passage of such legislation, was adopted. The association will meet in Little Rock on the second Tuesday in May, 1896.

WM. G. BURGESS, President-elect.

Virginia Association.

The Virginia Pharmaceutical Association held its fourteenth annual meeting in Blue Ridge Springs, July 16, 17 and 18, President J. B. Gorrell, of Lexington, being in the chair. No business was done at this session except to receive applications for membership. In the evening the members and visitors gathered in the ballroom to witness a very interesting exhibit of illuminating gas made from calcium carbide, with descriptions and statistics, furnished by C. P. Kearfott, a member from Martinsville. After the address by Mr. Kearfott, the audience was entertained by Polk Miller with recitations in negro dialect, etc. The association occupied the morning of the second day with receiving and considering reports of its officers. The president's report was brief, and the principal item of interest was the question of free alcohol for manufacturing purposes, which he deemed very desirable, but hardly practicable to be obtained. The secretary's and treasurer's reports show the association to be in a fairly healthy condition financially, but not strong enough numerically. Discussion of the best means of increasing the membership brought out the fact that while the public generally have been great gainers by the establishment of the association, and through its agencies obtaining more reliable and intelligent service in the responsible work of dispensing medicines, the pharmacists themselves are incidentally benefited by the restrictions required. Purity of medicines and chemicals was also discussed, and the views of members exchanged as to the best means to obtain the best results in the manufacture of such important medicines as laudanum. The statement was made by Mr. Miller, president of the Board of Pharmacy, that through the agency of their board in having analyses made in Richmond, country storekeepers are now demanding of their wholesalers a certificate with each purchase of laudanum that it is full strength.

In the afternoon came the athletic contests, baseball, jumping, tenpins, etc. In the game of baseball, "Pills" versus "Capsules," the former won by one run. Handsome and valuable prizes were awarded the successful contestants. At the third day's session the association took up the resolution of the A. Ph. A. in regard to the better education of apprentices. Nothing was done in the matter from the fact that the Virginia Board of Pharmacy had already taken action on the subject and the association believed the board was really leading the A. Ph. A.

As to the removal of the tax on alcohol, the sense of the association was that the present United States law exempting alcohol used in preparing medicines is practically inoperative, and it is doubtful whether if put into operation it would result in any substantial benefit to retail druggists or the public at large. Nevertheless, a committee on national legislation was appointed to look after the interests of the drug trade and to operate independently or in conjunction with the scientific bodies, as it may deem most expedient.

It was decided to offer money prizes next year for essays on practical business topics. Dr. Frank L. James, of St. Louis, was elected honorary member of the association. The committee to name a place for the next meeting recommended Hampton, but so many members favored Blue Ridge Springs that it was decided to submit the matter to a vote of all the members, to be ascertained by postal or circular letter.

The following officers were elected for the ensuing year: President, Wm. G. Burgess; Vice-Presidents, H. W. Cole, J. Howard Wayt, E. L. Robey, Paul Massie; Secretary, C. B. Fleet; Corresponding Secretary, J. L. Avis; Local Secretary, A. E. G. Klor; Treasurer, C. H. Lumsden; Executive Committee, T. Ashby Miller, A. W. Eley, Beverly E. Shore. To fill vacancies on Virginia Board of Pharmacy, E. R. Beckwith, W. H. Craig, C. T. Link, Edgar Warfield, W. G. Burgess.

The announcement of standing and special committees closed the day's work and the association adjourned.

The contests for prizes were tenpins and target shooting. C. H. Lumsden, of Lynchburg, was successful in both, winning third prize in the tenpin contest and first in the target shooting. C. B. Fleet also won a prize in the shooting match.

——The Commercial Clubs of the Twin Cities, the Minnesota State Pharmaceutical Association, and every druggist in the State of Minnesota are actively at work to the end of bringing the 1896 convention of the American Pharmaceutical Association to the dual metropolis of the Northwest. E. L. Danforth, secretary of the Commercial Clubs, will go to Denver this month to present a strong invitation. The people of St. Paul and Minneapolis believe that in Lake Minnetonka, with its mammoth and magnificent hotels, its varied beauties and attractions, lying just on the outskirts of the Twin Cities, will be found all that can be desired as a point at which to hold the next convention and recreate as well.

North Carolina Association.

The North Carolina Association held a two days' session at Morehead City, July 10 and 11, President J. Hal Babbitt, of Raleigh, in the chair. The attendance was very good, and this session was the liveliest and most interesting meeting in the history of the association. A recent revenue act putting a tax on seeds and drugs elicited quite a discussion. Mr. John P. Stedman, of Oxford, stated that he had information from proper authorities that this act had not been ratified, and was therefore no law at all. A committee of two was appointed to thoroughly investigate this act, and was authorized by the association to engage the services of an able lawyer if it should be deemed necessary.

E. V. Howell, of Rocky Mount, was awarded a U. S. Dispensatory, the prize offered by a Baltimore firm for the best essay read before the association.

A protest against the practice of the directors of the different State asylums filling the pharmacy departments with physicians was made, and the following resolution to that effect was passed without a dissenting vote:

"Whereas, There are 51 States and Territories in the United States having pharmacy laws to test the qualifications of those desiring to practice pharmacy.

"The two professions of pharmacy and medicine have made such rapid advancement in recent years as to be regarded as distinct and separate professions.

"Resolved, That this association disapproves and respectfully protests against the practice of filling the pharmacy departments at our State institutions with other than legally qualified and competent pharmacists, and we believe it to be to the best interest of these institutions that such a course be adopted.

"That the secretary be instructed to send a copy of this resolution to the Board of Directors of the institutions."

Ten applicants were examined by the Board of Pharmacy. Five of them were successful. The election of officers resulted as follows: P. W. Vaughan, Durham, president; Augustus Bradley, Raleigh, first vice-president; John P. Stedman, Oxford, second vice-president; H. M. McDonald, LaGrange, third vice-president; H. R. Horne, Fayetteville, secretary; A. J. Cook, Fayetteville, treasurer; B. C. Jones, Morehead City, local secretary. William Simpson was elected a member of the Board of Pharmacy to succeed himself.

The following persons were elected members of the association: C. D. Brodham, George K. Grantham, E. W. O. Hanlan, A. B. Matthews, Howard Gardner and W. A. Leslie. The association will meet at Morehead again next year in August.

——The Milwaukee Drug Clerks' Association, at its semi-annual meeting, held July 12, elected the following officers: H. F. Weber, president; A. J. Luebke, vice-president; G. F. Luebrintz, secretary; M. A. Kleinhanz, treasurer; executive board, H. F. Emmerich, R. Best, F. J. Lambeck.

——The St. Louis Drug Clerks' Society has completed extensive arrangements for an excursion to be given on the Mississippi River August 1.

Tennessee Pharmaceutical Association.

The Tennessee Pharmaceutical Association held its tenth annual meeting at Mount Eagle, July 17, about 150 delegates from various parts of the State being in attendance. After calling the meeting to order, President J. F. Voigt welcomed his fellow druggists with a most interesting address. He was followed by R. H. Gordon, of Nashville, who read a paper on "The Advisability of Using the Highest Grade of Drugs in the Compounding of Prescriptions." The meeting then adjourned and the delegates upon invitation visited the University of the South, where they spent a most delightful afternoon. After supper the delegates were entertained by Col. Columbus Marchbanks, who delivered a lecture.

The second day's session was opened by an address from Dr. Cowan, of Tullahoma, on "The Relationship Between the Physician and Druggist." The following names will be submitted to the Governor for appointment as members of the Board of Pharmacy: A. A. Yeager, D. A. Rosenthal, Knoxville; A. R. Rains, of Columbia, and Lindsay Bunton, of Bristol. J. A. Burge, Secretary of the State Board of Pharmacy, read the annual report of the board, stating that the board in the past year held four meetings, examined forty candidates; twenty registered pharmacists' certificates were issued, fifteen assistant pharmacists', and five failed to pass the required examination. J. S. Robinson, of Memphis, was reported as having received the appointment as member of the State Board to complete the unexpired term of Mr. Lauranson, of Nashville, recently deceased. After considerable discussion a resolution was passed opposing the law removing the tax on alcohol, on the ground that such an act would be of no benefit to the public at large, and a drawback to the retail pharmacists. A resolution was also passed to enact a law relieving the necessity of druggists paying a liquor tax for liquors used in compound prescriptions. A resolution condemning the elimination of the requirement of the colleges of pharmacy that a candidate for examination should have at least four years' experience, was passed after considerable discussion. The name of the association was changed to the Tennessee Druggists' Association. Dr. Wright read a most interesting and instructive paper on "The Microscope as Applied to Pharmacy." This paper was accompanied by specimens and illustrations.

Officers for the ensuing year are: A. B. Rains, president, Columbia; G. C. Childress, Knoxville, and L. M. Martin, Martin, vice-presidents; Will Vickers, Murfreesboro, secretary; George Evans, Shelbyville, treasurer. The place of next meeting was left to the executive committee, Lookout Mountain being, however, favorably mentioned. Crawfish Springs, Ga., was also spoken of. This place is just over the State line and on the outskirts of Chickamauga Park. It was also suggested that arrangements be made to hold, if possible, a tri-State meeting at this point, the Alabama and Georgia associations meeting with the Tennessee association.

A. B. RAINS, New President Tenn. Association.

Messrs. Eli Lilly & Co. made a fine botanical display. This display was in charge of Messrs. Wright & Stockton.

California Druggists and Proprietors.

The following letter has been sent by the Sacramento Pharmaceutical Association to the principal proprietary medicine manufacturers:

Sacramento, Cal., July 19, 1895.

Messrs. ——

Dear Sirs: The druggists of this city at last feel that they have a very serious grievance, and that is in regard to the cutting evil. A department store here (Weinstock & Lubins) has seen fit to put in a line of "Patent Medicines" and "Pharmaceutical Preparations," and are advertising them at cut rates (about cost).

We, having seen the evil results of allowing this thing to go on without remonstrance in other places (San Francisco, for instance), have concluded to fight for our rights, and try to protect our business. Your —— is one of the articles that is cut by the above mentioned store.

There are seventeen druggists here, and besides that we have thirty others in the northern part of the State that belong to our association. Now, what we propose to do, is to put up a line of goods (by the association) such as Beef, Iron and Wine, Sarsaparilla, Emulsion of Cod Liver Oil, Liver Regulator, Liniment, Cough Medicine, Pills, Plasters, etc., etc., and center our strength on these articles to the exclusion of those sold at cut rates. Each member is to pay in $5.00 a month to an advertising fund (which will amount to about $250.00 a month), and advertise our preparations in our local newspapers, etc. We propose to refuse to handle any article put up by a firm that does not keep its goods out of the hands of cutters. We feel that we are compelled to do this as a matter of self protection. We believe that the manufacturers can stop this cutting business if they wish to. If they do not we shall refuse to be the channel through which their goods reach the consumer.

The Owl Drug Co., of San Francisco, together with one or two department stores there, have ruined the retail drug business in that city, and some thirty-six drug stores have failed there during the past year. We, of the northern part of the State, do not propose to sit quietly by and see our business taken from us without at least trying to protect ourselves.

Do you intend to take any steps to assist us so far as your preparations go? We shall urge other druggists throughout the country to organize as we have done and fight on the same plan. Very respectfully,

A. C. TUFTS, President
Sacramento Pharmaceutical Ass'n.
J. C. ING, Secretary.

——The Birmingham, Ala., Druggists' Association has elected as officers for the ensuing year: President, H. H. Sinnige; Vice-President, H. E. Klien; Treasurer, E. Kirk Austin; Secretary, E. B. Norton. Amzi Godden was elected chairman of the Executive Committee. The purposes of the association are for the general elevation of the trade and the mutual benefit and protection of the druggists and public alike. It has been in existence three years, and now embraces every druggist in the city, twenty-two in number, in its membership, and is in a most flourishing condition.

——The druggists and physicians of Amsterdam, N. Y., had an outing at the Aqueduct July 17.

Box and Cartage.

Philadelphia, July 27.—The carting and boxing problem is again agitating the manufacturing druggists in this city, but it is thought that other than mere discussion nothing will be done. Some of the large houses who are in a position to dictate are in favor of charging their customers for the carting and boxing, but as all are not united it is not seen how a change can be made. Some few houses did try to make this charge, but the attempt was so fraught with difficulties that it was abandoned. Other business houses besides the drug trade are also considering the advisability of making a charge for boxing and cartage, but so far the attempt has met with little success.

The Kola Nut in Jamaica.

The U. S. Consul at Kingston, Jamaica, reports that the climate and soil of that island are adapted to raising the kola nut. Very little attention, however, has been paid to its cultivation until the last few years; but, in consequence of the attention of planters being called to it by the directors of public gardens, and a demand having sprung up for it in the United States, a great number of young trees have been recently planted, and more attention is now paid to its cultivation than ever before. The exact acreage under cultivation could not be ascertained, but it is estimated that this year's crop will not exceed 10 to 12 tons. In the course of four or five years a crop of 40 to 50 tons is looked for. The gathering of the crop begins about the end of May and lasts four or five months. A most healthy and invigorating drink (non-alcoholic) is manufactured from the nut and is growing in popularity and demand.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Little Rock, Nov. 13.
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Oct. 9.
Colorado (C. H. Wells, Pueblo)—Denver, Sept. 7.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Sept. 3.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Oct. 7.
Florida (Thomas Clarke, Jacksonville)—.
Georgia (H R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Aug. 6.
Kansas (W. C. Johnston, Manhattan)—Wichita, Sept. 11.
Kentucky (Wiley Rogers, Louisville)—
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Aug. 14.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Oct. 8.
Massachusetts Freeman H. Butler, Lowell)—Boston, Oct. 1.
Michigan (F. W. R. Perry, Detroit)—Sault Ste. Marie, Sept. 3.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Oct. 15.
Mississippi (J. C. Means, Natchez)—Jackson, Oct. 1.
Missouri (F. W. Sennewald, St. Louis)—St. Louis Oct. 8.
Montana (G. W. Shoemaker, Billings)—.
Nebraska (M. E. Shultz, Beatrice—Lincoln, Aug. 14.
New Hampshire (George F. Underhill, Concord)—Manchester, Oct. 23.
New Jersey (Albert S. Elwell, Bridgeton)—.
New Mexico (W. C. Porterfield, Silver City)—Albuquerque, Sept. —.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburgh, Rochester, Syracuse and Yonkers.
North Carolina (Wm. Simpson, Raleigh)—
North Dakota (W. S. Parker, Lisbon)—Fargo, Aug. —.
Ohio (W. R. Ogler, Columbus)—Cleveland, Oct. 15.
Oklahoma (C. P. Wickmiller, Kingfisher)—Perry, Oct. 1.
Oregon (Dan J. Fry, Salem)—Albany, Oct. —.
Pennsylvania (Charles T. George Harrisburg)—.
Rhode Island (Wm. E. Cates, Providence)—Providence, Oct. 7.
South Carolina (H. W. Hummel, Charleston)—.
South Dakota (I. A. Keith, Lake Preston)—.
Tennessee (J. O. Burge, Nashville)—Chattanooga, Oct. 16 and 17.
Vermont (J. G. Bellrose, Burlington)—Brattleboro, Sept. 25.
Virginia (E. R. Beckwith, Petersburg)—Richmond, Oct. 15.
Washington (W. H. T. Barnes, Seattle)—.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville) Sheboygan, Aug. 16.
Erie County, N. Y. (L. T. Perkins, 19 Greene ave., Brooklyn)—Brooklyn, Sept. 17.
New York City (Wm. Balser, M. D., 218 East 13th street)—College of Pharmacy building, Sept. 9.

——The pharmacy board of the district in which Galveston, Tex., is located, called a meeting at that place recently and elected J. S. Wilson, president; A. Keissing, registrar, and L. Le Wyn, acting secretary. Messrs. J. Burgheim, J. L. Cunningham and S. A. Brown were appointed a committee to draft by-laws for the government of the board.

——The next meeting of the Maine commission of pharmacy will be held at Portland, Wednesday Aug. 14.

——Gov. Sheldon, of South Dakota, has appointed J. N. Blesser, of Grant County, a member of the State Board of Pharmacy.

——The next examination of the Michigan Board of Pharmacy will be held at the Hotel Iroquois, Sault Ste. Marie, September 3, 9 A. M.

——The South Carolina Board of Pharmacists met at Columbia, July 17 and 18. and examined three candidates, of whom one, C. P. Du Bose, of Camden, passed.

——The members of the Wyoming Board of Pharmacy, appointed by the Governor, are L. L. Dawes, Rock Springs; E. L. Fish, Sheridan; C. A. Desmond, Laramie City.

——The District of Columbia Commissioners of Pharmacy have placed on the register as registered pharmacists the names of Messrs. Grafton, D. P. Bailey, Bernard O'Donnell, Roach Abell and E. Cory Nalle. These gentlemen successfully passed the examination held by the Commissioners on the 8th instant.

——The Tennessee Board of Pharmacy met at Mount Eagle, July 16. Certificates of registered pharmacists were granted to W. V. Spanning, D. W. Dozier, F. C. Smith and J. F. Murray. L. P. Hanner, H. W. Lipscomb, F. B. Ordway and H. M. Childress were granted certificates as registered assistant pharmacists.

——The Ohio Board of Pharmacy at its meeting in Toledo, July 16, examined thirty-seven applicants for registered pharmacists' certificates, and twenty-five for assistants' certificates, a very small class for that board. The results of this examination will appear in a subsequent issue. The board holds its next meeting for examination at Cleveland, Tuesday, Oct. 15.

——The Board of Pharmacy for the 16th Judicial district of Texas met in Gainesville July 17, and held an examination of applicants of whom the following passed: C. Lipscomb, Denton; John L. Cecil, Gainesville; J. E. Hendricks, St. Joseph; J. H. Hadley, Nocona; H. Westlake, Nocona; J. A. Robertson, Bowie; H. T. Herndon, St. Joseph; J. T. Roberts, Whitesboro, and H. M. Hall, Dallas.

——The Missouri Board of Pharmacy at its recent examination held in Sedalia, granted certificates of registration to the following applicants: E. J. Lyons and G. W. Scott, Kansas City; G. L. Blatchley, Fort Scott, Kan.; George R. Cooper, Mayview, Mo.; Nat. T. Durham, Excelsior Springs; W. B. Kelling, Savannah; J. H. Kellogg, Bullion; W. Kimmons, Republic; Elgin Mallett, Trenton; J. W. Smith, Greenwood; J. W. Smith, Slater; E. W. Steele, Slater; E. W. Taylor, Marceline, and L. D. Tisdale, Marshall.

——The Arkansas State Board of Pharmacy met in the Merrell Institute in Pine Bluff, July 12, with J. M. Anderson, Will. L. Carr and W. W. Kerr present. There were nine applicants for registration, of which number only one, Dr. Thos. Douglass, of Ozark, was successful. The board also licensed John T. Sanders, of Forrest City, on his diploma from the St. Louis College of Pharmacy, and L. Parker Wiggins, of Hope Ark, on his examination before the Missouri Board of Pharmacy. The next meeting will be held in Little Rock on Wedensday, Nov. 13 next.

——The Minnesota Board of Pharmacy met recently at the university to hold the midsummer examination of candidates for registration as pharmacists and assistant pharmacists. The class numbered sixty members and the following persons were admitted to registration as pharmacists: Walter F. Williams and B. C. Johnson, of Minneapolis; George H. Cameron, Edward J. Fuchs, Herbert M. Straight, Charles E. Young, of St. Paul; William F. Anderson, Rush City; Roy R. Bell, Grand Rapids; Edward W. Dorr, Austin: Herbert W. Hosmer, Northfield; Charles H. Hilemann, Arlington; Frank F. James, Ely; Floyd W. Kingsley, Mazeppa; Edward O. Lynders, Sacred Heart; Frank L. Nash, Hudson, Wis.; Lewis T. Olson, Kensington; P. Edward Oliver, Le Sueur; George Lindmark, Rush City. The following were granted registration as assistant pharmacists: Charles A. Bacon, August L. Baeckman, Rudolph H. Heck, Otto Mannerud, Charles H. Quinn, Thomas E. Rafferty, Uno Sodergren, E. A. Smith, Richard Messing, Enoch Haugeseth, John B. Christgau, Louis B. Adams, Knute A. Johnson.

——The California State Board of Pharmacy met at 113 Fulton street, San Francisco, July 10, and remained in session until the 15th, inclusive. The election of officers resulted in the election of S. H. Melvin, of Oakland, as president, and John H. Dawson as secretary. The following named were granted registration as graduates: O. Richter, C. F. Stange, C. E. Keller, G. I. Ross, E. Goodman, C. M. Wollenberg, W. M. France, I. Tobriner, T. Worth, J. G. Ronaldson, E. B. Jorgensen. The following named passed a satisfactory examination, and are registered licentiates: J. Norton, G. L. Gerard, V. R. Cragin, E. W. Eckardt, F. H. Eggert, F. T. Duncan, J. L. Lengfeld, Guy Miller. The following named passed a satisfactory examination and are registered as assistants: J. A. Vollmer, J. J. Crowley, A. H. Chelgran, W. J. Strain. The following named were allowed to register as assistants on the licentiate examination: J. W. Laurence, O. J. H. Schlott, G. O. Wilson, W. J. Jackson, C. M. Brink, F. J. Sherwood. An applicant for licentiate certificate was detected referring to a book and was expelled. A resolution was passed to the effect that it is the understanding of the board that reregistration of practicing pharmacists must be kept paid yearly, otherwise the certificate would lapse, and should registration be again required, an examination would be necessary. A special meeting will be held at Hollenbeck Hotel, Oct. 7, 9 A. M., at Los Angeles, and the regular meeting in San Francisco Oct 9.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ARKANSAS.

Hot Springs.—R. H. Smiley & Co., now R. H. Smiley.
Pine Bluff.—Ingram & Coles, now J. A. Coles.

CALIFORNIA

Woodland.—Pond & Lawson, dissolved.
San Francisco.—Beaizley & Hempstead, now George T. Beaizley.

COLORADO.

Leadville.—Harry T. Brown, Harrison ave. and 6th st., new store.
Fred. Luedke, now Luedke & Welborn.

CONNECTICUT.

Deep River.—Middlesex Witch Hazel Co., moved to East Haddam.

FLORIDA.

Tampa.—M. Arlund & Co., sold to Mook & Lorengreen.

GEORGIA.

Cave Springs.—Frank Wright & Co., now Frank Wright.

ILLINOIS.

Blue Mound.—J. A. Gleason & Co., now J. A. Gleason.
Chicago.—C. A. Albrecht, W. Division and Paulina, sold to C. Heck.
Gillespie.—F. S. Boasinger, sold to Joseph Querbach.
Yorkville.—Knudson & Hallock, dissolved.

INDIANA.

Huntington.—Walter & Trixler, will dissolve.
Lafayette.—Wm. H. Vawter, now Vawter-Boggs Co.
La Porte.—M. D. Wilber, deceased.
Lebanon.—Fall & Long, now Long & Stanley.
Princeton.—P. H. Curtner, discontinued.

IOWA.

Boone.—Barrett & Cagwin, dissolved.
Des Moines.—O. C. Schneider, sold out.
Schaller.—T. J. Andre & Co., sold to W. R. Brooks.

KANSAS.

Clay Centre.—B. Holzgang & Co., now B. Holzgang.
Galena.—D. S. Thornton, sold to Thomas Bailey.
Hiawatha.—O. A. Kentner Drug Co., sold to Sprague & McFadden.
Pittsburg.—Fred. Williamson, sold to L. W. Ash & Co.

KENTUCKY.

Bardstown.—A. J. Mattingly, sold out.
Wood & Wilson, dissolved.

LOUISIANA.

New Orleans.—Geo. J. Mattingly, deceased.

MAINE.

Portland.—F. H. Power & Co., sold to W. J. Aulbach & Co., 216 Middle st.
G. M. Young, 489 Congress st., new store.

MARYLAND.

Cumberland.—Trustee of H. Elliott, sold to J. L. Martin; will be known as South Cumberland Pharmacy.

MASSACHUSETTS.

Clinton.—J. H. Chadwick & Co., dissolved.
Fall River.—W. E. Barrows, 234 South Main st., new store.
Holyoke.—Comtois & Co., sold to T. F. Coady.
Lawrence.—Lawrence A. Malloy, new store.

MICHIGAN.

Belding.—W. I. Benedict & Co., closed by sheriff.
Detroit.—Isaac M. Brown, damaged by fire.
Grand Rapids.—Dr. Lemuel D. Putnam, deceased.
Michigamme.—H. J. Atkinson, moving to Harbor Springs.
Mt. Clemens.—Lacy & Co., have bought stock of Ameel-Brennan Co., Ltd., and reopened.
Reese.—A. M. Weide, sold to George M. Jordon.

MINNESOTA.

Bird Island.—I. S. Gerald, sold to Paul Winnegge.
Gray Eagle.—J. W. Young, burned out.
Redwing.—Olson & Ellingson, now L. M. Ellingson.

MISSISSIPPI.

Bowling Green.—Gulledge & Wiley, now P. M. Wiley.
Indianola.—A. L. Cannon, sold to the Indianola Drug Co.
W. B. Martin, sold to the Indianola Drug Co.

MISSOURI.

Springfield.—Brasher Bros., now W. L. Brasher.

MONTANA.

Livingston.—Bender & Husted, now Geo. W. Husted.

NEW YORK.

Albany.—Thos. E. Walsh, damaged by fire.
Amsterdam.—A. J. Sherburne, 8 Main st., new store.
Brockport.—Geo. H. Tosier, sold to Thomas H. Dobson.
Port Ewen.—Montanye & Wells, sold to Charles Card.

NORTH CAROLINA.

Jacksonville.—R. P. Hinton & Co., sold to Dr. E. L. Cox.

OHIO.

Cleveland.—Dr. J. F. Armstrong, 1164 Clark ave., sold to E. Bejick.
W. H. Burkhart, 890 Cedar ave., new store.
Cleveland Chemical Co., incorporated; capital, $5,000.
E. H. Richards & Co., 890 Cedar ave., discontinued.
Albert Wood, 1270 Clark ave., sold to Phil Lehr.
La Rue.—J. W. Gearhart, assigned to Frank D. Rosebrook.
Lima.—Fred. Schiebenzuber, removed to Dayton, O.
Mt. Blanchard.—John Elder, sold to Dr. S. L. Clark.
Newark.—Geo. D. Grasser, closed.
Orangeville.—Blair's drug store, burned out.

OKLAHOMA.

Guthrie.—A. C. Hixon & Co., sold to Edward Nichols.

OREGON.

Astoria.—The Estes-Crain Drug Co., incorporated.

PENNSYLVANIA.

Bainbridge.—G. W. Beane, deceased.
Erie.—Disbrow & Suerken, now B. F. Disbrow.
A. C. Jackson, closed.
C. W. Nick, 2404 Peach, sold to H. G. Dumars.
Millersburg.—The store of the late M. B. Miller sold to John W. Starr.
Philadelphia.—Charles Doerr, 2133 Ridge ave., deceased.
Union City.—J. S. Thompson, sold to E. W. Patten.
Williamsport.—J. Miles Yost, 24 W. 3d st., new store.

RHODE ISLAND.

Woonsocket.—Rousseau & Brown, Main and Hamlet sts., new store.

SOUTH DAKOTA.

Marion Junction.—Marion Junction Drug Co., incorporated; capital, $5,000.

TEXAS.

Abiline.—Bass Bros., burned out.
Austin.—Dr. J. Tobin, assigned.
Corrigan.—T. D. Wilson & Bro., burned out.
Hillsboro.—The Hill County Drug Co., assigned.
Leggett.—J. J. Pinckard, now Cliff J. Pinckard.
Montague.—Covey & Titworth, now W. W. Covey.
San Antonio.—Dowling & Smith, now J. W. Dowling.
Whitewright.—Howard & McGaughy, out of business.

UTAH.

Logan.—Riter Bros. Drug Co., will open branch at Montpelier, Idaho.

WASHINGTON.

Chehalis.—W. C. Marion, damaged by fire.

WISCONSIN.

Eau Claire.—Dr. A. Montgomery (Swan Drug Store), sold to Godding & Carey.
Madison.—O'Connor & Williams, now Edw. Williams.
Omro.—C. S. Donty, sold to Chas. Campbell.
Superior.—Godding & Carey, Tower ave., sold to J. Herb.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

TAX-FREE ALCOHOL.

Chicago, Ill., July 14, 1895.

To the Editor:

In the issue of the 11th of July you publish an effusion on Tax-free Alcohol, by a Mr. Beringer, of some four columns of your valued jonrnal. What relation Mr. B. holds to the retail drug trade I have not been able to learn, although I have made inquiry of the officers of the Philadelphia Colege of Pharmacy, before which institution he, with several others who are not actively engaged in the retail drug business, have been doing considerable shouting for this "free fire water." As a member of the college, I am aware that the views as set forth at these pharmaceutical meetings on Tax-free Alcohol are not representative of the college membership. Therefore, I, as well as many thousand other retail druggists of this country, would be pleased to hear from some colleague who is actually engaged in the retail drug business, and knows what he is talking about, to inform us how we are to obtain Tax-free Alcohol under the provision of the law as it was passed by the last Congress, and this alcohol not to cost the retail druggist more than it costs him now. There is no sentimentality, except the matter of dollars and cents, on the part of us, who are protesting against accepting this "Boomerang" of Tax-free Alcohol by the drug trade of this country. Yours respectfully,

ALBERT E. EBERT,

(Note.—Through error, it was stated that Mr. Beringer's paper was read at a pharmaceutical meeting of the Philadelphia College of Pharmacy. It should have been credited to the Alumni Report, in which it was published.—Ed.)

SHORTER HOURS AGAIN.

254 W. 39th street, New York, N. Y.

To the Editor:

Since I wrote my last article on shorter hours for drug clerks, which was published in the Era recently, numerous other letters have been printed in the morning and evening World of New York. It is very encouraging to note that a good many clerks awoke to the occasion and wrote lengthy answers on the subject of shorter hours. As drug clerks we are very much indebted to the editor for his wise and lengthy editorial on the above question, which showed us how to proceed in order to solve the drug clerk question of to-day. The only remedial agent to alleviate the present condition of things among clerks is to ventilate their feelings in the many daily papers, and also in the Era. By so doing they will get the public interested, and also drug clerks in general. Now the blue laws are about to be enforced in New York City, which means that all places of business shall be closed on and after certain hours on Sunday, a law which will in all probability close the soda fountains—this means little or much to the average drug store of to-

day. Is not the time near at hand when drug stores will be closed on Sundays, with the exception of a few hours in the morning and at night, and is not the final emancipation of the slaves in drug stores near at hand? To the average mind this may not seem feasible. But it is as possible as feasible, if we look at it in the right light. New York City has nothing to do with the fact that there should be in a space of 10 blocks a dozen stores open every Sunday from 7:30 A. M. to 10:30 P. M., nor do the laws of New York require it; then why is it so? If stores were closed on Sundays, with the opening in the morning and at night, the question arises among owners of stores, Would we realize that amount through the week which we might lose on Sundays? The question could not have any other answer than they would realize the sum lost, and gain more in health.

It is true that the public knows that a grocery is closed after 10 A. M. Sundays, consequently they will not try to get groceries, but will have to do without them until Monday morning.

The very same may be said of a drug store or any other business. People will provide medicines for themselves on Saturday if they know that the drug stores will be closed on Sunday.

I hope to have some one's opinion on this letter in the Era, and I strongly advise every drug clerk who has the grave question of shorter hours at heart to read the Era, for he will find a very true friend in it to help the cause along through its columns.

THOS. P. KELLY, Ph. G.

Wants to be Registered.

The following is a letter received by the secretary of the Oklahoma Board of Pharmacy, and which leads him to think that the writer "may be a good doctor, but is certainly not a good druggist." The chirography cannot be reproduced:

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——Adolph Pohl, the St. Louis druggist who was located at 1400 Eliott street, has sold his place to Alfred Specht.

——The excursion given by the Alumni Association, of the St. Louis College of Pharmacy, Thursday evening, July 18, proved a pronounced success. A large crowd was in attendance.

——The Weber Chemical Company, of St. Louis, has been incorporated with a capital stock of $5,000. The incorporators are: A. H. Weber, C. H. Kluenberg, T. F. Baylis and Clarence L. Woodward.

Book Reviews.

Nineteenth Century Handbook on the Manufacture of Liquors, Wines and Cordials Without the Aid of Distillation, etc. By William Bailey Bryant. Cloth, 300 pages. $5. Owensboro, Ky., Industrial Publishing Co.

As the title of this book indicates its purpose of teaching people how to make compounds supposed to be distilled without the trouble or expense of distillation, the preface is natnrally looked to as a means for learning the author's excuse or motive for advocating the manufacture of factitious beverages. The preface, that is, such parts of it as are intelligible, is not disappointing in this respect. One reason for publication is stated thus: "Thousands have acquired wealth from a knowledge of this business, and have passed from the stage of action without leaving to the world the marks of their progress and improvements." This reluctance on the part of wealthy factors of factitious liquors to let the world into their secrets is perhaps unfortunate, but it is evidently due to a certain delicacy on their part which impels them to refrain from publishing the fact that their products are fraudulent concoctions. It is barely possible, however, that our author is a cleverly disguised temperance advocate, for if his formulas have been "employed by all the most extensive manufactnring establishments of Europe," a reading of them ought to cure the most aggravated case of the drink habit. This idea seems to find support from the following: "But few of the dram-drinking masses acquainted with the modus operandi of a business which affects, to no inconsiderable extent, both health and wealth, and that their own ignorance has often tested the strength of their constitutions through the medium of 'A pure old Article,' or 'A choice old Brand,' and hence, the obvious necessity of a work upon this subject will not be denied, thus removing many popular errors regarding the production of liquors; and the dissemination of such knowledge would crush the stupidity of manufacturers, and articles of spirit so often found in commerce, containing deleterious adulterations, would disappear, which would strip intemperance of many of its attendant calamities."

We confess that this sentence is too long for us to grapple with as a whole, but we think it means that people would stop drinking if they knew something about the composition of many of the liquors upon the market. We do not insist upon this interpretation, as there may be several others. The formulas, however, are quite plain. We are told how to conceal the odor and taste of fusel oil by the use of aromatics, etc., and are cautioned against the use of adulterated (?) ethers in adulterating the liquors which we desire to make. These ethers "when found at the druggist's are usually sold for an advance of one hundred per cent.; this is partly owing to the cupidity of the dealers, and the expense incident to the transportation of the article." Irish and Scotch whisky can be made from common whisky by the addition of grains of paradise, pellitory, creosote, catechu, etc., and they "should always be put up in the same packages that the genuine was imported in." The book is full of comments of the same ingenuous character, and we are told how to make old barrels look like new and vice versa, and how to brand and paint them to convey a certain impression. Red wine can be made of water, sulphuric acid, honey, alum, red beets, logwood, oil wintergreen and grains of paradise. As honey is the only article in the formula of value, we are informed that any bright sugar or syrup will answer in its place. We are also told that "a very fine champagne is prepared from fermented turnips and radishes, but nothing superior to some other formulas." In the matter of syrups we are told that "like every other commodity in commerce, they should be manufactured to suit the views of all grades of purchasers."

While sufficient details are given to meet the requirements of all grades of depravity, the author evidently forgot to caution his readers to carry on the practices which he suggests in a cellar with the aid of a dark-lantern, but perhaps such precautionary measures will suggest themselves to those who have a leaning toward the preparation of fraudulent liquors.

Activity in Pure Food and Drug Affairs.

Cincinnati, July 29 (Special).—It has just developed that a very exclusive session was held in this vicinity by the officers of the Ohio Food and Dairy Commission last week. With a view of eluding the vigilant reporters the steam launch Henrietta was chartered by one of the deputy commissioners, ostensibly for the purpose of taking his family and a few friends on a short trip up the river, but, as subsequent developments proved, the steamer was really engaged for the accommodation of the State officials. While it has been impossible to ascertain definitely what was accomplished at the conference or what was the character of the pure food programme outlined, it can, however, be stated that the modus operandi of the coming renewed campaign was discussed and arrangements made for a lively agitation in all quarters. The participants in the secret confab were Wm. R. Black, Assistant Commissioner, Findlay, O.; Dr. J. A. Sterrett, Chief Drug Inspector, Troy, O.; G. A. Luebbing, Assistant Commissioner, Cincinnati; Dye & Dye, State's Counsel; Professor C. T. P. Fennel, Chief Chemist, and Deputy Drug Inspector Charles Rentrop. It is reported that the officials are about to commence operations in the smaller towns adjacent to Cincinnati, but as this is a favorite ruse of the Commission to divert attention from this city, very little credence is given to the report.

——Edwin Dikeman, one of the oldest druggists at Goshen, N. Y., died of paralysis of the bowels July 18, aged 64. He was prominent in the affairs of his town and at one time was president of the Orange County Pharmaceutical Society.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

Tufts College Medical School, Boston, offers special inducements to students who have already taken courses in pharmacy. The next session commences October 2. Address Dr. C. P. Thayer, Secretary, 74 Boylston street, Boston, for particulars.

The fine chemicals and reagents manufactured by the Dr. L. C. Marquart Chemical Works, Beuel-Bonn on the Rhine, Germany, are simply the best that can be made. They are guaranteed, and there is no risk in specifying them on your orders.

Pale Select Export Beer made by the Koppitz-Melchers Brewing Co., Detroit, Mich., has keeping qualities which make it a desirable article to have in stock, and its careful brewing and uniformity of alcohol percentage give it the confidence of the physician.

An easy means for getting a cork out of a bottle is appreciated by customers, and so small a thing as a corkscrew has its influence upon trade. The cost of such an article suitable to attach to every bottle of medicine sold is nominal, and the Clough Corkscrew Co., Alton, N. H., will send samples to prove it.

The doctor does not care to use cheap, shabby-looking prescription blanks, neither does the druggist care to pay a high price for such articles. J. B. Burr & Co., Hartford, Conn., make blanks and quote prices which will please both the parties interested. Their samples, which are free, will show this.

Antikamnia and its various combinations with quinine, salol, etc., are of great service to the physician, and an interest in their therapeutical possibilities extends to the pharmacist. The Antikamnia Chemical Co., St. Louis, Mo., will be glad to furnish literature bearing upon this point.

Smith, Benedict & Co., wholesale druggists, who have long been at 24 and 26 Tremont street, Boston, have moved to their new building, 91 to 95 Portland street. The change gives them more commodious quarters, and it is their intention to enlarge their stock of drugs and druggists' sundries.

When you remodel your store or start a new one, you will want the fixtures a little different from your neighbor's, also a little bit finer. The Cassel-Garside Mfg. Co., of Peoria, Ill., are in business on purpose for druggists who want original designs for store fixtures. They want to hear from you when you have made up your mind to fix up a little.

The University College of Medicine, Richmond, Va., has a department of pharmacy, the next session opening on September 12, 1895. Pharmacy students are allowed to attend collateral branches in the medical curriculum without additional expense, the annual fees being $60. Send for catalogue to J. Allison Hodges, the corresponding secretary.

People all over the United States read "Jayne's Medical Almanac and Guide to Health," and at this season of the year their attention will be directed to the Carminative Balsam. How is your stock?

Mrs. Gervaise Graham, 1424 Michigan avenue, Chicago, has just got out a new edition of booklets describing her toilet preparations. They sell the goods, and are furnished free to druggists upon application.

Antitoxine, made by the British Antitoxine Mfg. Co., London, Eng., is an antipyretic and analgesic especially applicable in cases where there is weak heart action, a complication which often contraindicates other preparations of this kind. Samples and literature will be sent upon application to the Chas. N. Crittenton Co., 115 Fulton street, New York.

The Fletcher Cocktail Co., of Newark, N. J., report a gratifying increase in their trade in all parts of the country, and some recent shipments to South America are additional evidences to them that their goods have a definite demand to supply. Their announcement in this issue has been revised, and their prices and reference to half-pint sample are of interest.

Gypsine will meet more demands than any wall finish on the market. Its tints are beautiful, and it works excellently in relief decoration. It is also an excellent finish for inside surfaces of large buildings, such as factories, etc., being durable, fire proof and cheaper than paint. Write to the Diamond Wall Finish Co., Grand Rapids, Mich., and they will show you how to get people interested in both yourself and Gypsine.

Of course it is too early for people to think of buying hot water bags, but it isn't too early for the dealer who intends to sell some next winter. Whitall, Tatum & Co., have one, however, which is a seller the year round. It is their Mystic No. 50 Combined Fountain Syringe and water bottle, and should be represented in your stock for the coming season.

Dr. Graf's Byrolin is an ideal aseptic and antiseptic ointment, is also an excellent cosmetic for the hands and face, and will meet the demands of a great many customers through this possession of several qualities. It comes in collapsible tubes, pays from 80 to 100 per cent. profit, and a showcard with 8 tubes is furnished free with every order. Richard F. Fischer & Co., 96 Maiden lane, New York, are sole agents.

No one will complain if the druggist's counter-prescribing is along the lines of preventive medicine, and of all the things which he can recommend there is nothing more appropriate, and that will be of better service than a sterilizer. Of course it should be a good apparatus, for this kind is easiest to sell at a good price. Suppose you find out about Arnold's Steam Sterilizer made by Wilmot Castle & Co., Rochester, N. Y. They will send you circulars and booklets.

F. E. McAllister, 22 Dey street, New York, is the pioneer in the bird seed and bird food business, and his various specialties are well known all over the country. His business as a seed merchant and importer allows him to put goods upon the market in the most attractive packages, and at lowest prices. The latter are referred to in his advertisement in this issue, and the goods can be procured of any jobber.

Every druggist, of course, wants the best and purest beeswax, but in addition, both he and his customers want it in handy packages. In selecting this kind it is a good idea to have the price list of W. H. Bowdlear & Co., 36 Central Wharf, Boston. It tells all about the sizes of packages for retailing, quantity in original cases, and gives other information valuable to the druggist who wants to do his best with beeswax.

Goldbeck's Malt Extract is made for druggists only, and is made under conditions which insure a perfect product. These conditions are such as can only be found in a large brewing establishment with its careful supervision of details, ample facilities, and buying and manufacturing upon a large scale. These are all found at 415-427 Callowhill street, Philadelphia, in the establishment of John F. Betz & Son, Ltd., and the prices which they are able to quote will interest the drug trade.

A whisky which is guaranteed as to its purity is the best one to sell for medicinal purposes, but the guarantee should come from a responsible firm—one that you know. Shenandoah Pure Rye has the following on the label: "This brand of whisky is guaranteed to the consumer as a pure copper-distilled rye whisky for family and medical use. Double distilled from selected grain and bottled at distillery, Clark Co., Virginia." It is signed Robert Stevenson & Co., 92-94 Lake street, Chicago.

Dr. Simpson's Maternity Packet, made by Johnson & Johnson, New York, is something which every physician will indorse and prescribe if his attention is called to it. In fact it will save the physician so much trouble that he will thank the druggist for being able to supply such a demand. The pharmacist does much talking and thinking, abstractly, about the relations between doctors and druggists, but here is something practical which has utility for one and profit for the other. Write to the manufacturers for prices.

An oil of cloves, which is guaranteed to be made from clove buds only and will conform to all the tests of the U. S. P., is a product which the careful dispenser wants. Such is furnished by Fritzsche Bros., 34 Barclay street, New York, in 4 ounce, 8 ounce, 1 pound and 6 pound bottles, quantities which will suit the requirements of all pharmacists. There is some interesting reading regarding Oil of Cloves in this firm's "Circular of Information, No. 5." which will be mailed free upon application.

"Quadruple" is the name adopted by the J. Hungerford Smith Co., Rochester, N. Y., for their new style of fly paper. Each large sheet can be readily separated into four smaller ones, if desired, each being a complete sheet, or it can be used as a large sheet as heretofore. It is more convenient for the trade than small sheets packed separately, and is lower in price. The border of "Sure Catch" being sticky, and more than the field, it catches and holds flies, none crawling off, and the consumer gets much more fly-catching surface than on other kinds. The qualities of this paper are recommended by the manufacturers as fully equal in every respect to any fly paper made, and superior to any in the patent border and quadruple sheet.

The following firms have recently been furnished with new soda water apparatus by the Hartt Manufacturing Co., Chicago: F. G. Waiss, H. W. Weihe, Charles Rice, J. P. Considine, W. F. Eggert, J. X. Rivard, J. P. Garner & Co., F. Schrage, Bruno Batt, Standard Pharmacy, Gustaf Callvin, V. Kremer, E. L. Stahl, F. J. Berger, G. Ronga, C. H. Burbank, Chas. Hirtzler, Chicago; T. D. Davis, Louisville, Ky.; Showers & Hays, Elizabethtown, Ky.; M. Kenney & Son, Burton, O.; Harlan Bros., Des Moines, Ia.; Parker & Sawyer, Dixon, Ill.; L. E. Whitman, Marinette, Wis.; E. W. Burch, Peoria, Ill.; W. Bradley & Co., Evanston, Ill.; Sisson & Thompson, Kahoka, Mo.; Leedom & Shoemaker, Lancaster, Mo.; Sheldon & Cowles, Des Moines, Ia.; F. W. Schmidt, Gillespie, Ill.; Wilson & Crane, Clinton, Ind.; J. Bauman & Son, Oshkosh, Wis.; S. F. Sheffer, Ottumwa, Ia.; E. A. Hunter, Odell.; A. A. Dunton, Kansas City, Mo.; Geo. Gazette, Green Bay, Wis.

David Starr Jordan has said: "You will go to college for better or for worse. Where shall you go? The answer to this is simple, get the best you can. You have but one chance for a college education, and you cannot afford to waste that chance on a third or fourth rate school. There is but one thing that can make a college strong and useful, and that is a strong and earnest faculty. Buildings, departments, museums, courses, libraries, catalogues, names, numbers, rules and regulations do not make a university. It is the men who teach. Go where the masters are in whatever department you wish to study. Do not stop with the middlemen. Go to the men who know, the men who can lead you beyond the primary details to the thoughts and researches which are the work of the scholar."

Prospective pharmacy students will do well to ponder over these words. The Philadelphia College of Pharmacy not only has the buildings, museums, libraries, laboratories and all the other matters which go to make up a great institution, but she also has the men, from whom the student is to draw his inspiration, that are masters in their respective branches. A great teacher never fails to leave a great mark on every young student with whom he comes in contact.

Which Would You Choose?

In a recent conversation with a druggist of fair intelligence, he made the statement that he did not believe a nicely fitted drug store would succeed in attracting any more trade than one ordinarily fitted. As there are a great many more who seem to share in this belief to a greater or less extent, and as I think the idea is often encouraged by many engaged in fitting stores whose ability hardly reaches beyond ordinary fittings, I wish to make a few remarks on the subject which may lead to a different conclusion. I will ask a few pertinent questions, leaving their answers to your own good judgment. Were you intending to spend a few days at a hotel and you had the choice of an elegantly fitted one, table, service and price being equal, and a poorly fitted one, which one would you select? Going on a journey and you had the choice of routes, one with elegant cars and the others out of date, everything else being equal, which would you select for yourself and friends? About to cross the ocean and you had the offer of your choice of lines at the same price, would you take the best, the fastest and up-to-date line, or some line 20 to 50 years behind the times? How do you suppose you could succeed in running a stage-coach or horse-cars, even, to compete with an electric trolley line? Even the back towns are waking up and you are catering to a public who are no longer ignorant of the comforts and conveniences of modern life. They demand them, and if you don't furnish them, what then? Well, there are others. Some of these are shrewd enough to notice which way the index finger of progress is pointing. I have just had a visit from one of my customers who is located in Georgia. About six years ago I fitted a store for him in a town where there were then five, this store making the sixth. He had formerly been in the drug business in another section of the State, and was unknown as a druggist in the town in which he was locating. I sold him so nice a store that one of his competitors made the remark that if he had all the business in the town he couldn't pay interest on his investment. About three years ago I sent him a second store for the same town, one more elegant than the first, and to-day he informs me that there is only one other store in existence in that town besides the two built by me. The old fogies have had to get off the track, while he has prospered beyond his greatest belief. In that town there are now only three stores, two of which were fitted by me. Of the other five the best one only remains. Evidences like this, recurring constantly, are not accidents, but the result of good judgment properly administered, and I am spending my life in contact with those who are having these contrasts in their business life which changes from ordinary to best surroundings give. These experiences and conclusions which I draw from them are given by me for the benefit of others. Placed in the position which gives me the best opportunity of any one in the world to form a comprehensive judgment of cause and effect, which I carefully and faithfully try to place before the druggists for their benefit, it is certainly no fault of mine if they still prefer to rely upon their own judgment and conclusions, based upon a field of observation a hundred times narrower than my own. Not every one can do a large business. There are those, if they had ever so much room and opportunity, who would still continue to travel around in a peck measure. Some are broad in one education and narrow in another; straining at a gnat, they swallow a fly; there are reasons and excuses, of course. The all-round education of a druggist isn't one calculated to develop breadth. Yet, in spite of this, there is occasionally one who has broad and comprehensive views of business, and has developed his own on those lines. When I meet one of this kind I can help him beyond measure, while the kind who seem predestined to crawl and keep their stomach on the earth are much more difficult to benefit. These may be unpleasant truths, but are truths just the same. In so far as your ability is concerned, your fortune also rests in your own hands. Men of capacity make opportunity while others wait her coming, and even then don't recognize her till she has passed and it is then too late. It is for you to judge to which class you belong. Human nature turns toward the beautiful naturally, as the plant turns toward light and warmth. C. H. BANGS,

Boston.

Business Improving.

Barlow Bros., Grand Rapids, Mich., write: "It is a fact that we have never been busier in our shipping blank department than during the last six months, the 'hard times croaker' to the contrary notwithstanding. Last month we turned out a little over 700,000 blanks, and the present month we will turn out over 1,000,000. The larger share of our orders comes from the Eastern manufacturers, and we consider our trade a fair index of general trade, as shippers certainly have no use for shipping blanks unless they are making goods to ship."

Liquid Malt Extracts are becoming more popular as remedies for various nervous disorders, convalescence, etc., and the percentages of extract and alcohol determine the best extract. Braunschweiger Mumme, made by the Long Island Bottling Co., Brooklyn, N. Y., has just the proper percentage which gives it the physician's preference. Send for price list.

——Fire damaged the Rudolph pharmacy, owned by I. M. Brown and situated on East Congress street, Detroit. It is believed that it was the work of some incendiary, who first robbed the cash drawer and then set fire to the building. Mr. Brown is a new comer in Detroit, having moved there from Mobeetle, Texas, about six months ago.

——Rudolph Fischer, the St. Louis druggist at 4300 Easton avenue, has joined the other St. Louis Benedicts, and has chosen for his life partner Miss Emma Ehrhardt, a handsome and accomplished young lady of his city.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Cassia Flowers, Colocynth Apples, Chrysophanic Acid, Oils Anise, Cajeput, Cassia, Spearmint, Jalap, Italian Fennel, Veratrine.

Declined: Aloin, Acetanilid, Balsam Canada Fir, German Benzoic Acid, Canary Seed, Gum Chicle, Potassium Cyanide, Salicylic Acid.

New York, July 30, 1895.

While the movement into channels of consumption is seasonably slow, and the volume of business of comparatively meager proportions, it is gratifying to note that there is no lack of confidence in the future, the continued steady preparations in progress proving beyond a doubt, that an active demand is anticipated during the approaching autumn season. All indications are favorable to an early revival of prosperous conditions, and it is claimed that nothing less than some unforeseen calamity can check the gradual but steady improvement in the various departments of trade and commerce. With the possible exception of some signs of a revival of speculative feeling, which was referred to in our last issue, nothing of a disturbing or unfavorable character shows itself on the surface of the general drug market. Regarding those signs the developments are slow, and are not as yet, of a serious enough nature to occasion the slightest uneasiness. Sharp competition between large dealers has forced prices of a few articles to a decidedly lower level, but, on the other hand, efforts to control available stocks of several commodities, have resulted in a higher range of values and the majority of the changes have continued to favor holders. Salicylic acid and aloin are among the unsettled articles, and both have further declined, the first named being in a very demoralized condition. Essential oils are receiving increased attention, and the tendency of prices of nearly all leading varieties is toward a higher basis.

OPIUM.—With the exception of a moderate inquiry for case lots and smaller quantities to meet existing wants of the consuming trade, there is little to note in the way of business, but at the same time considerable interest is shown in the article, and while the market at the moment is weak and apparently controlled by depressing influences, the future course of prices is very uncertain. It is generally admitted that stocks are ample and that the unusually large crop now being harvested will place the available supply far in excess of legitimate requirements, but there are contingencies which may arise to prevent any further material decline. Opium is a favorite article of speculation with the Turks and Armenians, and as their profits from the wool industry have been very large this year, it is considered probable that they may attempt to control opium and compel foreign buyers to pay advanced prices. Another factor is the possibility that the Turkish Government may enact an export duty, to partially relieve its depleted treasury. Such action would, of course, increase the cost of importation.

MORPHINE—Is without further quotable change, and a moderate business is reported at the reduced prices noted last week.

QUININE.—The consuming demand has continued active and during the week a large business has been completed at full prices, the market having retained a decidedly strong undertone. American manufacturers and agents of foreign makers report a steady increase in the number of orders received, and second hands are finding it difficult to meet the wants of even small buyers of bulk. The speculative element is almost entirely eliminated, and when the few parcels remaining are disposed of, the situation will practically be under control of the manufacturers.

ALCOHOL—Is unchanged, the market continuing to reflect an unsettled condition with prices more or less irregular.

ALOIN.—Competition between sellers has influenced a further decline of 5c. per lb, but available stocks are light and sales are restricted to small lots to regular consumers.

BALSAMS.—Copaiba is moving rather freely in small parcels at steady, but unchanged prices. Tolu, Peru and Canada fir are all quiet with new crop of the latter offering to arrive at 15c. under spot prices without finding buyers.

SALICYLIC ACID.—The market is very much demoralized, owing to free offerings from makers not in the combination, and values are 3@5c. per lb lower. Even at the decline there is no stability to prices, and it is intimated that further concessions would be made to secure the trade of competitors.

BENZOIC ACID.—The German variety has been reduced 1c. per lb, but there is no change in English.

CHRYSOPHANIC ACID—Has been advanced 75c. per lb, and the quotations are $3.00 for bulk and 20c. for ounces.

ACETANILID—Is easier and about 1c. per lb lower.

COD LIVER OIL.—There is no quotable change in prices, and the current demand is limited, but the market is decidedly strong and holders decline to part with large parcels, feeling confident that values will be higher when the consuming season arrives with its usual active demand. Primary markets are also strong, and there are indications that the article will be scarce.

COLOCYNTH APPLES—Are strong and tending higher owing to the increased cost of fresh supplies; the Trieste variety has been advanced 2c. per lb, and holders offer very sparingly.

CASSIA FLOWERS—Are higher abroad owing to scarcity, and prices here have been advanced for both whole and powdered.

CHICLE—Is weaker and 1c. per lb lower, owing to fresh arrivals from primary sources.

OIL OF ANISE—Continues to harden under the influences noted last week, and prices show a further advance of 5c. per lb.

OIL OF CAJEPUT—Is in reduced supply and firmer with prices advanced for all varieties.

OIL OF CASSIA—Continues to move upward, and some holders have added another 5c. to their selling price.

OIL OF SPEARMINT—Is 10c. higher for all desirable grades, and the demand is more active.

CYANIDE OF POTASH.—Manufacturers of C. P. are quoting about 2c. lower, the decline being due to competition.

JALAP—Has been more active, and several large parcels have been taken from first hands by dealers. There is a steadier feeling among holders of desirable grades, and some have advanced their quotations fully 1c. per lb.

CANARY SEED.—A continued easy feeling is manifest on the part of sellers, and Sicily has been reduced ¼c. per lb.

ITALIAN FENNEL—Is ¼c. higher and firm at the advance.

VERATRINE—Has been advanced 25c. per ounce by manufacturers.

Pamphlets.

"The Boston Picture Book" is the title of an attractive booklet, 36 pages, 6x9, containing one hundred historic and characteristic views in and around Boston, published by Irving P. Fox, 8 Oliver street, Boston.

The marked success of the Standard Dictionary has led the publishers, Funk & Wagnalls, New York, to take advantage of the vast amount of material gathered for its publication by issuing a line of standard school books, in which shall be embodied the results of the philological researches which have made the Standard an authority upon such matters. The series will consist of a Students' Standard Dictionary, of 800 pages, $1.50; Students' Standard Synonyms, $1; Students' Standard Speller and five graded readers.

A very favorable impression of the elegance, convenience of appointments, etc., of the Brown Palace Hotel, of Denver, is conveyed by means of an illustrated book bound in brown and white boards, issued by the management. Twenty pages printed upon Japanese paper describe the hotel, and between the leaves are lithographed views, simulating water colors, of the building and many of its handsome rooms, also some of the "Windsor Farm," upon which the hotel depends for some of the excellencies of its cuisine. The book is a most unique production in the line of artistic printing, and reflects great credit upon the hotel it represents.

The tenth edition of Heimstreet's Recipe Book, published by E. B. Heimstreet, Janesville, Wis., has just been issued, and the very evident success which has made so many editions profitable is certainly a matter of congratulation. The book is bound in boards, contains 104 pages, 5x7, and the contents consist of a choice lot of cooking recipes, directions for dyeing, etc. It is intended for free distribution to customers, but is sold to others at 10 cents per copy. The retail druggist who is interested in advertising methods will find many valuable ideas in this book.

College Catalogues.—Massachusetts College of Pharmacy; School of Pharmacy Ohio State University; Buffalo College of Pharmacy; College of Pharmacy, City of New York.

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ALCOHOL BLANKS.

Section 61, Act of Congress, dated Aug. 28, 1894, provides for the refunding of the Internal Revenue tax on all alcohol used in manufacturing in the arts and in medicinal or other like compounds. Retail druggists to secure this rebate should be prepared to present accurate record and proof of such use. We have prepared for druggists' use some special ALCOHOL BLANKS for keeping a proper record of alcohol used for manufacturing purposes, with full directions for keeping the record and for preparing your claims to secure the rebates. If you are not keeping such records, *these blanks may save you a lot of money.*

If you are a subscriber to the Era, we will send you a package of these Alcohol Blanks on receipt of 16 cents to cover the expense. *To non-subscribers the Alcohol Blanks are strictly net 50 cents per package*, postpaid.

Address

THE PHARMACEUTICAL ERA,
New York.

THE CHICAGO PHARMACY EXPOSITION.

There seems to be some radical differences of opinion among the druggists of Chicago in regard to the proposed World's Exposition of Pharmacy and Hygiene, which is to be held in that city Sept. 2 to 14 next. At the request of some Chicago druggists, we called attention to this matter in our issue of July 18, and what we said was based upon information furnished to us from Chicago. It now seems that President Wooten, of the Chicago Retail Druggists' Association, and F. L. Maguire, manager of the proposed Exposition, take serious exceptions to our remarks, and we are glad to give publicity to their protests in this issue. (See page 189.)

It is difficult to get at the full facts, for the matter has evidently caused some factional differences among the druggists in Chicago. Our correspondent writes that Mr. Maguire is a successful promoter and manager of expositions. It seems that this proposed World's Exposition of Pharmacy and Hygiene is an idea of his, and he approached President Wooten for the privilege of using the name of the association as his sponsor. A committee was appointed to look into the matter, and agreed to allow such use of the name of the association, with the understanding that the association was not to be financially responsible for any of the debts incurred, and was to receive 10 per cent. of the profits for the use of its name. The president, secretary and treasurer were appointed to look into the matter and assist Mr. Maguire. The latter furnishes the cash and the association gives its moral support.

A prominent Chicago druggist writes us as follows: "Maguire is a kind of a promoter. Last season he got up the Pure Food Show in the Battery building. He is a great advertiser and schemer. He got Mr. Wooten's permission to use the name of the Chicago Retail Druggists' Association to boom the scheme. The C. R. D. A. has nothing to do with it as an association, though from the advertisement it looks as if it had. I regret that Mr. Wooten gave him permission to use the name of the association, and I do not think that it will be much patronized by the druggists. It is my private opinion that it is a money making scheme for Maguire, who will get his returns from the renting of spaces and the charging of admission, and the association is to have 10 per cent. of the rake off. Mr. —— tells me that his name is used entirely without his permission, and I don't think the officers should allow the name of the association to be used for such purposes."

So far as the Era is concerned, we have no interest in this matter further than to give all sides a hearing, and to keep our readers advised. It is very evident that the Chicago Association is not giving this exposition, but that Mr. Maguire is giving it for himself, and is to give the association a percentage of his profits for the use of its name. We do not believe that it is for the best interests of an association to allow the use of its name under such circumstances, for it is just such methods that have brought suspicion upon these so-called pharmacy exhibits. We wish that the druggists of Chicago did want to give a pharmacy exposition. Chicago is a good place for such an exhibit, and we would be glad to do all that we could to further its interests if it were supported and promoted by the influential druggists of Chicago, instead of some outside promotor who uses the name of the Chicago Retail Druggists' Association for furthering his own ends, and who has no personal interest in the welfare of pharmacy. We do not criticise the action of Mr. Maguire—it is a legitimate business deal on his part, and we compliment him for his evidences of business ability, but we do not believe that druggists' associations, be they local, State or national, should farm out their titles for such business purposes.

ALCOHOL REBATE.

We are in receipt of a number of letters during the past week from druggists who complain that they cannot get stamped packages of alcohol from their wholesale dealers. There is no good reason why wholesale dealers who live in cities where there are internal revenue offices, should object to furnishing retailers with stamped packages of alcohol. To be sure, it costs them a little extra trouble, but further than this, there is no expense.

A wholesale dealer can transfer the contents of an original package (barrel) of alcohol into smaller containers, and secure wholesale dealers' stamps for these packages without any additional expense. He has to remove the essential features of the stamp on the original package, take it to the Internal Revenue Office and exchange it for the stamps he wants, and of course he must make a careful record of the same transaction, but he is not obliged to pay for the new

stamps. When he sells in packages containing less than five gallons, he is not required to attach a wholesale dealer's stamp, and naturally he is anxious to save himself trouble by selling these packages of less than five gallons. In consideration of the strong probability that the retailers will be able to secure rebates on the alcohol they use for manufacturing, the wholesale dealers ought to be willing to furnish stamped packages, and the retailers should insist upon receiving such. At the same time, it must be admitted that where the retailer's wants are sufficient to enable him to do so, he ought to buy a full package (barrel) of alcohol for manufacturing purposes.

ASSOCIATION ADVERTISING.

In view of what we have published in previous issues, the following correspondence between the publishers of the so-called Official Bulletin of the American Pharmaceutical Association and one of its alleged advertisers, will be particularly instructive to those of our readers who are interested in this subject of association advertising. The wonder is that the officials of the A. Ph. A. allow the name of the association to be used for such business purposes. In the first place nothing more than the official notice was probably necessary, and if the association desired to invite other druggists to attend its meeting, it should pay the expense of the invitations from its own fat bank account, and not farm the job out to some third parties who evidently have no interest in protecting the name or dignity of the association.

FORTY-THIRD ANNUAL MEETING
THE AMERICAN PHARMACEUTICAL ASSOCIATION
At Denver, August 14th to 21st inclusive, 1895.

Denver, July 27, 1895.

Messrs. French, Cave & Co., Philadelphia, Pa.

Gentlemen: We are sending you several copies of the Official Bulletin of the American Pharmaceutical Association's 43d Annual Meeting to be held in Denver August 14th to 21st.

On page 47 you will see your advertisement which will no doubt surprise you, inasmuch as you did not order the same. In explanation we will say that on making up the Bulletin it was found that a half page was not taken. It was suggested that your house would doubtlessly be pleased to have a representation in the Bulletin, especially after you had seen what a creditable undertaking the work proved to be.

We ask you to look carefully over the Bulletin and feel sure that you will be perfectly satisfied to be represented in it's pages. The many compliments we have received on our work from the advertisers make us think that our work has been well done.

We inclose a bill for your advertisement ($30.00 for half page). The price of advertising was the same to every one. Notice that we have given you an exceptionally good space.

Understand, gentlemen, we desire that you shall be satisfied with what you are paying for; it is not our wish to have any unpleasantness on the matter, and rather than that it should be so we would send you a receipted bill.

5,000 copies of the Bulletin were made and mailed all over the country in about an equal proportion.

Hoping that the advertisement will be agreeable to you, we are, yours respectfully,

THE CARSON-HARPER CO.,
J. Harry Carson, Pres.

P. S.—Please make check payable to E. L. Scholtz, Chairman.

FRENCH, CAVE & CO.'S REPLY.

Philadelphia, July 30, 1895.

The Carson-Harper Co., Denver, Colo.

Gentlemen: This will acknowledge the receipt of your favor of the 27th inst. and the same is a disagreeable surprise to us. We received several communications requesting an advertisement from us and without referring to our copy books, we are positive that we answered at least one of these communications decisively and politely. We do not think that you or any other firm has a right to take the liberty that you have taken. We have destroyed your bill, and it is not necessary for you to send us a receipted bill, because we neither want it nor need it under the circumstances.

We sincerely regret that you have taken the liberty of doing what you have done and trust that nothing of the kind will again happen as long as we are in business. Yours truly,

FRENCH, CAVE & CO.

Wanted, a New Match.

Were it possible to institute a comparison and render an unbiased verdict upon the question of the relative value and importance of the different individuals who are now engaged in pushing along that good thing, the world, the chemist would undoubtedly carry off the honors. Empiricism, even in such matters as eating, drinking and wearing clothes, is giving way to a desire to know something of the foundations or origin of many of the common things of life, and the man who deals with atoms is often interrogated. We must have our food, drink, clothing, coals and atmosphere analyzed before we can use them with confidence, and we are necessarily making chemistry one of the most active of the professions.

It is said that demand must precede supply, but in this instance, while this natural sequence is not violated, there is a suspicion that the demand has been carefully nursed by those having the supplies in charge. The chemist, by shaking things in his test tube, has discovered certain things which have alarmed us. We recognize these discoveries as for our own good, and now we wish to employ him regularly to certify to nearly everything which may affect us materially.

Now that we have given the chemist his rank as chief arbiter of our destiny, we are disposed to remind him of his obligations. As he is supposed to understand the proximate constitution of all things, from the theoretical composition of the latest discovered star to the more practical make-up of bricks and mortar, he is quite liable to have all sorts of questions hurled at him. Over in France that very commonplace request, the one which serves to break the ice between perfect strangers and cement acquaintanceships between those of low and high degree, between the confidence man and the reputable citizen, is being addressed to him. People are asking him for "a light." Not for some new illuminating agent in which cost and candle-power will parade in figures, but simply a new match.

The French Government recently appointed a commission to investigate the match industry, with a view of ascertaining if there was not some substance which could be substituted for phosphorus. The well known symptoms of necrosis, blood poisoning, etc., which affect employees engaged in this industry, called for this investigation, and the commission's report is rather disappointing. It can find no substitute for phosphorus, and can only recommend more care in handling it. Other chemicals could be employed with more safety to the employees, but not with equal safety and convenience to the public. While we may feel in this instance that the chemist has practiced evasion simply to gain time to do some further rummaging among his test tubes and retorts, we have great hopes of him, and will keep on asking for "a light" and expect to reward him with our most Chesterfieldian "thank you," after he has fumbled in his vest pocket and produced a lucifer more in keeping with this age of bloomers, bicycles and the new woman.

The Druggist and his Liquor-Buying Friends.

The recent determination of the police commissioners to strictly enforce the excise law in New York City will undoubtedly bring about a state of affairs such as exists in many other sections of the country where prohibitory or local option laws prevail. It will bring a great pressure to bear upon the drug trade. Every druggist knows the character and force of this pressure even under the usual conditions where the saloon is allowed to operate under ordinary restraint. In every community large enough to support a drug store there will be found a class, eminently respectable, which is noted for its opposition to the sale of liquors as beverages. In addition there is another class, not so outspoken, which is quite in favor of restriction under conditions not very well defined. This latter class is not in favor of prohibition, neither is it an advocate of the unrestrained sale or consumption of liquors. As a rule, these two classes constitute the paying patrons of the druggist. Both use spirituous liquors occasionally for various purposes, medicinal or otherwise. Few druggists can be independent enough to refuse their demands for them, and it is safe to say that the druggist renders himself liable to prosecution oftener to please these people, than he does in any other department of his law-burdened business.

Morally there is, perhaps, nothing wrong in selling alcoholic liquors to a minister of the gospel, or the respectable citizen, both of whom diagnose and prescribe with an idea that their reputations for respectability confer some privilege of exemption upon the druggist whom they tempt to break the law, rather than go to the trouble to obtain the advice and consent of a physician in their schemes for alcoholic self-medication. The law, however, recognizes no difference between such legitimate users of alcohol and the habitual user who feigns an alarming illness as a means of inducing the druggist to deviate from his lawful course. Under ordinary conditions it is these two classes of respectable people, neighbors and personal friends of the druggist, perhaps, who feel insulted when asked to procure a prescription, who are responsible morally for most of the infractions of the law. The latter must give way when it is in conflict with their individual desires, one of which is to hide the fact that they use alcoholic liquors, and another may be an

aversion to going to the only place where liquors can be legally procured without a prescription, viz., the saloon. They are safe with the druggist, as he is the criminal in the eyes of the law, and can be depended upon to maintain a discreet silence.

But when the usual source of supplies is closed to patrons of the saloon, the pressure upon the druggist is terribly increased. All the wiles and subterfuges which can be thought of by a thirst-stricken community are worked upon him. Sympathy, friendship, threats of loss of patronage, often expressed in manner more than in words, are freely used, and the vender of drugs finds himself in a serious social difficulty. The words "social difficulty" express a great deal of the true inwardness of the question. It is not a financial question. Not one druggist in a hundred really wants permission to sell liquors as beverages. The druggist with such a privilege would soon become something else, and would become more opprobriously titled than the average legitimate publican. There is not enough money in the business to even tempt the druggist to make enough from it to pay his local and national excise taxes at the expense of his legitimate drug trade. That he does realize anything from it outside of regular prescription demands is due to the social pressure brought to bear upon him by his "law and order" friends (?). The matter always has been, and probably always will be, one of grave difficulty. So far as the drug trade is concerned there is safety in only one course, and, as already pointed out, in following this the druggist is apt to injure himself in refusing the demands of his best patrons. It might be well, however, for his own personal satisfaction, to take this risk of losing patronage occasionally. In case of legal difficulties it must be remembered that the druggist's law and order friends cannot consistently come to his support. As they are the chief advocates of the restrictive laws, they should be compelled to live up to them, no matter what the circumstances may be.

As regards the amendment of laws governing the sale of liquors, it is doubtful whether anything of a radical nature will ever be done. The majority of the people will put up with a great deal of abstinence rather than let loose the evils which belong to so-called freedom. Added to this is the belief of most people—down deep in their hearts somewhere—that restrictions are perfectly proper, not necessarily for themselves, but for their neighbors.

Quinine has taken its place as one of the important munitions of war in the present Cuban difficulty; Martinez Campos has ordered about 21,000 ounces from Spain, which, under ordinary circumstances, will make about 2,000,000 doses. The insurgents, we presume, will have to depend upon "roots and yarbs" for their febrifuges, and the outcome of the struggle may depend a great deal upon the comparative effectiveness of "old woman" and scientific doctoring.

PRACTICAL HINTS.

—Never let a customer wait. Every other duty should give way to waiting on the counter, if it can possibly be done.

—The seller of drugs should have a minute and careful knowledge of every item of the merchandise he may vend. His blunders are apt to be serious.

—Avoid the discussion of religion or politics in your place of business; while every man has a right to his opinions, they have nothing to do with business.

—Sand has been recommended to catch the drippings of oil tanks or barrels. The use of sawdust for the purpose is objectionable in that it may cause spontaneous combustion.

—Aniline stains may be removed from the hands by first washing them with a 5 per cent. solution of common salt, then with a solution of peroxide of hydrogen, and lastly, with alcohol.

—Drugs kept behind the counter should be so arranged that they can be found at once, when sought for, as people who will wait patiently for hours until the arrival of the physician, will not be content to wait but a few minutes in the drug store.

—Always buy in as large quantities as you can use, but don't speculate and buy hoping to sell at an advance. By taking advantage of the cash and short-time discounts offered, you will be surprised at the amount of money you can save in a year.

—Keep ahead of your work and do not allow those preparations to run out which ought to be kept ready to dispense. Don't let important drugs get low through carelessness in keeping track of stock, for, if anything is out, you will be almost sure to have a call for it.

—The prescription counter should be utilized for working purposes and not serve as a depository for all sorts of utensils and bottles. The latter should be replaced on the shelf immediately after being used. Failure to comply with this regulation has caused many serious mistakes.

—The profit on druggists' sundries depends as much on good judgment when buying as on the ability to sell goods. The buyer must be familiar with the wants of his customers, and carry an idea of their tastes in his mind. His only way of judging of the cheapness of goods is to compare the price with what he can get for them and then consider the probable demand that will occur.

—Keep your stock in proper containers. A small outlay for drawers, cans, salt-mouthed jars and other containers will save you many times more than the cost in the long run. Don't contract the habit of leaving your goods in the paper wrappers that come from the jobbing house. Packages become dusty and torn and thus their contents are exposed to the influences of air, moisture and dust. Have a place for everything, and everything in its place.

ADVERTISING CLEANING COMPOUNDS.

A drug store which is well equipped with a stock of goods and the right kind of a proprietor is, or ought to be, a sort of repository of facts upon which the neighborhood can draw as occasion warrants. This does not mean that the drug store should be turned into an information bureau, to furnish the correct time, the latest morsel of gossip, or tips on the horse races, but it means that the store should be looked to as the source of all information upon matters in which drugs or chemicals figure.

People have been educated to use the pharmaceutical chemist in cases of illness, and they will use the industrial chemist in hundreds of ways if they only know that he is available. The first requisite in this matter is the proper knowledge on the part of the chemist. With the pharmaceutical chemist this attainment is but the acquirement of knowledge which his previous training will render very easy. His literature is already full of material which can be adapted for use in industrial and technical work, and it is material which can be worked up and become a salable part of the pharmacist's professional ability.

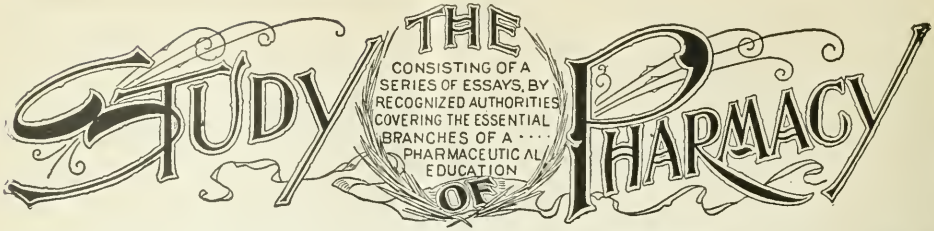
AN INK STAIN
A GREASE SPOT

or any other kind of stain or spot is disagreeable. We know something about the means for removing such things. When you want grease, paint, iron-rust, tar, mildew, fruit or ink stains removed from fabrics, clothing, gloves, walls, leather, glass, metals, oilcloth, carpets, etc., come and get our advice and our chemicals.

KNIGHT & DAY, Druggists.

The second requisite is letting people know that their druggist can be consulted upon household and workshop affairs in which chemicals play an important part. In large cities the chemist has no hesitancy in advertising his ability, and there should be none on the part of those in smaller towns to tell people what they can do for them.

Our sample advertisement suggests to the public a way out of a series of provoking difficulties which are of daily occurrence. If there is a class of articles which everybody wants, and will have if easily available, it is the class indicated in the advertisement. The question of dignity which may be raised in connection with the advertising of one's ability to relieve people of grease spots can have no effect upon the druggist who sells frozen milk, toothpicks or chewing gum. If people want grease eradicators let the druggist sell them, and sell as much as he can by letting people know that he has them for sale and thoroughly understands the grease spot business.



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[Continued from page 137, August 1.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XIX. INORGANIC PHARMACY.

(Continued.)

By Virgil Coblentz, Ph. G., A. M., Phil. D.

Iron and its Compounds.

Metallic iron is official in two forms:

FERRUM, U. S. P.—This consists of fine, bright, non-elastic wire. This form is the purest aud should be used in making all pharmaceutical preparations. It is to be had in the market under the name of "card-teeth." Iron filings should not be used, since they usually contain various impurities in addition to dirt and grease.

FERRUM REDUCTUM, U. S. P.—Reduced Iron (Iron by Hydrogen, Quevenne's Iron).—Made by heating ferric oxide to redness in an iron tube; while passing a current of hydrogen over the powder the hydrogen gas combines with the oxygen of the iron to form water, while metallic iron is left behind as a fine powder ($Fe_2O_3 + 6H = 2Fe + 3H_2O$). The resulting product consists usually of a mixture of pure iron and unreduced sesquioxide, the U. S. P. allowing the presence of 20 per cent. of unreduced iron. The estimation of reduced iron is carried out, according to the Pharmacopœia, by first heating and agitating 0.0559 gm. with 50 cc. of mercuric chloride T. S., whereby the metallic iron present goes into solution as ferrous chloride ($2HgCl_2 + Fe = Hg_2Cl_2 + FeCl_2$). The sesquioxide which remains undissolved, and the calomel formed by the reduction of the mercuric chloride, are then filtered off from the solution, which has been made up to 100 cc. Of this filtrate 10 cc. are taken, acidified, and decinormal potassium permanganate V. S. run in until a permanent red color is produced. Since each cubic centimeter of the permanganate solution is equivalent to 0.00558 gm. of metallic iron (see Decinormal Potassium Permanganate V. S.), the number of cubic centimeters used in producing the above coloration, multiplied by the factor 0.00558, would give the weight of metallic iron present in 1-10 part of the solution taken.

The next operation is to carry out a second estimation which depends upon the liberation of an equivalent amount of iodine by each molecule of iron present as ferric salt. Thus potassium iodide is added to the solution and allowed to stand, whereby iodine is liberated. Then a solution of starch is added and decinormal sodium hyposulphite run in until the blue color is discharged. (See Decinormal Sodium Hyposulphite V. S.) Since 0.02476 gm. (1 cc. V. S.) of hyposulphite is equivalent to 0.01265 gm. of iodine, and 0.01265 gm. of iodine is equivalent to 0.00559 gm. of metallic iron, it follows that each cubic centimeter of the hyposulphite V. S. is equivalent to 0.00559 gm. of metallic iron, and if 8 cc. have been used (U. S. P.), then $8 \times 0.00559 = 0.04472$, or 0.04472 gm. of metallic iron. Since 0.0559 of the sample were taken, it would follow that it contains 80 per cent. metallic iron.

All ferric solutions are incompatible with the alkali bromides or iodides, since free bromine or iodine is liberated.

FERRIC ACETATE, $Fe_2(C_2H_3O_2)_6$.—This is obtained by dissolving ferric hydrate in glacial acetic acid. It is contained in

LIQUOR FERRI ACETATIS.—This solution contains about 31 per cent. of anhydrous ferric acetate ($Fe_2(C_2H_3O_2)_6$). It is prepared by dissolving ferric hydroxide in glacial acetic acid. The preparation, if made from acetic acid of proper strength, will keep readily; should a weaker acid be used, the preparation is liable to precipitate a basic ferric acetate (probably $Fe_2(OH)_4(CH_3CO_2)_2$).

Assay.—The U. S. Pharmacopœia directs to add to 1.117 gm. of the liquor, diluted with water, 2 cc. of hydrochloric acid; this liberates the acetic acid with formation of ferric chloride; then on adding the potassium iodide, iodine is liberated, with reduction of the ferric to ferrous chloride and the formation of potassium chloride. One atom of iron (55.8 pt.) is equivalent to one atom of iodine (126.5 pt.). The amount of iodine liberated is ascertained by means of decinormal solution of sodium hyposulphite, which is added until the blue color (iodide of starch) disappears. One molecule of sodium hyposulphite (247.6 pt.) is equivalent to 1 atom of iodine (126.5 pt.).

One molecule of ferric acetate = 1 molecule of ferric chloride; 1 molecule of ferric chloride, containing 2 atoms of iron, liberates 2 atoms of iodine, which correspond to 2 molecules of sodium hyposulphite.

LIQUOR FERRI ET AMMONII ACETATIS, U. S. P.—Basham's Mixture.—Prepared by mixing tincture of chloride of iron with an acid solution of ammonium acetate, elixir, glycerin and water. On mixing the ferric chloride and ammonium acetate, a bright red colored solution of ferric acetate results. If the solution of ammonium acetate is of alkaline reaction a precipitate of basic ferric acetate forms at once or on standing..

FERROUS CARBONATE ($FeCO_3$)—Ferri Carbonas.—A gray-white precipitate obtained by decomposing a solution of a ferrous salt with an alkali carbonate or bicarbonate. Thus: ($FeSO_4 + Na_2CO_3 = Na_2SO_4 + FeCO_3$) or ($FeSO_4 + 2NaHCO_3 = FeCO_3 + NaSO_4 + CO_2 + H_2O$). In the former case no gas is given off. Ferrous carbonate on exposure to the air rapidly assumes a dark color, undergoing oxidation to the ferric state. Inasmuch as the value of these preparations depends upon the ferrous iron present, it is necessary that this salt be protected from oxidation; this is accomplished by the addition of sugar or saccharine liquids to the solutions during the precipitation and also to the finished preparation. This salt enters into the following official preparations:

FERRI CARBONAS SACCHARATAS, U. S. P.—A Saccharine powder containing about 15 per cent. of ferrous carbonate.

MASSA FERRI CARBONATIS, U. S. P.—Vallet's Mass.—In this preparation we find about 35 per cent. of ferrous carbonate combined with honey and sugar into a pill mass.

MISTURA FERRI COMPOSITA, U. S. P.—Griffith's Mixture.—In this the ferrous carbonate (about 2 per cent.) is produced by double decomposition between ferrous sulphate and potassium carbonate, myrrh being added to serve as protecting agent; spirit of lavender and rose water also enter.

PILULÆ FERRI CARBONATIS, U. S. P.—Blaud's Pill.—Each pill contains about 0.06 gm. of ferrous carbonate, combined with sugar, tragacanth, marshmallow, glycerin and water to form a mass.

FERRI CHLORIDUM, U. S. P. ($Fe_2Cl_6 + 12H_2O$).—Obtained by the reaction of hydrochloric acid on iron and then oxidizing the ferrous chloride formed by the nitric acid. The resulting compound is tested for unoxidized salts and free nitric acid. For reactions and various tests see Liquor Ferri Chloridi.

LIQUOR FERRI CHLORIDI (Liquor Ferri Sesquichloridi, Ph. Germ., Liquor Ferri Perchloridi, Ph. Br.).—This solution should contain, according to the U. S. Pharmacopœia, 37.8 per cent. of anhydrous salt (Fe_2Cl_6).

The reaction consists first in the formation of ferrous chloride:—

$$(a)\quad \underset{\substack{\text{Iron.}\\ 55.8}}{Fe} + \underset{\substack{\text{Hydrochloric Acid.}\\ 2\times 36.3}}{2HCl} = \underset{\substack{\text{Ferrous Chloride.}\\ 126.6}}{FeCl_2} + \underset{\text{Hydrogen.}}{H_2}$$

To convert this ferrous into ferric chloride, more hydrochloric acid is added to the solution, and this is poured into the necessary amount of nitric acid, which oxidizes the hydrogen of the hydrochloric acid to water, undergoing itself reduction to nitrogen dioxide (N_2O_2 or NO), which with the oxygen of the air forms nitrogen tetroxide (N_2O_4 or NO_2), and is evolved as such, while the chlorine liberated from the hydrochloric acid unites with the ferrous to form ferric chloride, thus:

$$(b)\quad \underset{\substack{\text{Ferrous Chloride.}\\ 6\times 126.6}}{6FeCl_2} + \underset{\substack{\text{Hydrochloric Acid.}\\ 6\times 36.3}}{6HCl} + \underset{\substack{\text{Nitric Acid}\\ 2\times 62.9}}{2HNO_3} = \underset{\substack{\text{Ferric Chloride.}\\ 3\times 324}}{3Fe_2Cl_6} + \underset{\text{Water.}}{4H_2O} + \underset{\text{Nitrogen Dioxide.}}{2NO}$$

The solution is then further heated, to remove any excess of nitric acid or nitric oxide, then afterward tested for the presence of these by the addition of a crystal of ferrous sulphate to a few drops of the solution diluted with a little water, mixed with an equal volume of sulphuric acid, and allowed to cool. A dark-brownish zone ($FeSO_4NO$) forms around the crystal if any nitric acid be present. Should such be the case, it is necessary to heat the solution further. Care should be taken not to allow the liquid to become too concentrated, nor to employ too high a degree of heat (it should not boil), nor to heat too long, otherwise a portion of the iron will be converted into oxychloride, which separates on the addition of alcohol. The Pharmacopœia directs that the solution be free from ferrous chloride. This is detected by adding a few drops of potassium ferricyanide T. S. to about the same quantity of the solution well diluted with water, when no blue coloration or precipitate should occur.

Assay.—The process is identical with that given under Liquor Ferri Acetatis. One cc. of decinormal sodium hyposulphite V. S. (0.02476 gm. of the salt) is equivalent to 0.00558 gm. of iron, hence $26\,cc. = 26\times 0.00558 = 0.14508$ gm. of iron. Since, according to the Pharmacopœia, the solution should contain 13 per cent. of metallic iron, and 1.12 gm. were taken for assay, then this should contain 0.145 + gm. of iron (13 per cent. of 1.12).

TINCTURA FERRI CHLORIDI, U. S. P.—An alcoholic solution, obtained by mixing 25 cc. of the liquor with 75 cc. of alcohol. It is directed to be allowed to stand for three months before dispensing, the object being to allow the development of ethyl chloride (C_2H_5Cl) and similar ethereal compounds, which impart an agreeable ethereal odor to the preparation. Tincture of iron is incompatible with alkalies, alkali earths or carbonates (production of $Fe_2(OH)_6$ or Fe_2O_3); likewise with preparations containing tannic acid (inky mixtures); also with mercurous salts (forming mercuric compounds); with mucilage of acacia it often produces a jelly.

FERRI CITRAS, U. S. P.—($Fe_2(C_6H_5O_7)_2 + 6H_2O$).—Obtained by evaporating the Liquor Ferri Citratis at a temperature not higher than 60° C., until of the consistency of a syrup, and then spreading on glass plates to dry. This forms a very slowly soluble salt, which is only adapted for making pills.

LIQUOR FERRI CITRATIS.—The preparation of this solution depends on the fact that freshly precipitated ferric hydrate is soluble in the organic acids, in this instance citric acid. The ferric hydrate is prepared by pouring a diluted solution of ferric sulphate into well diluted ammonia water, which must be in slight excess. The precipitated ferric hydrate is well washed to free it from adhering ammonium sulphate. To be certain that all traces of ammonium sulphate have been removed, the wash water, acidulated with hydrochloric acid, is tested with barium chloride T. S., which should not give a white cloud or precipitate ($BaSO_4$). In the above case we employ diluted cold solutions in order to obtain a light flocculent precipitate, which is more readily dissolved by the citric acid. Care should be taken that the solution be not heated above 60° C., otherwise insoluble oxycitrates will form. When this solution is employed in making scale salts, the operator should satisfy himself that the ferric sulphate solution is of full strength, otherwise the citric acid will not be sufficiently saturated and fail to "scale." The solution is used in making the scale salts Ferri Citras and Ferri et Ammonii Citras.

FERRI ET AMMONII CITRAS, U. S. P.—Made by mixing ammonia water with solution of ferric citrate, evaporating and scaling. When alkali hydrates are added to solutions containing salts of the metals with citric or tartaric acid, no precipitation of the metal takes place, owing to the presence of the organic acid which forms a soluble double salt. This scale salt is adapted for solutions because of its ready solubility. It enters into the Vinum Ferri Citratis, or Wine of Iron.

FERRI ET QUININÆ CITRAS, U. S. P.—Made by dissolving quinine, citric acid and ferric citrate in water, evaporating and scaling. The dry scale salt should contain not less than 11.5 per cent. of dry quinine when assayed by the process of the Pharmacopœia. This salt is not very soluble in water, hence the bitter taste of the alkaloid is less perceptible than in the ammoniated salt (Ferri et Quininæ Citras Solubilis) which is readily soluble. Vinum Ferri Amarum; or the Bitter Wine of Iron of the Pharmacopœia, is obtained by dissolving 5 per cent. of the soluble citrate of iron and quinine in a mixture of white wine, tincture of sweet orange peel and syrup.

FERRI ET STRYCHNINÆ CITRAS, U. S. P.—This scale salt contains 1 per cent. of strychnine and 99 per cent. of the citrate of iron and ammonium.

FERRI ET AMMONII SULPHAS, U. S. P. ($Fe_2(NH_4)_2(SO_4)_4 + 24H_2O$)—Ammonio-Ferric Alum.—Obtained by dissolving ammonium sulphate in a hot solution of tersulphate of iron and crystallizing ($Fe_2(SO_4)_3 + (NH_4)_2SO_4 = Fe_2(NH_4)_2(SO_4)_4$). This salt is employed in medicine as a styptic.

FERRI ET AMMONII TARTRAS, U. S. P.—Ammonio-Ferric Tartrate.—Made by dissolving ferric hydrate in a solution of acid ammonium tartrate, evaporating and scaling. Theoretically its composition would be $2(FeO)NH_4,C_4H_4O_6.3H_2O$; however, the scale salts are not definite chemical compounds.

FERRI ET POTASSII TARTRAS, U. S. P.—Made by dissolving ferric hydrate in a solution of acid potassium tartrate, evaporating and scaling.

FERRI HYPOPHOSPHIS, U. S. P. ($Fe_2(PH_2O_2)_6$).—Obtained by interaction between solutions of ferrous sulphate and calcium hypophosphite, whereby calcium sulphate is precipitated, the ferrous hypophosphite is converted into the ferric compound on evaporation.

FERRI IODIDUM SACCHARATUM, U. S. P. (FeI_2).—Obtained by the action of iodine on iron in the presence of water, the mixture being allowed to stand until it has acquired a green color. This solution is then mixed with sugar of milk and dried. After powdering, it is mixed with a further portion of sugar of milk and some reduced iron, the resulting product containing 20 per cent. of ferrous iodide. This powder on standing undergoes oxidation, with the separation of free iodine, hence the addition of a slight excess of reduced iron serves to combine this liberated iodine. For further explanations see Syrup of Ferrous Iodide. The official Pilulæ Ferri Iodidi are directed to be coated with ethereal solution of tolu to protect the salt from oxidation.

FERRI LACTAS, U. S. P. ($Fe(C_3H_5O_3)_2 + 3H_2O$).—Obtained by the action of lactic acid on iron wire. Used in the preparation of Syrupus Hypophosphitum Cum Ferro, U. S. P.

LIQUOR FERRI NITRATIS.—This solution is made by dissolving ferric hydroxide in nitric acid, a safe and agreeable method, and preferable to the shorter process of the British Pharmacopœia, in which the iron wire is dissolved in nitric acid. The last-mentioned reaction, being violent, requires great caution; moreover, the fumes evolved are also annoying. This preparation is more astringent than the salts of iron with the organic acids.

FERRI OXIDUM HYDRATUM, U. S. P. ($Fe_2(OH)_6$)—Hydrated Oxide of Iron.—Made by pouring a diluted solution (cold) of ferric sulphate into a diluted solution of ammonia water, whereby ferric hydrate precipitates, which is freed from adhering ammonium sulphate by washing. (This compound is employed in preparing the various scale salts of iron (citrate, tartrate, etc.). It is also recommended to be kept on hand, in moist condition, ready for administering as an antidote for arsenical poisoning. It combines with the arsenous oxide forming an insoluble inert

ferrous arsenate. The Pharmacopœia recommends especially for this purpose the

FERRI OXIDUM HYDRATUM CUM MAGNESIA, or Arsenic Antidote, which is quickly prepared by mixing a solution of ferric sulphate with magnesia which has been triturated with water. These two solutions should be kept on hand ready for immediate use. It is not intended that the ferric hydrate produced by mixing the two should be washed, for the by product formed (magnesium sulphate) can cause no harm.

FERRI PHOSPHAS SOLUBILIS, U. S. P.—Made by dissolving sodium phosphate in a solution of ferric citrate, evaporating and scaling. Forms transparent bright green scales.

FERRI PYROPHOSPHAS SOLUBILIS, U. S. P.—Prepared in the same manner as the above, except that sodium pyrophosphate ($Na_4P_2O_7$) is employed in place of the phosphate.

FERRI SULPHAS, U. S. P. ($FeSO_4 + 7H_2O$).—Commonly known as "Copperas" or "Green Vitriol," made by the action of sulphuric acid on iron ($Fe_2 + 2H_2SO_4 = 2FeSO_4 + 2H_2$). The recrystallized salt only should be used, for the commercial is very impure. The salt is used in preparing the official solutions of tersulphate and subsulphate of iron, also the granulated and dried sulphate of iron.

FERRI SULPHAS GRANULATUS, U. S. P.—This form of ferrous sulphate is used in preference to the ordinary salt, because of convenience in form, greater purity, and then it is less liable to oxidation than the ordinary sulphate. Granulation may be carried out more rapidly by pouring a concentrated solution of the sulphate into alcohol, filtering and drying by exposure to the air on filter paper..

FERRI SULPHAS EXSICCATUS, U. S. P.—Ferrous sulphate is heated until it has lost its water of crystallization, then powdered. This product, a greenish-white powder, represents about 65 per cent. of the weight of the original salt. It is used as a substitute for the crystallized salt in making pills, because of the large per cent. of water contained in the latter. When used in making pills, sufficient glycerin should be added to prevent them from drying out and becoming hard.

LIQUOR FERRI SUBSULPHATIS (Monsel's Solution).—This is an aqueous solution of basic ferric sulphate. It is sometimes called persulphate of iron solution, which is inaccurate, and liable to be confounded with the solution of tersulphate of iron. On adding the pulverized ferrous sulphate to the heated mixed acids, the solution becomes of a black color, due to the uniting of the nitric oxide with the ferrous sulphate ($FeSO_4.NO$), which quickly disappears with evolution of red nitrous vapors. Should the solution remain of a dark (black) color, after all the ferrous sulphate has been added, the addition of a few drops of nitric acid will be sufficient to cause the evolution of the nitric oxide, and the solution will then appear of a clear reddish-brown color. The tests for nitric acid and ferrous salt are given under Solution of Ferric Chloride. This solution contains a lesser amount of sulphuric acid and more of ferric sulphate than the tersulphate of iron, hence, instead of the normal ferric sulphate, a basic or oxysulphate (probably $Fe_4O(SO_4)_5$) is obtained. On standing, this solution sometimes deposits a sediment; this may be redissolved by placing the bottle in hot water. This solution may be distinguished from the tersulphate by adding one volume of sulphuric acid to two of the solution, when in the case of the subsulphate a white semi-solid mass of basic or oxysulphate will be separated.

The dry persulphate (Monsel's Powder) is obtained by evaporating the solution to dryness and powdering.

Both the solution and powder are used as local styptics in cases of hemorrhage.

LIQUOR FERRI TERSULPHATIS.—A solution of normal ferric sulphate, or solution of persulphate of iron. This solution is weaker in iron and contains more sulphuric acid than Monsel's solution. It should contain about 28.7 per cent. of $Fe_2(SO_4)_3$.

On adding the ferrous sulphate (powdered), in portions, to the heated mixture of sulphuric and nitric acids, effervescence takes place, with evolution of vapors of nitric oxide (NO or N_2O_2). When all of the iron has been added, the solution should be clear and of a dark reddish-brown color. Should it be of a black color ($FeSO_4.NO$), this indicates that there is not a sufficient amount of nitric acid present to oxidize all of the ferrous to ferric sulphate, hence nitric acid should be added drop by drop until effervescence ceases and the solution clears up. The reaction takes place as follows:

$$\underset{\substack{\text{Ferrous}\\\text{Sulphate.}\\6\times277.4}}{6FeSO_4+7H_2O} + \underset{\substack{\text{Sulphuric}\\\text{Acid.}}}{3H_2SO_4} + \underset{\substack{\text{Nitric}\\\text{Acid.}}}{2HNO_3} = \underset{\substack{\text{Ferric Sulphate.}\\3\times399.2}}{3Fe_2(SO_4)_3} + \underset{\text{Nitric Oxide.}}{N_2O_2} + \underset{\text{Water.}}{11H_2O}$$

XX. ORGANIC PHARMACY.

Hydrocarbons—Fatty Series.

Petroleum Derivatives.

PETROLEUM.—The crude article, which is known under the names of coal oil, stone oil, seneca oil, is a black tarry-like liquid, which is employed chiefly in liniments. It consists of a mixture of various hydrocarbons, among which are:

Cymogene (employed in refrigerating machines), boils at 0° C.

Rhigolene (for producing local anæsthesia), boils at 18° C.

Petroleum ether (Benzinum, U. S. P.), boils between 50° and 60° C.

Petroleum, benzine or gasoline, boils between 70° and 90° C.

Ligroene, boils between 90° and 120° C.

Kerosene, or refined petroleum, boils between 150° and 300° C.

Those hydrocarbons which distill over from crude petroleums above 300° C. differ as regards their physical character, being liquid, semi-solid and solid, according to the proportion of solid paraffin held in solution.

BENZINUM, U. S. P.—This inflammable liquid should be stored in a cool place in securely closed receptacles. Its vapor when mixed with air is very explosive. Benzine is a very useful solvent for fats, resins, oils, etc.

PETROLATUM LIQUIDUM, U. S. P.—Paraffin Oil.—This oily liquid is extensively used in the arts as a lubricating agent. In pharmacy it is employed as a basis for medicinal unctuous preparations.

PETROLATUM MOLLE, U. S. P.—Soft Petrolatum.—The so-called petroleum "residuums" are purified by percolating in melted condition through animal charcoal, then mixed with the hard paraffins until the proper degree of consistency is obtained. This is to be dispensed when "Petrolatum" is ordered. It is employed as a vehicle for ointments and dressings. This product is similar to and replaces "vaseline," "cosmoline," "petrolina," etc.

PETROLATUM SPISSUM, U. S. P.—Hard Petrolatum.—This possesses a firmer consistence than Petrolatum molle, being better adapted for dispensing in hot weather or when fluids are to be mixed in large quantities.

PARAFFIN is a waxy-like, solid substance, melting usually between 45° and 65° C., and is the end product of the distillation of crude petroleum. It is particularly valuable because of its indifference to the most powerful acids, alkalies and oxidizing agents. It is dissolved by oil of turpentine, benzol, ether, chloroform and many fixed oils.

Halogen Compounds.

Chlorine Derivatives.

MONO-CHLOR-METHANE or Methyl Chloride—CH_3Cl.—This at ordinary temperature is a gas, under cold and pressure a liquid; used as a local anæsthetic by dentists and surgeons.

DI-CHLOR-METHANE, or Methylene Chloride (CH_2Cl_2), is a colorless liquid, boiling at 40° C.; is used as an anæsthetic like chloroform.

CHLOROFORMUM, U. S. P.—Tri-Chlor-Methane—Formyl Trichloride—$CHCl_3$.—This is obtained by the action of chlorinated lime on alcohol or acetone, the latter method being almost exclusively employed at present. A very pure chloroform is obtained by the action of caustic alkalies on chloral. The firm of Raoult Pictet & Co., of Berlin, have placed a very pure article on the market, which is purified by exposing chloroform to a very low temperature and crystallizing. Anschutz' Salicylid chloroform is obtained by heating a double compound of chloroform and salycilid.

Absolutely pure chloroform cannot be preserved from decomposition, for light and air soon decompose it into phosgene gas (carbonyl chloride) and chlorine; some hydrochloric acid being also formed.

(a) $2CHCl_3 + 3O = 2COCl_2 + H_2O + 2Cl$

(b) $COCl_2 + H_2O = CO_2 + 2HCl$

In order to prevent this decomposition as much as possible, the addition of about 1 per cent. of alcohol is neces-

sary. This, however, should not prevent the apothecary from exercising the greatest care in storing his chloroform in a cool dark place in well stoppered vials. Inasmuch as the presence of phosgene and chlorine, even in traces, in chloroform renders it extremely dangerous to employ for inhalation, it is necessary that these decomposition products be carefully sought for. When chloroform is agitated with water, the latter should not redden litmus paper (absence of HCl), nor affect test solution of silver nitrate (absence of chlorine); when added to test solution of barium hydrate and allowed to stand, no film ($BaCO_3$) should separate at the line of contact (absence of phosgene). When the chloroform is shaken with sulphuric acid, it should show no coloration (absence of organic impurities and fusel oil derivatives). The many accidents attributed to the use of chloroform may be largely ascribed to the presence of these impurities.

Chloroform enters into Aqua chloroformi, a solution of chloroform in water; Emulsum chloroformi, an emulsion of chloroform in water through the mediation of expressed oil of almond; Linimentum chloroformi, a mixture of chloroform with soap liniment; and Spiritus chloroformi, which is an alcoholic solution of chloroform.

TETRA-CHLOR-METHANE—CCl_4.—A heavy liquid resembling chloroform and possessing valuable solvent properties.

MONO-CHLOR-ETHANE, Ethyl-Chloride, C_2H_5Cl, is an ethereal liquid which is used as a local anæsthetic.

DI-CHLOR-ETHANE, Ethyliden Chloride, CH_3CHCl_2, closely resembles chloroform and is used as an anæsthetic.

Bromine Derivatives.

MONO-BROM-ETHANE, Ethyl Bromide, or Hydrobromic Ether—C_2H_5Br.—An ethereal liquid used as an anæsthetic.

TRI-BROM-METHANE or BROMOFORM—$CHBr_3$.—A heavy ethereal liquid, used in treatment of whooping cough.

Iodine Derivatives.

IODOFORMUM, U.S.P.—TRI-IODO-METHANE—CH_3I.—This is obtained by the action of iodine on alcohol in the presence of carbonated alkalies. Alcohol may be replaced by acetone, aldehyde or other liquids which contain the methyl group.

$$\underset{\text{Alcohol}}{C_2H_5OH} + \underset{\text{Iodine}}{8I} + \underset{\text{Sodium Carbonate}}{Na_2CO_3} = \underset{\text{Sodium Iodide}}{2NaI} + \underset{\text{Iodoform}}{2CHI_3} + CO_2 + 2H_2O$$

Iodoform is also prepared by electrolysis; a solution of potassium iodide in water and alcohol is subjected to electrolysis in the presence of a current of carbonic acid gas. The odor of iodoform may be masked to a certain extent by the addition of about 4 per cent. of thymol or coumarin.

ALCOHOLS.

Monohydric.

METHYL ALCOHOL—Wood Spirit, Wood Naphtha—CH_3OH.—This is obtained as one of the products in the destructive distillation of wood (see Cellulose). Forms a colorless, volatile liquid, of unpleasant odor. It is used in the arts as a solvent for resins, oils, fats, etc.

ETHYL ALCOHOL—ALCOHOL, U. S. P.—C_2H_5OH.—Alcohol and all alcoholic liquids are prepared by the process of fermentation.

Fermentation.

This is a peculiar decomposition process of organic compounds whereby they are split up into other bodies of a different character, by the action of micro-organisms (organized ferments) or active organic agents (unorganized ferments).

Organized ferments are living organisms, consisting of round or elongated cells, which multiply by germination (budding) in the fermenting liquid. The action of these ferments, which exist in different varieties, is almost unlimited as long as the proper conditions for their growth are observed. (Ex. yeast ferment or mycoderma cerevisiæ.)

Unorganized ferments, or enzymes, are definite chemical compounds. The action of these, of which diastase, emulsin and myrosin are examples, is limited: that is, for example, diastase will convert only a limited amount of starch into sugar. Among the various kinds of fermentation are:

1. Saccharine fermentation, whereby starch is converted into malt sugar (maltose) and dextrine under the influence of diastase (from barley). Temperature between 50° and 60° C.

2. Alcoholic, or vinous, fermentation, whereby grape, fruit or malt sugars are converted into alcohol and carbon dioxide by the fermentative action of yeast (mycoderma cerevisiæ). Temperature necessary, between 25° and 30° C ($C_6H_{12}O_6 = 2C_2H_5OH + 2CO_2$).

3. Acetic Fermentation.—This is due to the action of a ferment (Bacillus acidi acetici) on alcohol, which transforms it into acetic acid ($C_2H_5OH + O_2 = CH_3COOH + H_2O$).

4. Lactic fermentation is produced by the action of ferments (lactic bacteria), as in stale cheese, on sugars. Temperature necessary 40° to 45° ($C_6H_{12}O_6 = 2C_3H_6O_3$).

5. Butyric Fermentation.—Lactic fermentation is complete in eight to ten days; but when prolonged, it changes into butyric fermentation ($2C_3H_6O_3 = C_4H_8O_2 + 2CO_2 + 2H_2$).

Under the head of unorganized ferments, or enzymes, we may include here two official products, pepsin, which is found in the gastric juice of animals, and pancreatin, which is found in the pancreatic juice. These products possess "proteolytic" power, or ability to digest proteid matter.

PEPSINUM, U. S. P.—This may be prepared by the Scheffer process, which consists in macerating the mucous membrane of hogs' stomachs in acidulated (HCl) water, straining and precipitating the pepsin by the addition of salt. The crude pepsin is removed from the surface and purified by re-solution and precipitation. For other methods the reader is referred to files of our pharmaceutical journals. Pepsin is furnished in dry powder form or scales, the latter form being obtained when it is dried on glass plates. The value of pepsin is placed upon its comparative digestive power, the Pharmacopœia requiring that it should be capable of digesting not less than 3,000 times its own weight of freshly coagulated and disintegrated egg albumen. Its digestive power is only manifest in the presence of hydrochloric acid, however; when heated to 100° C. it loses all proteolytic power. The products which result from the action of pepsin on albumenoids are called peptones.

PANCREATINUM, U. S. P.—This is a mixture of ferments obtained from the pancreatic juice of animals containing trypsin, which converts starches into sugars, and steapsin, a ferment which possesses the power of emulsifying and saponifying fats. This ferment is active only in alkaline ($NaHCO_3$) medium.

ALCOHOL, U. S. P.—A liquid composed of about 91 per cent. by weight, or 94 per cent. by volume, of ethyl alcohol, C_2H_5OH, and about 9 per cent. by weight, or 6 per cent. by volume, of water; sp. gr. at 15° C. 0,820.

The U. S. Internal Revenue Bureau designates the strength or alcohol by the number of degrees proof; two degrees proof being equal to 1 per cent. by volume of absolute alcohol; thus 100 proof would be an alcohol which contains 50 per cent. by volume of absolute alcohol.

ALCOHOL DILUTUM, U. S. P.—41 per cent. by weight of absolute alcohol.

ALCOHOL DEODORATUM, U. S. P.—Cologne Spirit, 92.5 per cent. by weight of absolute alcohol.—Alcohol is deodorized by filtering through animal charcoal and rectifying from potassium permanganate. Employed in making essences and perfumes.

ALCOHOL ABSOLUTUM, U. S. P., 99 per cent. by weight of ethyl hydrate.—Prepared by distilling alcohol from lime, afterward with metallic sodium.

SPIRITUS FRUMENTI, U. S. P.—An alcoholic liquid obtained by distillation from fermented grain, usually mixtures of corn, wheat and rye, and the product must be at least two years old.

SPIRITUS VINI GALLICI, U. S. P.—An alcoholic liquid obtained by distillation from fermented grapes, and must be at least four years old. Brandy is extensively made by adding cognac oil to alcohol and coloring.

Wines are alcoholic liquids obtained by the fermentation of the juice of grapes.

White wines are obtained by the fermentation of the grape juice free from seeds, stems and skins.

Red wines are obtained by the fermentation of the grape juice in contact with the skins, hence the wine takes up more or less coloring matter with tannic acid; these wines are more or less astringent.

VINUM ALBUM, U. S. P.—This refers to any of the light colored wines, such as sherry, madeira, moselle, etc., providing they fulfill the requirements of the Pharmacopœia. Used in preparing the official medicated wines.

VINUM RUBRUM, U. S. P.—Such dry red wines as claret, port or burgundy are intended. Attention is called to the pharmacopœial method for the estimation of alcoholic strength. Another method of estimation was given under "Vina Medicata."

Trihydric Alcohols.

GLYCERNIUM, U. S. P. $\begin{matrix} CH_2OH \\ | \\ CH\,OH \\ | \\ CH_2OH \end{matrix}$

Propenyl Alcohol—Tri-Oxy-Propane.—This trihydric alcohol which occurs in fats as a glycerin ester of the various fatty acids, is obtained by saponification, whereby the fatty acid is removed, leaving the glycerin free. The U. S. P. requires that it contain 95 per cent. of absolute glycerin. A very pure glycerin is furnished in the market at present, the only impurities of any note being possibly the presence of acrolein or decomposition products due to overheating of the product during the process of manufacture. The principal test is the silver solution, which should not be darkened when mixed and warmed with the sample, showing absence of acrolein and decomposition products of the various fatty acids.

Undiluted glycerin should not be mixed with substances which readily give up oxygen, as potassium permanganate, chromic and nitric acids.

Glycerin enters into Suppositoria glycerini, also is used as a vehicle in preparing the official glycerites. It enters into the menstrua of several liquid preparations, increasing the solvent powers of the menstruum and insuring the permanency of the preparations.

AMYL ALCOHOL, C_5H_6OH.—Eight isomeric amyl alcohols are possible, one of which, Isobutyl Carbinol [$(CH_3)_2 = CH—CH_2—CH_2OH$] forms the chief constituent of "fusel oil," which occurs as a by-product in the fermentation of grain. This alcohol is used in pharmacy in the manufacture of amyl nitrite.

Ethers.

Ethers are obtained by the abstraction of one molecule of water from two molecules of an alcohol. Thus $\left\{\begin{matrix} C_2H_5 \\ C_2H_5 \end{matrix}\right\} = \left\{\begin{matrix} C_2H_5 \\ C_2H_5 \end{matrix}\right\} O + H_2O$. This is accomplished commercially by the action of dehydrating agents, usually sulphuric acid.

METHYL ETHER, $\begin{matrix} CH_3 \\ CH_3 \end{matrix}\!>\!-O$.—Obtained by the action of sulphuric acid on methyl alcohol. A volatile inflammable liquid, liquid at 20° C. Used as an anæsthetic.

ÆTHER, U. S. P. $(C_2H_5)_2O$.—A liquid containing about 96 per cent. by weight of absolute ether, or ethyl oxide. It is prepared by the action of sulphuric acid on alcohol, the reaction taking place in two phases, thus:

(a) $C_2H_5OH + SO_4HH = H_2O + C_2H_5(SO_4H)$ (ethyl sulphuric acid).

(b) $C_2H_5SO_4H + C_2H_5OH = (C_2H_5)_2O + H_2SO_4$.

This process is, theoretically, a continuous one, a small amount of acid being able to convert a large quantity of alcohol into ether, but practically it has its limits because of secondary reactions and weakening of the acid. Ether is an excellent solvent for oils, fats, resins, alkaloids, etc.; it is also employed as an anæsthetic, being safer and better than chloroform. Because of its inflammable nature it should be cautiously handled.

Ether enters into

SPIRITUS ÆTHERIS, U. S. P.—A mixture of ether and alcohol.

SPIRITUS ÆTHERIS COMPOSITUS, U. S. P., or Hoffman's Anodyne.—A mixture of ether, ethereal oil and alcohol.

Aldehydes.

The aldehydes are the first oxidation products of the primary alcohols, further oxidation converting them into the corresponding acids containing an equal number of carbon atoms.

$$\underset{\text{Ethyl Alcohol}}{CH_3—CH_2OH} + O = \underset{\text{Acet-Aldehyde}}{CH_3COH} + H_2O$$

$$CH_3COH + O = \underset{\text{Acetic Acid}}{CH_3COOH}$$

The aldehydes are readily oxidizable, consequently reduce ammoniacal silver nitrate and salts of the noble metals. They also readily unite with ammonia, alkali acid sulphites, hydrocyanic acid, etc., forming aldehyde ammonias, $CH_3—CH(OH)—(NH_2)$; aldehyde potassium bisulphite, $CH_3CH(OH)KSO_3$; aldehyde cyanhydrins, $CH_3—CH(OH)CN$, etc.

The aldehydes show great tendency to polymerize; acetic aldehyde (CH_3COH) is polymerized upon the addition of small quantities of hydrochloric, sulphuric and sulphurous acids, etc.; to para-aldehyde ($CH_3COH)_3$ (PARALDEHYDUM, U. S. P.) at ordinary temperature, and to meta-aldehyde $(CH_3COH)_x$ at 0° C.

On heating aldehydes with caustic alkalies, they are converted into a reddish-brown resin; this test is frequently applied by the U. S. P. for their detection.

FORMALDEHYDE, METHYL ALDEHYDE, HCOH, is a gaseous product obtained by the oxidation of methyl alcohol. A 40 per cent. solution in water is known under the name of Formalin, a powerful disinfectant and antiseptic.

ACETALDEHYDE, ETHYL ALDEHYDE, CH_3COH, is the product of the oxidation of ethyl alcohol. Forms a colorless, inflammable liquid, which, when acted on by hydrochloric acid or zinc chloride until it ceases to mix with water, undergoes polymerization.

PARALDEHYDE, U. S. P. $(CH_3COH)_3$, is employed as a hypnotic. It is a colorless liquid, soluble in 8.5 parts of water, readily in alcohol and ether.

TRICHLORALDEHYDE, OR CHLORAL, U. S. P. (CCl_3COH).—Obtained by the prolonged action of chlorine gas on ethyl alcohol. Chloral is a colorless, oily liquid, of penetrating odor; on adding 1-10th of its weight of water, it unites with it, forming the crystalline chloral hydrate ($CCl_3COH + H_2O$), which is official under the name of CHLORAL. When mixed with alkalies or alkali carbonates chloral is decomposed into chloroform and an alkali formiate ($CCl_3COH + KOH = HCOOK + CCl_3H$). It is also incompatible with compounds of ammonia and mercury, likewise should not be dispensed with alcoholic liquids in the presence of alkali salts, owing to the formation of chloral-alcoholate, $CH_3CH(OH)(OC_2H_5)$, which is very irritating.

When triturated with camphor, menthol, thymol, phenol and various coal-tar derivatives, chloral forms a liquid product. Chloral is employed as a hypnotic; great caution should be employed in its administration. It unites with hydrocyanic acid to form CHLORAL-CYANHYDRIN, $CCl_3CHOH.CN$, which, when dissolved in water (0.06 gm. in 10 gm.), yields a product identical in strength to the bitter almond water of the Phar. Ger.

BUTYL - CHLORALHYDRATE, CROTON CHLORAL, $CCl_3—CH_2—CH_2—COH + H_2O$, is obtained by the action of chlorine on acetic aldehyde. Properties and dose the same as for chloral.

Monobasic Fatty Acids.

By the oxidation of the primary alcohols or their corresponding aldehydes the monobasic fatty acids are formed, being characterized by the carboxyl group—COOH.

$$\underset{\text{Alcohol}}{CH_3CH_2OH}, \quad \underset{\text{Aldehyde}}{CH_3COH}, \quad \underset{\text{Acetic Acid}}{CH_3COOH}$$

These acids are monobasic, i. e., contain in the molecule only one replaceable hydrogen, and give rise to only one class of salts or ethers; thus:

$$\underset{\text{Acetic Acid}}{CH_3COOH} + KOH = H_2O + \underset{\text{Potassium Acetate}}{CH_3COOK}$$

$$CH_3COOH + \underset{\text{Alcohol}}{C_2H_5OH} = H_2O + \underset{\text{Acetic Ethyl Ether.}}{CH_3COOC_2H_5}$$

FORMIC ACID, HCOOH.—Obtained by distilling a mixture of oxalic acid and glycerin. A solution of a 25 per cent. acid in a diluted alcohol forms the Spiritus Formicarum of the Ph. Germ.

ACIDUM ACETICUM, U. S. P., CH_3COOH.—This should contain 36 per cent. of absolute acid. Its strength cannot be determined from its specific gravity, because of irregular variations, hence recourse is had to the volumetric solution of potassium hydrate. Acetic acid is produced on a large scale by either of three methods:

1. By acetic fermentation of saccharine liquids.
2. By the oxidation of alcohol (quick vinegar process).
3. By the destructive distillation of wood.

Vinegars are usually made by the fermentation of wine (wine vinegar), cider (cider vinegar), malt (malt vinegar), etc.

In this process (1) alcoholic fermentation takes place first in the conversion of the sugar into alcohol and carbon dioxide, later acetic fermentation takes place through the agency of the ferment mycodermi aceti.

The oxidation method, or the quick vinegar process (2), is one in which a weak alcoholic (5 per cent.) liquid is allowed to drip slowly through a cask filled with clean wood shavings; the cask being perforated to permit a free circulation of air. The shavings are first moistened with vinegar and then at frequent intervals a further portion is added. The diluted alcohol as it percolates slowly through the shavings is oxidized to acetic acid through the agency of the air and micro-organisms.

Acetic acid is chiefly obtained by the destructive distillation of wood.

Products of Destructive Distillation of Wood.

Gases.—Hydrogen, methane, carbon monoxide, carbon dioxide, higher hydrocarbons.

Liquids.—Acetone, methyl alcohol, acetic acid and its homologues.

Tarry liquid (tar, creosote, benzol, toluol, guaiacol, naphthalene, etc.).

The liquid portion of the distillate, which is a black, ill-smelling fluid, is called pyroligneous acid, which is worked up for acetic acid by neutralizing it with sodium or calcium carbonate and distilling; the acetone and wood alcohol distill over, leaving the impure calcium or sodium acetate behind, which is then heated to 200° C. to get rid of tarry matter, and finally distilled with sulphuric acid.

ACIDUM ACETICUM DILUTUM, U. S. P., contains 6 per cent. of absolute acid by weight. It is used as a menstruum for the official vinegars, and is also a valuable menstruum for preparing extract of nux-vomica, since it does not take up the fat which is found in the drug. A 60 per cent. acetic acid is proposed as a menstruum for aromatic extracts.

ACIDUM ACETICUM GLACIALE, U. S. P., should contain 99 per cent. of absolute acid. It is a valuable solvent for resins, gums and many organic compounds.

Higher Fatty Acids.

The higher fatty acids, which at ordinary temperatures are solids, exist usually as glycerin esters, in various fats found in the vegetable and animal kingdom. Capric acid is found in goat's butter, lauric acid in the laurel oil, myristic acid in nutmeg butter, palmitic, stearic and oleic acids in most animal and vegetable fats and oils.

ACIDUM STEARICUM, U. S. P., Stearic acid, $C_{18}H_{36}O_2$, is associated with palmitic and oleic acids as a mixed ether in the tallows and solid animal fats. It is separated by distillation with superheated steam. Employed in the U. S. P. in the preparation of Suppositoria glycerini.

ACIDUM OLEICUM, U. S. P., Oleic Acid, $C_{18}H_{34}O_2$, occurs as glyceryl ester (triolein) in most fats, especially in olive, almond and cod liver oils. It is an oily fluid, which exerts a solvent action on metallic oxides and alkaloids (base, not salts), hence its value in the preparation of the official oleates.

Oxy or Alcohol Acids.

Oxy-acids are those acids which contain, in addition to a carboxylic (COOH) group, the hydroxyl (OH) group linked to the radical; this bestows upon them the properties of the monohydric alcohols, hence the name alcohol acids.

ACIDUM LACTICUM, U. S. P., $\begin{array}{l} CH_3 \\ | \\ CO(OH). \\ | \\ COOH \end{array}$—This is the ethylidene or fermentation lactic acid, which is obtained by the "lactic fermentation" of sugars, e. g., milk, cane and grape sugars, by means of the micro-organisms (lactic bacteria) present in stale cheese. The fermentation occupies eight to ten days at a temperature of 40° to 45° C., during which time the solution is kept neutral by the addition of zinc or calcium carbonate, otherwise the presence of the acid causes fermentation to cease; when prolonged over this time, lactic changes into butyric fermentation, with the formation of butyric acid. The zinc lactate thus obtained is decomposed in the presence of water by sulphuretted hydrogen, filtered and concentrated till its density reaches 1.213, containing 75 per cent. of anhydrous acid. Sarcolactic acid, which is identical with the official acid, differing only in physical properties, occurs in the juice of flesh and also results instead of ordinary lactic acid in certain fermentations. The U. S. P. directs that the official product be tested for the presence of this isomer by addition of cupric sulphate T. S. The presence of glycerin as an adulterant may be detected by mixing and heating with an excess of zinc carbonate (which unites with the acid to zinc lactate), drying and extracting with absolute alcohol, which leaves behind any glycerin that may be present.

Lactic acid is used in making ferri lactas, also in preparing syrup of calcium lactophosphate.

Di-Basic Acids.

These acids form two series of salts, acid and neutral, one or both hydrogen atoms in the two carboxyl groups being replaced.

OXALIC ACID, $H_2C_2O_4$ or $\begin{array}{l} COOH \\ | \\ COOH \end{array}$ Occurs in many plants as potassium acid oxalate or calcium oxalate. It is obtained by fusing cellulose (sawdust, starch, etc.) with caustic alkalies, decomposing the resulting salt with an acid. The acid is very poisonous; the antidote is chalk or magnesia. It is used in making the official volumetric solution, also the various oxalates.

ACIDUM TARTARICUM, U. S. P.—Di-Oxy-Succinic Acid—$H_2C_4H_4O_6$ or $\begin{array}{l} CH(OH)COOH \\ | \\ CH(OH)COOH \end{array}$—The official or dextro-tartaric acid is also a di-basic acid, which is found either free or in combination as potassium or calcium salts in various fruits, as grapes, tamarinds, sumach berries, etc. The chief source is "argols," an impure acid potassium tartrate, which collects as crusts on the sides of casks during the fermentation of wine. The acid potassium tartrate is first neutralized with chalk in hot solution, whereby an insoluble calcium tartrate precipitates, while the neutral potassium tartrate remains in solution. The solution of the neutral potassium tartrate is treated with a solution of calcium chloride, whereby the rest of the acid is precipitated as insoluble calcium tartrate. The united precipitates of calcium tartrate are then decomposed with the necessary amount of sulphuric acid, whereby calcium sulphate is precipitated and tartaric acid is liberated. The chief impurities in tartaric acid are sulphuric acid, lime, lead and copper. As a test of identity, when a strong solution of potassium acetate is added to an aqueous solution of the acid a white precipitate of acid potassium tartrate falls. For valuation see "Acidimetry." This acid enters into Pulvis effervescens comp., Potassii bitartras, Potassii et sodii tartras, antimonii et potassii tartras, and some of the scale salts of iron.

Tri-Basic Acids.

ACIDUM CITRICUM, U.S.P., $H_3C_6H_5O_7 + H_2O$, or $\begin{array}{l} CH_2COOH \\ | \\ C(OH)COOH. \\ | \\ CH_2COOH \end{array}$—This tri-basic acid is obtained from the juice of lemons and limes, which is first clarified by boiling, and then neutralized while still hot with calcium carbonate; from the calcium citrate which precipitates from the hot solution, the citric acid is liberated by the careful addition of sulphuric acid, which precipitates the calcium as sulphate. Since three replaceable hydrogens are present in the acid, three classes of salts are formed, viz.: primary, secondary and tertiary. Citric acid is used in making the various citrates, also in the Liquor magnesii citratis, Liquor potassii citratis and Syrupus acidi citrici. For assay see "Acidimetry."

Esters.

The esters or compound ethers may be considered as derived from the acids by the exchange of the replaceable hydrogen of the latter for alcoholic radicals, just as salts result by exchanging the hydrogen for a metal.

CH_3COOH Acetic Acid	$CH_3COOC_2H_5$ Acetic Ethyl Ester

Or they are derived from the alcohols by replacing the alcoholic hydrogen atom for an acid residue.

C_2H_5OH Ethyl Alcohol	$C_2H_5O(NO_2)$ Ethyl Nitrite	$C_2H_5O(SO_3H)$ Ethyl Sulphuric Acid

The esters are prepared usually by the action of acids upon alcohols, provided some substance, as concentrated H_2SO_4, is present to take up the water formed by the reaction. For this purpose a salt of the acid is usually selected, the acid being liberated in "status nascendi."

(To be Continued.)

THE PEPSINS ON THE MARKET.

By H. W. Snow, Ph. C.

As considerable interest has been taken in the pepsin question lately, owing to the fact that one of the important queries propounded by the American Pharmaceutical Association is on the subject, the result of my experience in assaying pepsins may be pertinent, and interesting to your readers. I write as a retail druggist who has been in business for some time, and who has had much experience in the assaying of pepsins. Depending, of course, upon the jobbers and manufacturers for my supplies, and being in the position of having all sorts of pepsins offered me, all claiming to be U. S. P., I considered it of sufficient importance to both my customers and myself to assay each lot of pepsin purchased, in order that I might determine which was the best, and which was the most economical to use if several were of the same high strength. The great variety of brands of this valuable digestive ferment to be found on the market, each claiming to be U. S. P., yet differing so radically in physical characteristics, price, etc., would naturally indicate that in some cases there must be a divergence from the established standard. For the purpose of making comparative tests to satisfy myself on this point, I obtained original packages of all the pepsins on the market, claiming to be U. S. P., together with a few other pepsins not claiming to be U. S. P., 1890, but setting forth special features and strengths, conveying the impression that that particular pepsin was not only stronger, but superior in other respects to the other brands. These samples were purchased in open market in unbroken sealed packages. The operations were conducted with the utmost care, and the minutest details in the process of manipulation necessary to bring about correct results from the assaying of each pepsin, were scrupulously observed. The following is the list of the apparatus, which I believe it is essential to have for properly conducting the experiments; also a detailed account of the method employed by the writer:

Apparatus: One balance sensitive to 1-10 milligramme; one burette, stoppered, 25 cc., graduated to 1-10 cc.; one cylinder, 100 cc., graduated to 1 cc.; one cylinder, 250 cc., graduated to 2 cc.; a suitable number of bottles (4-ounce oil sample); a suitable number of bottles, 16-ounce; a brass sieve, 30 meshes to lineal inch.

Solution A. Pepsin, 1 : 3,000, 0.1667 gm.; hydrochloric acid (0.2 per cent. absolute), 250 cc.

Balance two small pieces of unsized paper on the scales and weigh the pepsin. Then in order to avoid loss of pepsin, fold the paper containing it carefully and insert it (pepsin and paper both) in one of the 16-ounce bottles, into which 250 cc. of hydrochloric acid, 0.2 per cent., have been carefully measured. Agitate until the pepsin is dissolved. Number the bottle and set it aside.

	Digestive Strength Claimed.	Actual Digestive Strength.	Market Price per Ounce.
1. Armour's Standard Scale	3,000	1,666	$0.75
2. Biroth's Pure Pepsin	3,000	2,142	1.00
3. Cudahy's Granular	3,000	1,666	0.70
4. Dike's Scale (F. Stearns & Co.)	3,000	3,000	0.50
5. Fairchild's Scale	3,000	3,000	1.25
6. Merck's	3,000	1,500	0.55
7. Parke, Davis & Co.'s Aseptic Pepsin	3,000	1,875	0.55
8. Scheffer's Pure Pepsin	3,000	535	1.25
9. Swift's Silver Scale	3,000	1,000	0.45
10. Wyeth's Granular	3,000	1,875	0.52
11. Beeman's		Less than 500	0.60
12. Ford's	Standard test	1,000	0.75
13. Golden Scale	Standard test	1,000	0.50
14. Jensen's	2,000	Less than 750	1.25
15. Royal	No claim	Less than 500	0.40

Eggs. These should be as fresh as possible and the water should be boiling briskly when they are added, care being taken not to break any of the shells. The boiling should continue fifteen minutes after adding the eggs. The eggs are then cooled by immersing in cold water, the shells dried with a cloth and the shells and yolks carefully separated from the albumen. The latter is then pressed through the sieve, rejecting the first portions passing through, and the resulting mass carefully mixed with a spatula. Into a suitable number of the 4-ounce bottles, each containing 50 cc. of the hydrochloric acid, 0.2 per cent., weigh carefully 10 gm. of the albumen and agitate the mixture vigorously to thoroughly mix and break up the albumen. Then measure from the burette 5 cc. (or a suitable quantity) of solution A, and add sufficient of the hydrochloric acid, 0.2 per cent., to make with the original 50 cc. and the solution A 100 cc. As 5 cc. solution A contains enough pepsin to digest the 10 gm. of albumen contained in the 4-ounce bottle, provided the pepsin is 1 : 3,000, by varying the proportion of solution A added, the exact strength of the pepsin is readily determined.

After adding the solution A and the proper quantity of HCl, 0.2 per cent., to each of the test bottles, agitate the latter well and place them in a water bath at a temperature of 104° F, noting the time they enter the bath. At the expiration of fifteen minutes, and regularly every fifteen minutes thereafter for six hours, agitate by reversing the test bottles twice and replace them in the bath. Care should be taken to agitate each test as nearly like the other as possible, and the corks should be removed for an instant at each agitation to allow any gases formed or expanded air in the bottle to escape.

This is practically the test laid down by the U. S. Pharm., 1890, which is manifestly the only one to be used in testing pepsin, as it is to be supposed that a pepsin to "come up to the pharmacopœial requirements," that is, to be 1 : 3,000 in strength, should do so according to the test established by the Pharmacopœia. Moreover, it would naturally be presumed that the manufacturers of the different pepsins on the market, claiming to be U. S. P., 1890, strength, base the claim made for their pepsin on its ability to stand the test laid down in the 1890 Pharmacopœia. The only modification which was adopted in the method given above was the weighing of 0.1667 gm. of pepsin instead of 0.067 gm. This was done to avoid error, as an error of only one milligramme in weighing the pepsin would make a serious difference in the result, and by taking larger quantities the chances of errors are reduced.

The results which I obtained are given in the above table. In the third column the prices asked in open market for the different pepsins are given, and in the second column the strength of each, as found by careful assaying, is given. I will let the figures speak for themselves:

It will be interesting to note some of the facts brought out by the above table. For instance, it is obviously cheaper to manufacture a pepsin of low grade strength, and the supposition would, therefore, naturally be that the object of the discrepancy between the real strength and the strength claimed would be the desire to overcome competition by placing a cheap pepsin on the market. This theory, however, would not be borne out by the above table, for in many cases, it would seem as if, by some curious process of figuring unknown to me, the lower the strength of the pepsin, the higher the price of the same has been put. To determine the actual value of a pepsin, assaying less than 1 : 3,000, it is simply necessary to base the calculation on the strength claimed, the actual strength, and the price at which the pepsin is sold.

Presuming that it is understood that a pepsin to come up to the requirements of the Pharmacopœia should, in addition to being 1 : 3,000 in strength, possess the characteristics of a good pepsin, some of the observations made by the writer during his series of experiments may be pertinent. It might also be well to note some of the claims made for the different pepsins on the labels of their respective packages. Before we proceed let it be understood what the characteristics of a good pepsin are, which I will give as briefly as possible:

The odor should be pleasant, as a disagreeable odor denotes the presence of mucus. The same applies to the taste, which should be sweet and agreeable. One of the essential qualifications of a

good pepsin is freedom from mucus. It should be non-hygroscopic, and it should also be readily and perfectly soluble in water. In appearance a pepsin should be a fine white or yellowish-white amorphous powder, or thin, pale yellow or yellowish transparent or translucent grains or scales.

The label for No. 11 reads: "Pure Pepsin from 20 to 40 times the strength of the saccharated preparation." The U. S. P. saccharated pepsin standard is 1 : 300. Now 20 to 40 times this strength would show a digestive power of 1 : 6,000 to 1 : 12,000, whereas the actual strength is less than 1 : 500. The solution of this pepsin is very cloudy with some insoluble matter. Odor putrid, and taste saline and slightly bitter.

We quote from label of No. 3: "Rex Brand, Granular Pepsin. One grain of this pepsin will digest 3,000 grains of egg albumen, using U. S. P. test 1890." The actual strength is 1 : 1,666. In appearance it is a fine yellowish powder. The odor is repulsive, and the taste equally so. It is also very hygroscopic.

Some of the claims made for No. 12 are as follows: "Non-hygroscopic, neutral and warranted free from admixture of any kind. This pepsin is unequaled in digestive power, dissolving 2,000 or more times its weight of coagulated albumen in four to six hours." The actual strength is 1 : 1,000. It is a yellowish-white powder, almost insoluble. The odor unpleasant, aromatic.

On No. 7 we read: "Pepsin Aseptic (Pepsin, U. S. P., 1890). Digestive power 1 : 3,000. A permanent soluble scale pepsin, absolutely free from putrefying matter and capable of digesting 3,000 times its weight of freshly coagulated and disintegrated egg albumen, according to the requirements of the U. S. P., 1890." Actual strength 1 : 1,875. It is a pale-yellowish, transparent scale pepsin, making a very milky solution, which, however, shows no residue. The odor is fair when it is fresh, but becomes putrid when it is exposed for a short time. In taste it is unpleasant and it is also very hygroscopic.

One more example will suffice. Take No. 8. It claims to be "Dry Pepsin concentrated. By the test of the new Pharmacopœia. One part dissolves 3,000 parts of coagulated albumen. Contains the digestive principle of the animal stomach in a highly concentrated state. Free from any unpleasant odor and does not lose its digestive strength." The actual strength of this pepsin is 1 : 535. In appearance it is a yellowish-white powder. It is exceedingly insoluble, of unpleasant odor, and in taste slightly bitter.

To conclude, in view of the results obtained from experiments conscientiously carried out, and faithfully recorded above, and for the edification of those pharmacists who may be interested in the matter, the writer feels safe in asserting that a very small percentage indeed of the so-called U. S. P. pepsins of the market come up to the Pharmacopœia requirements.

Omaha, Neb., June 15, 1895.

SIDE LINES FOR DRUGGISTS.*

By Charles Lawrence, Wichita, Kan.

Is it advisable for the druggist to increase the variety of goods he carries in stock, or shall he follow the conservative methods in general use at the present time? This is a pertinent question to-day and one that has become a serious problem to many of us. Nearly every one of the older druggists has seen such a variety of goods practically taken out of his hands and the margin of profit on those that remain so reduced that, in many instances, the problem of existence for the retail druggist is a serious matter.

Lines no Longer Handled.—To mention a few lines that have in great measure left the drug stores entirely, especially in the larger towns of the State: There are paints and window glass, lamps, lanterns and coal oil, toilet soaps and perfumes, books and stationery, spices and flavoring extracts, machine oils and many other items which will readily occur to you if you give the subject a little thought. With the loss of these comes quite a reduction in sales, and consequently in profits, while the expenses of running the store remain about the same.

If we study the reason for this change perhaps a remedy will be suggested to us. What constitutes a druggist? The law says it is a person who by reason of training and experience can safely be intrusted to handle remedies that may be dangerous in their action, and he shall do this accurately, intelligently and honestly. The pharmaceutical schools and boards of pharmacy can go no further—in fact, they only aim to go this far—and, of course, many persons satisfy their requirements that ought never to be intrusted with this responsibility.

A man or woman can be a druggist or pharmacist according to this definition, the words both meaning the same in the United States, and still not be a success at all, either financially or pharmaceutically. By no means should we have druggists without this knowledge, but this is only a fraction of the requisites of success.

Druggists Would Fail as Dry Goods Men.—How many druggists would succeed in the dry goods trade by using the same energy, originality and push employed in the average drug store of to-day? Probably not one in one hundred if there was any lively competition to contend with. What is the trouble? Alas! the druggist is not a merchant in any sense, except that he has a dim idea that he must sell his goods at a profit, but if he is to do more than eke out a poor miserable living in the future he will have to study the science wherever it may be taught. This cannot be learned in a school of pharmacy and many of us cannot learn it at all, but it will be one of the prominent requirements of the druggist of the future.

Old Fogy Ways of Druggists.—If you look into the show windows of a dry goods store you expect to see the newest and most seasonable goods in the whole stock, with prices plainly marked on them, and so arranged as to make a bright, attractive picture. Look into the show windows of an ordinary drug store. What will you see? First of all, the traditional show globes, with their red and blue, green and yellow liquids, with, perchance, a murky sediment in each well up from the bottom to vouch for the antiquity of the store and the richness of the solution. Besides these, you may find a show bill telling of some entertainment long past or some church affair with a 10 to 25 cent admission. (The churches always advertise in the drug stores without reference to the character of the store or denomination of the church. They do this partly because the advertisement is free, and partly because it is considered the thing to do.) You will also find in the windows a few pictures of female beauties partially inclosed with scant raiment and designed to illustrate the advantages of using a particular tonic internally, or pleasing pigment on the outside. Besides these you may find a plentiful supply of dust, and in the corners cobwebs whose age should entitle them to the respect of every one, while the fly specks or coal smoke on the glass preclude the necessity of curtains, and in some cases even the awning can be dispensed with.

Bold, indeed, and reckless, would the druggist be who should discard the colored show globe, and not one of you can name a half dozen stores of your acquaintance that don't continue them, or point out a like number of druggists who can tell why they have them except for the single reason that others do.

This is not a true picture of the front of many a store whose proprietor is a progressive pharmacist, and who may even be a merchant, but such a one will not be offended by the above description, and he needs no hints on how to develop his business. There are a good many druggists who are enough awake to the needs of the time to see when their neighbor has made a hit and try to copy after him, but that is a very weak substitute for the real thing.

Now let us consider briefly a few things with which some persons have achieved success. Not all of them are adapted to any one place, and perhaps none of the ones mentioned may be suitable for your store, but if these few should cause you to think right hard for a few minutes some good will have been accomplished.

How to Succeed as a Druggist.—It should be the constant aim and practice of every druggist to encourage the physicians of his own town to write prescriptions, for if they do not, much of the druggist's peculiar ability and training has gone for naught; but if this is found to be impossible would it not be better to supply him with his wants at

*Read before the recent annual meeting of the Kansas Pharmaceutical Association.

a reasonable margin than to have him send away and buy them at another town, or from a competitor in the same place? Many druggists have made this a profitable part of their business, and it has enabled them at the same time to buy many goods in larger quantities and, of course, at cheaper prices. Japanese goods have been a drawing attraction with some firms and are a class of goods unique and salable and offer good profits to the dealer. Japanese punch bowls will sell even in a prohibition State, being no doubt used for lemonade, or as a receptacle for cut flowers on formal occasions, and although a man may sell back scratchers and dressing gowns of Japanese manufacture without knowing the atomic weight of oxygen, still there is no disgrace connected with it, and the profit received may help to pay his church subscription.

Paints and window glass were once largely handled by druggists, and, except in the larger towns, most of the demand for the better grades of these goods is supplied by them still. Of course, where there are exclusive paint stores, the trade in the cheaper grades of paint and the custom of the professional painter will be largely directed to these stores, but even in such towns the druggist can hold his own by handling only goods of a superior grade, for in paints many people wish to use none but the very best and look naturally to their druggist to supply them. Stationery and wall paper form a nice addition to the sales of many a drug store, and in most places afford a good profit.

Nearly every druggist handles cigars, and if neither the proprietor nor his assistants smoke themselves, a rare combination, and if the physicians of his acquaintance insist on paying for the cigars they use, he may make a little money from this source, but he won't be able to make many summer trips from his profits on this account.

Package teas have been a success with some, requiring comparatively a small stock and affording a good margin of profit. A few stores have done a large business in china ware and fancy dishes of various kinds. The same may be said of musical instruments and sundries of this nature, both possessing the same advantage, namely, that as much or little as desired can be carried in stock, it not being necessary, as in many lines, to carry a full assortment of goods in order to do a satisfactory business in them. Photographic goods are carried by a few druggists. Few localities, however, are so situated as to make success probable, the variety of goods necessarily kept being so great and so much of the stock being perishable, it either requires a large amateur trade at home or a location so situated as to command the patronage of a wide area of territory to receive adequate returns for the money invested and labor and risk involved.

Artists' materials furnish considerable trade for many drug stores, naturally fitting into the business, especially where paints and brushes are handled, but before getting very deep into the mysteries of this trade the seller will realize that the demand is fickle, that styles change as often in this as in bonnets, and if he wishes to see how far his patience will stretch without breaking, let him rent out a few studies to amateurs.

Soda and Mineral Waters.—One of the lines in which the possibilities are greatest and the probabilities very meager is soda and mineral waters on draft. Some have achieved a remarkable success with this, but before embarking in it let the druggist count the cost and take a good long time to make his decision, for it means hard work every day in the week and until late at night, on Sundays, holidays, reunion and convention days alike, and the times when he will have the greatest desire to get away from the store are those during which he will gather his greatest harvest, and he will have to stay in the store and help to do the work.

Also, if he thinks the chemist has succeeded so well as to make acetic and butyric ethers and extract of orris root into syrups equal or superior to flavors which nature furnishes, or that will acceptably please the critical taste of the public, let him think so, but keep out of the business.

Jewelry and drugs go well together, and often the jewelry forms so important an addition as to become the larger part of the business.

Homœopathic Remedies.—In nearly all towns homœopathy has a greater or lesser following, making some demand for this class of goods. You will notice that the followers of Hahnemann are, in the main, well-to-do people, and are rightly constituted to make valuable customers if you treat them with discretion. Now, instead of making light of their favorite remedies, or proving to them, scientifically of course, as everything can be demonstrated, that the sixth decimal dilution of lycopodium or sulphur 30x could not possibly effect a cure, why not be in a position to give them the remedy desired and to continue their good-will and incidentally sell them what other goods they may need in your line? Let the rival schools of medicine fight their own battles; that isn't your business. Many things need discussing in this world, and there is always room for reform and reformers, but if you feel called to the work, make your "calling and election sure" and then go into the business exclusively.

Whether any of the lines mentioned is adapted to your own store remains for you to decide. You will have to study the situation carefully, make up your mind and then let it stay made up until you give it a fair trial, and then if you don't succeed have the courage to drop it, always remembering that the fairly successful man will have lots of help, and the less he needs it the more he will get, for the great majority of people want to trade where the crowd does, and if you appear happy and prosperous every one will want to give you a lift.

"Laugh and the world laughs with you,
Grieve and you grieve alone"

is true in all departments of life.

PHARMACEUTICAL NOTES.

By A. E. Hiss, Ph. G.

AROMATIC WATERS.— The Pharmacopœia directs that in making waters of anise, cinnamon, fennel, peppermint and spearmint, two cubic centimeters of oil be triturated with four grams precipitated calcium phosphate. I find that the proportion of the calcium compound should be increased, say to 16 grams. When this amount is triturated with the oil, the latter is more thoroughly divided and distributed through a larger mass and hence when the water is added there will be no separation of oil. It is advisable to let the mixture of oil, calcium phosphate, and water stand for about six hours before filtering. Owing to the fact that these aromatic waters are frequently combined with alkaloids, distilled water only should be employed in working them.

ELIXIR PEPSIN AND BISMUTH. —This preparation is recognized by the National Formulary, but the formula contained therein is entirely unsatisfactory. In the first place, compound elixir of taraxacum should not enter into this preparation, and, in the second place, the bismuth compound used, bismuth and ammonium citrate, is unstable for the reason that it soon loses ammonia, which volatilizes, and this being the only thing which keeps the bismuth in solution, the latter, simultaneously, is deposited as a white precipitate. When all the ammonia has vaporized, all the bismuth will be found at the bottom of the container. If there is any virtue in a combination of a soluble compound of bismuth with pepsin, such an altered preparation does not represent it. I make my elixir of pepsin and bismuth according to a formula modeled after one offered by Rotter some years ago. The soluble bismuth compound used is the sodio-tartrate. My formula is as follows: Mix 128 grains pepsin (any of the "pure" pepsins of the market may be employed) with 12 fluid ounces of simple elixir, shake well and set aside, occasionally agitating until all is dissolved. Mix 3 fluid drams nitric acid with an equal measure of distilled water, and to this mixture add 3 drams bismuth subnitrate, stirring until solution is effected; then add enough distilled water to make 3 fluid ounces. Now dissolve 2¼ drams tartaric acid in 1½ fluid ounces distilled water and pour this into the bismuth solution, stirring constantly during the mixing. To this mixture gradually add 150 grains sodium bicarbonate, stirring constantly; dilute the magma of bismuth tartrate with 5 fluid ounces distilled water, and after a lapse of several hours pour the whole into a plain filter; allow the liquid to drain, and then wash the precipitate with distilled water until the washings are tasteless. Now mix 150 grains sodium bicarbonate with 1 fluid ounce distilled water, and add 135 grains tartaric acid gradually and with constant stirring. When reaction has ceased and a clear solution has formed, add the washed bismuth tartrate to this sodium tartrate solution and stir until

a clear solution has has again been obtained and to this solution add enough distilled water to make 3½ fluid ounces. Mix this with the pepsin solution, and add 1½ fluid drams compound tincture of cudbear. A small quantity of solution of tartaric acid may also be added if it is desired to make the mixture slightly acid. Finally filter, preferably after allowing to stand for 24 hours or more; add enough simple elixir through filter to make 16 fluid ounces. There being no ammonia to lose, this elixir is quite permanent; there can be no loss of bismuth by precipitation; even strong acids will cause no precipitation, and finally the elixir is very palatable.

SIMPLE ELIXIR.—In making this elixir according to the formula of the Pharmacopœia and the National Formulary, it is advisable to shake the calcium phosphate with the mixture of alcohol and compound spirit of orange, instead of adding it to the mixture of spirit, alcohol, syrup and water. The product will filter bright much quicker by pursuing this method.

SOLUTION OF MAGNESIUM CITRATE.—This preparation probably gives the pharmacist more trouble than any other with which he has to deal. The formula I use is in one respect decidedly different from any other modification of the Pharmacopœial formula I have ever seen suggested. The following method of manufacture is one I have used with practically entire success: Jenning's magnesium carbonate, 3 av. ounces; break or cut this into tolerably small pieces, put into a wide-mouth half-gallon bottle, and upon this drop 30 drops of spirit of lemon. Then introduce 6 av. ounces crystal citric acid so it will lie just over the magnesium carbonate, and then pour into the bottle enough distilled water to cover the two solids. Placing the very soluble acid over the magnesium carbonate in the manner directed hastens solution marvelously. A sort of circulatory solution takes place; the acid is dissolved by the water, and this acid solution sinks down upon the carbonate and attacks it. A few pieces of magnesium carbonate will rise to the surface of the liquid and these present more difficulty in dissolving than all the remaining carbonate. Toward the last, the bottle will therefore have to be adjusted several times before solution is complete. During the reaction the bottle should be loosely covered. When solution is complete, 6 fluid ounces each of simple syrup and glycerin should be added, and then enough distilled water to fill the bottle. Filter the whole, divide it among six bottles, fill the latter with distilled water, add 40 grains potassium bicarbonate, and cork in the usual way. The bottles used should be rinsed with distilled water before filling. It is with some misgivings that I first substituted glycerin for a portion of the syrup, but I have had no complaints from either physicians or patrons, and I will continue to do so until I become convinced that I am doing wrong. This preparation has kept excellently during the summer time. At no time have fungi been found growing in the liquid. It is imperative in making this solution that it be exposed to the air just as little as possible.

SIMPLE SYRUP.—This appears to be one of the simplest preparations the pharmacist has to make, but a great many are unable to make it properly. I have no pet method for its manufacture, but I have this to say: No one should ever endeavor to make it by mixing the sugar and water in a vessel, then applying heat, and then going away about some other business. The product obtained in this wise will have a disagreeable, mawkish taste. A good way to prepare the syrup is to put the requisite quantity of water in a suitable vessel, heat to boiling, and then add the sugar gradually and with constant stirring, then continuing the application at least until all the sugar is dissolved. After all the sugar is added, the heat will not have to be continued for more than a few seconds. By this method the water is sterilized and the product will have a pure, sweet taste.

COLD CREAM.—The Pharmacopœia of 1880 directed the use of too much water in this preparation, and the Pharmacopœia of 1890 went to the other extreme of ordering too little. In making it I have, therefore, increased the amount of water above that of the present Pharmacopœia. I mix plain, distilled water with the fats, and add oil of rose to the ointment when cool, and I also use benne oil instead of almond oil, as it is cheaper and just as good. My formula in full is as follows: Spermaceti, white wax (must be pure white), of each, 2 av. ounces, melt together carefully, add 10 fluid ounces benne oil and continue the heat until the whole is quite warm, then place in a large mortar, and add 4 fluid ounces of distilled water in which has previously been dissolved 40 grains of borax. Beat the whole together until intimately mixed, add 5 drops oil of rose and mix again. The product is pure white in color and remains in perfect condition.

SULPHUROUS ACID IN WINE.—M. Ripper (Forsch. über Lebensmittel, Jr. Soc. Chem. Ind.), as a result of testing several hundred samples of wine, finds that free sulphurous acid is present in minute quantities, whereas the proportion of aldehyde sulphurous acid varies very considerably (from 0.0003 to 0.0260 grams SO_2 per 100 cc.). The better classes of wine show a higher percentage of both total sulphurous acid and of aldehyde sulphurous acid. This, it is suggested, is due to the oxidation of the alcohol contained in the wine to aldehyde, which then combines with the sulphurous acid formed from the sulphur of the barrels. Sulphur added to wine is to be regarded not only as an antiseptic, but also as an aid in the development of the wine. Unripe wines are much improved when their free aldehyde is combined with sulphurous acid. The greater portion of the sulphurous acid present in wine should be in combination with aldehyde, and the free sulphurous acid should not exceed 0.002 grams of SO_2 per 100 cc.

SOLIDIFYING MOLASSES.—The low price for molasses has caused a very large accumulation in Louisiana, and producers are considering the best way to store it at least expense. W. R. Stringfellow, of New Orleans, claims, says the Manufacturers' Record, to have found an inexpensive process by which it can be solidified. He says that a machine which will solidify or concentrate fifty barrels of molasses daily can be furnished the planter at a cost not exceeding $1,500, and the cost of operation is not more than two or three cents a barrel. The exhaust steam from the sugar-house engine is injected into the bulk molasses with nothing more than the normal pressure as it escapes from the exhaust and at a temperature of about 140° F. By this process about twenty-five gallons of water are expelled from a barrel of molasses, and then the concreted product is ready for storing or shipment as soon as cooled. In this form it resembles coarse sugar.

CLEANING COMPOUNDS.

Electric Cleaning Compound.

Castile soap (white)	1 fl. ounce
Ether	1 fl. ounce
Glycerin	1 fl. ounce
Stronger ammonia water	2 fl. drams
Water, to make	32 fl. ounces

To 16 fl. ounces of water add in the following order the glycerin, ammonia and ether. Shake well and add enough water to measure 32 fl. ounces. Then add the soap (in fine shavings). Shake often for a few hours. Place the article to be cleaned on a table or any flat surface, with a fold or two of cloth under the spot, wet a sponge with the fluid and rub hard for a few seconds; then wash with clean water.

Lightning Cleaner.

Castile soap	4 ounces
Powdered carbonate of sodium	2 ounces
Powdered borax	1 ounce
Water of ammonia	7 ounces
Alcohol	3 ounces
Spirit of turpentine	2 ounces
Ether	3 ounces

To Remove Axle Grease.

If spots of axle grease, varnish, etc., are not completely removed from clothes by the application of benzine, place the garment upon a flat cake of plaster of paris or upon some folds of blotting paper, moisten it with some sulphuric ether and rub gently with a soft brush or clean cotton rag. If necessary, repeat. This must be done by day only, the ether vapors being exceedingly inflammable and dangerous to handle where there is an open fire or light or hot stove.

Glove Cleaner.

D. Take fine curd soap, one pound, scrape it into a fine powder, put into a jar and pour upon it from time to time sufficient strong alcohol to make it into a thick jelly; add one teaspoonful of ether or one-half teaspoonful liquor potassa; mix and put into bottles well corked. To

use, put the gloves on the hand, rub on the preparation with a piece of flannel, when the dirt will disappear.

2.) Strong solution ammonia .....½ ounce
Solution clorinated soda .....8 ounces
Distilled water.....9 ounces
Yellow soap in fine shreds .....12 ounces.

Make into a paste, and apply with a clean piece of flannel.

Composition for Cleaning Wall Paper.

Mix together 1 pound each of rye flour and white flour into a dough, which is partially cooked and the crust removed. To this 1 ounce of common salt and ½ ounce of powdered naphthaline are added, and finally 1 ounce of corn meal and ⅛ ounce of burnt umber. The composition is formed into a mass, of the proper size to be grasped in the hand, and in use it should be drawn in one direction over the surface to be cleaned.

To Remove Ink and Rust Stains.

Tartaric acid.. .....10 parts
Alum .....10 parts
Water, quantity to make a solution.

Rust Stains.

A mixture of two parts of powdered cream of tartar with one part of powdered oxalic acid will remove stains from cotton and linen. This mixture is sometimes sold under the name of salts of lemon. The poisonous character of the acid must not be overlooked, for accidents have occurred from its careless use.

Rust Stains on White Goods.

Soak the stains in a solution of tin chloride and rinse immediately with much water. The tin salt is much more reliable in removing iron rust and quicker in its action than oxalic acid, unless the stains are soaked in a solution of the latter, contained in a tin spoon, when the stains disappear in a short time.

Cleaning Marble.

Pure beeswax.....10 parts
Japan gold size..... 2 parts
Spirit of turpentine....88 parts

Apply in small pieces, with white flannel.

Wine and Fruit Stains.

White cotton or linen, fumes of burning sulphur, warm chlorine water.

Colored cotton or woolens, wash with tepid soapsuds or ammonia.

Silks, the same with very gentle rubbing.

Cleaning Silver.

Prepared chalk.....8 ounces
Spirit of turpentine....2 ounces
Alcohol .....8 drams
Strong ammonia .....2 drams

Apply with a soft sponge and allow to dry before brushing off.

Oil Cloths, to Furbish.

Dissolve 2½ pounds paraffin in 1 gallon oil of turpentine by the aid of a gentle heat, and apply with a sponge or piece of flannel, while warm. Let it remain on the oil cloth 24 hours; then polish with flannel. This solution not only renovates but preserves the cloth.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(W. H.) See rules at the head of this department.

New York City Board of Pharmacy and Reregistration.

(Licentiate.) The New York City Board of Pharmacy does not require licentiates holding its certificates to pay an annual fee or to be re-registered.

Tincture Citro-Chloride of Iron.

(G. H.) All preparations of iron are apt to atack the teeth, unless properly diluted and taken through a tube, and the so-called "tasteless" tincture of iron, N. F., is no exception to this general rule. In this preparation the ferruginous taste of ferric chloride is considerably modified by the sodium citrate used in making it, hence the name.

Cement for Bicycle Tires.

(G. H. I.) Almost any good rubber cement may be used for this purpose. Isinglass and glue are insoluble in the solvents used for rubber, though aqueous solutions of them may be mixed with solutions of the latter by shaking, a sort of an emulsion being formed. For a number of formulas and considerable information on the solubility of rubber, see Era of May 23, 1895, page 656.

Storing Paris Green.

(M. B.) No extraordinary precautions are necessary. Paris green is a very stable compound, does not readily suffer deterioration, and it may be safely kept in the ordinary containers in which it is transported, preferably in a cool, dry place. It is insoluble in water, but when boiled with it for considerable time becomes brownish and gives off acetic acid. Acids abstract the copper, and aqueous solutions of the alkalies first separate blue cupric hydrate, which, when boiled with the liquid, is converted into an oxide, an alkaline arsenate being also formed.

Scouring Rush.

(L. L. J. K.) The "scouring rush," "shave grass" or "horsetail" is better known as the Equisetum hyemale of the botanists. It is an indigenous cryptogamous plant, with slender annual stems from a foot and a half to three feet high, growing abundantly in the northern States, and preferring wet places, as the banks of streams, etc. The plant derives its name of scouring rush from its use in scouring, for which it is fitted by the silicious character of the stems. It is a diuretic and astringent. Taken freely in the form of decoction it has been found useful in dropsy, suppression of the urine, hematuria, gravel, nephritic affections, etc.

Potassium and Water.

(J. G. P.) The metal potassium will decompose water at ordinary temperatures. When a fragment of it is thrown upon water, the latter is decomposed and hydrogen set free, thus: $K + H_2O = KOH + H$.

The metal being lighter than water floats upon its surface, and owing to the heat of the reaction, melts and rolls about upon the liquid; the heat developed becoming sufficiently great to cause the hydrogen to ignite, and it burns with a flame colored violet by the vapor of the metal. The potassium hydrate (KOH) in the above reaction, dissolves in the excess of the water, rendering the liquid alkaline; this alkalinity may be verified by means of a solution of red litmus.

Vetivert Extract.

(Crescent.) The true extract of vetivert is rarely used alone as a perfume, but it doubtless enters into the composition of a number of the popular odors. The odor is a heavy one, and is generally used for fixing or holding the more volatile perfumes. Shavings of the root are frequently employed for filling sachet bags. However, as you want a formula, try this: Digest 32 ounces ground vetivert with 4 pints of boiling water for 4 hours. Cool, add 6 pints of alcohol and 2 pints of boiling water; macerate two weeks, percolate and express.

Dieterich gives this for vetivert tincture: In a flask digest 8 ounces of vetivert root in finest powder with 2 quarts of the best quality of alcohol, shaking frequently, until proper extraction is accomplished. Tincture of vetivert oil is made by dissolving 2¾ drams of the oil in 1 quart of alcohol.

Liquid Shoe Dressing.

(T. C.)

1.) Ivory black .....4 ounces
Linseed oil .....4½ pounds
Treacle .....4 ounces
Copperas .....4½ drams
Vitriol .....4½ drams
Vinegar, quantity sufficient.

2.) Yellow soap ..... ½ ounce s
Yellow wax ..... 4½ ounces
Boiling water .....10 ounces
Turpentine .....10 ounces

Melt the wax in the turpentine, dissolve the soap in the water, mix in a hot mortar and stir until clod. By adding 1 ounce of extract of logwood brown dissolved in water a good polish for brown leather boots results.

3.) Lampblack .....¾ dram
Indigo, in fine powder... 1 dram

Rub together in a mortar with sufficient mucilage (made by dissolving 4 ounces of gum arabic in ¼ pint of strong vinegar) to form a thin paste; add very gradually of sweet oil 1 ounce; triturate very thoroughly until intimately mixed, when the remainder of the mucilage is added; then further add of treacle 1½ ounces, and afterward, successively of strong vinegar 2 ounces, alcohol 1 ounce. Bottle for use.

Face Powder.

(H. O. and L. A. C.) Here are several typical formulas:

1.) Lanolin, anhydrous..1 dram
Starch .....1 ounce
French chalk .....2½ ounces
Coumarin .....3 grains
Attar of rose.....2 minims

The lanolin and perfume are gradually mixed, the French chalk and then the starch are added.

2.) Venetian chalk.....20 pounds
Subnitrate bismuth....42 ounces
Zinc white .....42 ounces
Oil lemon .....1½ ounces

3). Talc .....10 drams
Wheat starch .....1 dram
Orris root .....1 dram
Oil bergamot .....1 drop

4). Zinc oxide .....1 pound
Precipitated chalk.....6 pounds
Powdered talc.....1 pound
Corn starch.....2 pounds
Extract of white rose..1 ounce
Extract of jasmine ....1 ounce
Extract of orange flower .....1 ounce
Extract of cassia .....1 ounce
Extract of musk.....¼ ounce

If this powder be too light, a portion of the precipitated chalk may be replaced with prepared chalk.

Pocket Book for Chemists and Pharmacists.

(G. C. D.) Bayley's "Chemists' Pocket Book" is a work of the character you desire. It contains a large amount of statistical and classified information pertaining to chemistry, chemical manufacturing, metallurgy, dyeing, distilling, brewing, sugar refining, photography, etc. Besides the various tables of useful data, chemical calculations, boiling points, solubility of substances, specific gravity methods, conversion of hydrometers, etc., it gives considerable miscellaneous technological matter relating to potash, soda, sulphuric acid, chlorine, tar products, petroleum, milk, tallow, photography, prices, wages, etc.

Another work of a similar character, though not so comprehensive as the foregoing, is Breyer & Schweitzer's "Chemists' Pocket Book of Ready Reference." This book contains many tables of useful data pertaining to practical analytical chemistry, technical information concerning dyes and dyeing, sugar, fertilizers, mining, metallurgy, tanning, etc.

For pharmacists, the author of the work first mentioned has prepared a book which he calls "Bayley's Pocket Book for Pharmacists." It is of handy pocket size and the information is arranged for easy reference, a rough grouping of which shows a classification of material into materia medica, pharmacy, botany, Latin, medicine, experimental physics, chemistry, weights and measures, miscellaneous, etc.

Violet Water.

(G. W. S.) Here are several formulas:

1.) Essence of violet..... 4 ounces
Essence cassie.
Essence rose, of each..1½ ounces
Deodorized alcohol.... 2 pints

The essences are made from pomades. For a cheaper preparation, some water may be added.

2.) Coumarin ..... 10 grains
Oil ylang ylang.... 30 minims
Oil bergamot,
Oil rose, of each... ½ fl. ounce
Tincture of musk (1 to 10).....200 minims
Extract jasmine.... 5 fl. ounces
Alcohol ..... 10 pints
Water ..... 6 pints

Dissolve the coumarin and oils in the alcohol, add gradually the water, and let the mixture stand for several weeks, with frequent shaking, then filter.

3.) Extract violet (from pomade) .....8 fl. drams
Extract cassie (from pomade) ....8 fl. drams
Spirit of rose.....4 fl. drams
Tincture of Florentine orris .....4 fl. drams
Cologne spirit.....1 pint

4.) Extract violet (from pomade) ..... 8 fl. ounces
Extract cassie (from pomade) ..... 4 fl. ounces
Tincture of orris root ..... 6 fl. ounces
Extract musk.....½ fl. ounce
Extract rose.....½ fl. ounce
Extract jasmine.... 5 fl. ounces
Deodorized alcohol.. 9 pints
Distilled water.....1½ pints
Magnesium carbonate, q. s.

Mix. If cloudy, filter the product, previously mixed with the magnesium carbonate, and color slightly by the cautious addition of tincture of sage or tincture of common grass.

Artificial Stone.

(J. F. K.) The Techno-Chemical Receipt Book is authority for the following processes:

1 Mix 100 parts of hydraulic lime, which has fallen to a powder, with water to form a paste. To this add 250 parts of gravel and 50 of coal ashes, or lixiviated wood ashes. The mass is then thoroughly mixed, and a sufficient quantity of water added to make the volume of the mass equal to 500 parts. It is then poured into molds made of pine boards, where it is allowed to remain until set.

2. One hundred and twenty-five parts of hydraulic lime, which has fallen to a powder, are mixed with a sufficient quantity of water to form a paste. To this are added 250 parts of ground oyster shells and 150 of ground peat ashes, and a sufficient quantity of water to make the bulk of the mass equal to 500 parts. It is then poured into moulds as above and dried.

3. Ground quartz sand is mixed with 2 to 10 per cent. of finely ground plumbic oxide. The harder the stones are to be the more plumbic oxide must be used The mixture is moistened with waterglass, again thoroughly mixed, and then pressed firmly into moulds. The resulting stone is dried and then burned.

4. A mixture of 1 part of cement and 3 of sand is made into a dough with diluted sulphuric acid (100 parts of water to 2 of the acid) and subjected to a strong pressure. The stones are then dried in the air for 2 days, when they are again placed for 12 hours in diluted sulphuric acid (100 parts of water to 3 of acid), and finally dried.

5. Two parts of Portland cement, 1 of sand, and 1 of cinders are mixed together dry and then moistened with an aqueous solution of sulphate of iron. The resulting mortar is pressed in molds, dried for 2 weeks in a warm place, then placed for 24 hours in water, and finally dried for 4 weeks.

Bleaching Sponges.

(J. S. B.) Ordinarily sponges are cleaned and bleached by the use of permanganate of potassium, followed by a solution of sulphurous or hydrochloric acid. This is substantially the process adopted by the National Formulary, a method which satisfactorily whitens the sponges, but often partially destroys their tissues. Sometimes the sponges are first soaked in dilute hydrochloric acid and then treated with the permanganate. In bleaching, the first thing to do is to clean, wash and squeeze out the sponges. They should be well beaten to get rid of sand and loose earthy matter, soaked in water for some hours, then squeezed dry, and placed in a tub containing dilute hydrochloric acid. After remaining in this solution until all effervescence is over and no hard particles are seen or felt—stirring them about with a stick is useful to hasten the process—they should be well squeezed and transferred to a pan of water under a running tap. Next, the sponges are placed in a 2 per cent. solution of potassium permanganate. After soaking them for a few minutes—the exact time can be best judged by the color, which ought to be dark brown—they are to be removed, again washed, and put into another tub of solution of half a pound sodium hyposulphite and one ounce oxalic acid to one gallon of water. Here the sponges soak for about fifteen minutes. Finally, take them out and wash them thoroughly. By this treatment the sponges are rendered perfectly white and remain so. Many sponges contain a more or less dark-colored core, and if treated only with permanganate and acid the core is either not bleached at all, or if bleached somewhat, the tint is apt to grow darker again. By the combination of the three solutions every portion is thoroughly and permanently whitened.

Roeser claims that bromine water is preferable for bleaching sponges, especially after being used in surgical operations. The sponge is thoroughly disinfected and may be put through the process eight or nine times without destroying its texture. His method is this: Wash the sponges in warm distilled water (not above 150° F.) which contains in each liter 20 drops of 10 per cent. solution of caustic soda. After thoroughly treated in this manner, they are drained and placed in vessels containing the bromine water, which is made by adding 30 grams of saturated aqueous solution of bromine to one liter of distilled water. Leave the sponge in this solution until it is discolorized, and repeat with fresh bromine solution until it is thoroughly bleached, which is

hastened by warmth and exposure to sunlight. After removal from the bromine bath, squeeze the sponges well and immerse them in a dilute solution of soda (20 drops of a 10 per cent. solution to the liter), and lastly wash out all traces of bromine odor with distilled water.

Bead Oil.

(G. C. D.) In the liquor trade anything added to commercial spirits to cause them to carry "a bead" and to hang in pearly drops about the sides of the glass or bottle when poured out or shaken is called "beading," the popular notion being that spirit is strong in proportion as it beads. The object is to impart this property to a weak spirit, so that it may appear to the eye to be of the proper strength. Various formulas for this purpose are current among barteuders and dealers in liquors, many of which are absolutely ineffective. From Cooley's Encyclopedia the following types of those usually employed are taken:

1.) Oil of sweet almonds and sulphuric acid, of each 1 ounce; rub them together in a glass, porcelain or wedgewood mortar, or basin, adding, by degrees, of crushed lump sugar, 1 ounce; continue the trituration until the mixture becomes pasty, then add gradually sufficient alcohol to reuder the whole perfectly liquid; pour it into a quart bottle and wash out the mortar twice or oftener with a little strong spirit until about 1 pint of alcohol has been employed, adding the washings each time to the bottle; lastly, cautiously shake the bottle (loosely corked) until admixture appears complete and set aside in a cool place. For use, this compound (after agitation) is thrown into a 2-gallon measure or can which is then filled from a tap with the spirit to be "beaded," when the whole is thrown into the cask and the measure washed out by refilling and returning it several times; after which the contents of the cask are well "rummaged up." Gin is usually "fined" a few hours afterward, but it is better not to add the finings for two or three days. Other spirits are allowed to become "fine" by simple repose. This quantity is supposed to be sufficient for 100 gallons of any spirit, but it is more commonly used for about 80 or 85 gallons.

2.) Sulphuric acid, 2 to 3 ounces; alcohol, 1 pint; cautiously agitate them together in a loosely corked bottle; in two or three hours add another pint of alcohol and again agitate. It will be fit for use in a week, and is added to the spirit in a similar manner to that given in the above formula.

3.) Sulphuric ether, ½ pound; alcohol, 1 quart; may be used at once, as before; but if otherwise, should be kept like the last closely corked, and in a cool place.

4.) Soapwort root, Saponaria officinalis, bruised or rasped small, 1 pound; alcohol and water, of each, ½ gallon; macerate in a covered jar, with occasional agitation, for about 8 or 10 days, strain with pressure, and, after a few days' repose decant the clear portion.

As remarked by the authority quoted, the above formulas are not injurious when employed for "beading," since the quantity employed is much too small to injure the wholesomeness of the liquor. Their use, however, is a fraud, from the fact that they are made to disguise the presence of from 10 to 12 per cent. of water, which is thus sold at the price of the spirit. It is also said that beyond a certain degree of dilution, they fail to produce the intended effect, the bubbles becoming "soapy" and without the requisite permanence. The addition of a little powdered white sugar (½ ounce to 1½ ounces per gallon) increases the efficacy of all of them. It may be dissolved in the water and added to the liquor.

Silvering Steel Without a Battery.

(J. G. P.) No process seems to be as satisfactory as that in which electrodeposition is employed. From a technical work we take the following processes:

Prepare the following solutions:

A. Two parts of burned lime, 5 of grape sugar, 2 of tartaric acid, 650 of water. The solution is filtered and put in bottles which should be filled entirely full and well corked.

B. Dissolve 20 parts of nitrate of silver in 20 of aqua ammonia, and then add 650 of water. Just before the tincture is to be used mix solutions A and B together. shake well and filter. Metals and dry vegetable substances, such as wood tissues, horu buttons, ivory, etc., can be silvered with this fluid.

An English process for silvering iron and steel is composed of an alloy of 80 parts of tin, 18 of lead, and 2 of silver; or 90 parts of tin, 9 of lead and 1 of silver. The tin is first melted, and when the bath has acquired a white luster the granular lead is added, and the mixture thoroughly stirred with a pine stick. The partly melted silver is then added, and again stirred. The fire is now urged until the surface of the bath assumes a light yellow color, when it is vigorously stirred, and the alloy poured out in ingots. The process of silvering steel is carried on in the following manner: The article, for instance a knife blade, is dipped in a solution of hydrochloric or sulphuric acid consisting of 1 to 10 parts of acid in 100 parts of distilled or rain water. When taken from this acid bath it is at once rinsed off in clean water, then dried and rubbed with a piece of soft leather or a dry sponge. It is then placed in a muffle and exposed for five minutes to a temperature of 150° to 175° F. The object of this operation is to prepare the steel for the reception of the alloy, making it, so to speak, porous. The article while still retaining a heat of 120° to 140° F., is dipped in the above-mentioned alloy, which has been melted in a crucible of graphite or refractory clay over a moderate fire. The bath must be entirely liquid, and stirred with a stick of pine or poplar wood The surface of the bath should have a beautiful white silver color. To coat a knife blade 2 minutes suffice for dipping. Larger articles must be immersed up to 5 minutes. After the article has been taken from the bath it is dipped in cold water, or treated otherwise, as may be necessary for hardening it, if required, but it must not be left too long in the water, as this frequently renders it brittle. Nothing further is now necessary than drying the article, without the aid of heat, by rubbing, and subsequently polishing .

The articles thus treated have an appearance resembling silver and a similar ring, and resist oxidation when exposed to the air. To protect them against acids they are dipped into a bath of 60 parts of mercury, 39 of tin, and 1 of silver. While warm they are then dipped in melted silver, or plated by the electrolytic process.

To Silver Cast-Iron.—Fifteen grains nitrate of silver are dissolved in 250 grains water and 30 grains potassium cyanide added. When all is dissolved pour into 700 grains water in which 15 grains common salt have been dissolved. Clean the iron well, dip for a few minutes in a bath of nitric acid 1.2 sp. gr., then place in the silvering fluid.

To silver small metal articles, dip them into a solution of common salt, then rub with a mixture of 1 part precipitated chloride of silver, 2 parts potash alum, 8 parts common salt and 8 parts cream of tartar. Wash and dry with a soft rag.

GELATIN PLASTIQUE is made by dissolving 15 parts gelatin in 60 parts water by heat and adding 50 parts glycerin. It is intended as a substitute for cocoa butter in preparations for the external application of remedies.

A WICKLESS OIL LAMP.—Dr. Schuelde, a German scientist and mechanician, has invented a wickless lamp. Its characteristic features seem to be the removal of all necessity for using wick or chimney, and that the oil is burnt not as oil but as gas. The sizes of lamps at present being manufactured are said to be of 80 and 140 candle-power, and their reservoir will contain sufficient oil to last for 24 hours' continuous burning, the cost of the light being, it is estimated, about one-eighth to one-fourth of a penny per hour for the full power named. The oil reservoir is at the top of the lamp, and there is connected to it a stout brass tube which runs downward and is provided at its lower end with a filtering wad of cotton wool to arrest any impurities the oil may contain. When it has passed this medium the oil flows along a small-bore brass tube which coils spirally around the main casing of the lamp, and from the upper end of this tube the oil falls, drop by drop, down a slanting iron tube into the "gas chamber," where it becomes vaporized, the gas generated escaping down through tubes to the burner. The gas jets from these tubes, which are very close together, unite when ignited in one large round flame of intense light and beautiful whiteness, the light, it is said, being absolutely steady and having no ill effect upon colors, even of the most delicate tints. (Food & Sanitation.)

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ALCOHOL CLAIMS.

The retail druggist should not wait until he buys his stamped package of alcohol before he tells his clerks about not drawing from the cask for counter sales. The clerks should be told just why they are not to use alcohol from that package except when they are preparing medicines or tinctures. This point has been emphasized before, and yet the Era representative found a druggist this week who spoiled his chances for a rebate on a ten-gallon cask because he had not fully instructed a clerk. This druggist bought only one cask and placed it in his laboratory, having a very small quantity of alcohol in another part of the store. In the absence of the proprietor the clerk was asked to sell some alcohol, whereupon to make up the amount he took four ounces from the stamped cask. When the Era man called the proprietor told him that he had already begun to keep a record. The Era man advised him to be careful about not drawing for counter sales. The clerk, hearing this, said he had that morning taken four ounces from the cask. At this the proprietor's jaw dropped, and he asked if he could not restore the four ounces from another package that he was about to purchase. It was the Era man's opinion that he could not do so, for then he could not swear that all the alcohol taken from that cask had been used for manufacturing. The proprietor lost no time in fully explaining the matter to his clerk and in ordering a fresh cask with the stamp on it.

Philadelphia Trade.

Philadelphia, Aug. 5.—The cold weather of the past week has had a good effect on the drug trade, especially out-of-town places, as the orders have been considerably larger than they were, and in many places quite an impetus has been given to the trade. In this city, however, there is not much change, as many people are out of town, but it is thought that within a few weeks there will be a turn for the better, and business will be greatly improved.

An Ohio Decision on Pure Food and Drugs.

The case of David Meyer, who was found guilty of violating the Ohio Pure Food and Drug Law in selling adulterated wine, and for which a fine of $600 was imposed, has just been passed upon by the Circuit Court in Summit county after successive appeals from the original trial court and Court of Common Pleas. The decision supports the finding of the original court, also the Food Commissioner's interpretation of the law, placing the responsibility for the purity of the goods sold upon the retailer.

This case has been watched with great interest, as many retail dealers in food and drugs in Ohio have placed some dependence upon a previous ruling by an Ohio court "that ignorance, or a mistake in facts, guarded by an honest purpose, will afford at common law a sufficient excuse for a supposed criminal act," also the similar statutes upon the sale of oleomargarine and adulterated vinegar, in which the word "knowingly" is included, making a knowledge of the adulteration on the part of the seller an element of the misdemeanor. The pure food and drug law, however, does not allow knowledge of adulteration as a defense, but says in the cases of adulterated wines, "any person or persons who shall manufacture or cause the same to be done with intent to sell, or shall sell or offer to sell, any such wine or beverage, shall be deemed guilty of a misdemeanor." The court in its decision upon this point said:

"In the case of Altschul vs. the State of Ohio this Court considered the question whether in prosecutions under this statute it was incumbent upon the State to aver in the affidavit and prove upon the trial that the accused knew the wine sold to be adulterated. (Eighth Ohio Circuit Reports, page 214.)

"We are now to consider whether it is competent for the accused to prove in his defense a want of knowledge. This and other statutes relating to the adulteration of food, are clearly within the proper exercise of police power of the State, and to be regarded as police regulations by the State. Within the legitimate limits of that power the Legislature has deemed it essential for the public welfare to prohibit the sale of adulterated wine, and in language so clear and positive as to leave no doubt of the legislative intent. It may be fairly inferred that the Legislature of the State intended by this positive enactment to prohibit absolutely the sale of adulterated wine, and that knowledge by the accused of its adulteration is not an essential element of the crime.

"Food is sold to be consumed. The purchaser is under no obligation to analyze the article purchased for that purpose to ascertain whether it contains substances injurious to health, nor would it be practicable for him to do so, and it should be no answer to his complaint that the seller had no knowledge of its impurity, nor would it be a defense to the seller when called to an account by the State, to answer that he was ignorant of the substance he was selling. We see no injustice in holding the seller of food products responsible for what he sells, and in casting upon him the burden of knowing whether the foods sold do or do not fall within the prohibition of the statute, with that care and honesty which is incumbent on the seller of such products. He is in no danger of suffering wrongfully or unjustly from the enforcement of the rule adopted by the trial court; in this case the enforcement of that rule seems to be an absolute necessity to protect the public from fraud and imposition.

"The views already expressed seem to me upon principle to be well founded. The rule very generally adopted and adhered to by the courts of this country and of England, approved by the best text writers, may be stated thus: If a statute commands that an act be done or omitted, which in the absence of a statute would be blameless, ignorance of the fact or state of things contemplated by this statute will not excuse its violation."

As this decision seems to be an authoritative statement of the intent of the Legislature and the meaning of the statute, the only relief which the retailer can obtain in cases where an infraction of the law is purely legal with no moral culpability, is to place the responsibility upon the wholesaler or manufacturer by making arrangements for indemnity, as one of the necessary steps in every purchase. This is an inconvenience, but not greater than many other acts necessary to full compliance with legal restrictions.

There is one phase of the law upon which a judicial decision might be of benefit. There has been much just complaint on the part of druggists that the recognition by the law of the standards of the U. S. Pharmacopœia has made it difficult for them to safely sell certain drugs and chemicals for industrial or domestic use where the legal standard of purity is not desired by the purchaser.

The law provides "that the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale be distinctly labeled as mixtures or compounds with the name and per cent. of the ingredients therein, and are not injurious to health." This seems to provide for a perfect understanding between buyer and seller in cases where an article not strictly true to name is wanted.

Doctors and Druggists in Philadelphia.

Philadelphia, Aug. 1.—The feeling which has existed for a long time between the doctors and druggists has again broken out, and the doctors are more bitter than ever in regard to sending prescriptions to druggists who prescribe. On the other hand, the druggists are just as much provoked at the doctors, whom they claim, in many cases, supply the medicines, which was formerly done by the druggists. It is, however, said by the conservative druggists and doctors, that there is a movement on foot to get the two professions together to patch up some sort of arrangement which will be for the benefit of both.

For a few years past there has been considerable number of druggists who have taken the degree of M. D., and in nearly all cases these druggists do prescribe at their own stores. While some of them charge extra for this service, there are many who give it free for the sake of making out the prescription, and it is these druggists that the doctors are fighting, and they intend to ignore them as far as sending their patients to them is concerned. These druggists, however, claim that they can live without the doctors, and now it is a question of the "survival of the fittest."

Cincinnati Pure Food and Drug Crusades.

Cincinnati, Aug. 5 (Special).—The announcement in last week's publication of the Era, concerning a recent quiet meeting in this city of the Food Commission operatives, was the principal topic of discussion in local drug circles during the past forty-eight hours, and the general comments on the actions of the State officials in endeavoring to keep the public ignorant of their movements, could not be construed as expressions of praise.

Not one of the Cincinnati newspapers knew of the meeting until last week, which was too late to print ancient news of this character.

Assistant Food Commissioner Luebbing has authorized the statement that if his suspicions as to the composition of two certain patent medicines are verified by an investigation which, he states, is now being made by Professor Fennel, State Chemist, he will commence aggressive operations immediately on them, and prevent their sale in this State. When requested to divulge names, Luebbing obstinately declined to do so, but said that they were articles widely advertised and had enormous patronage throughout the country. If Luebbing's talk is substantial, this city will possibly be the fighting point of another fierce contest, resembling the celebrated Paskola imbroglio of several months since.

The Commission has reopened its campaign on liquors by arresting on last Friday, Herman Mueller, salesman at the warehouse of the Charles S. Looker Distilling Co., this city, on the charge of selling adulterated Holland gin, peach brandy, bourbon whisky, cognac brandy and blackberry wine, samples of which had been gathered two weeks ago by Inspector Rentrop, and afterward analyzed by the State Chemist, who found them, so it is claimed, impure or below the U. S. P. standards.

Mueller has requested a postponement of his trial until Mr. Looker returns from the East, when it will be decided whether or not to proceed with the hearing, or dispose of the charge by pleading guilty.

Thirteen dairymen were arrested early Sunday morning for selling skimmed milk. With one exception, the arrested parties pleaded guilty and were fined $50 and costs. Elated over his success in this milk raid, it is rumored that the Assistant Commissioner will renew hostilities in other directions shortly.

Edmund Bocking Dead.

Dr. Edmund Bocking, one of the most prominent pharmacists in West Virginia, died July 30, at Wheeling, aged 62 years. He was born in Dusseldorf, Prussia, in 1833, and came to this country in 1849. In 1850 he went to Pittsburg, where he found employment in a drug store, removing to Wheeling the following year. In 1856 he opened a drug store on Twelfth street, removing a few years later to the corner of Twelfth and Chapline streets, at which place he carried on business until the time of his death, a period of about thirty-five years. He took a great and intelligent interest in the improvement of the laws regulating the practice of pharmacy, and much that was done in the direction of the enactment of proper legislation in West Virginia is due to his effort. He was an active member of the A. Ph. A., and for four years was one of the State Commissioners of Pharmacy. He was a director in the Arion Society, and was prominent in Masonic and other organizations. He left no immediate relatives.

Corner Drug Stores in St. Louis.

St. Louis, July 31.—F. W. Sennewald, secretary of the Missouri Board of Pharmacy, makes the startling prediction that in ten years a corner drug store in the downtown section of the city will be a curiosity. The druggist of to-day, he says, is being gradually but surely crowded out of his coveted position on the corners of the busy streets, and is being superseded by businesses of every other description. This, Mr. Sennewald thinks, is chiefly due to the increase in rents which the average druggist is unable to bear. The rents have been climbing steadily for the past few years until many of the downtown druggists have found it necessary to give up their corners for a less prominent place in the block. Exactly how far this thing will go, and what effect it will have on the trade is, of course, only a matter of conjecture, but it is thought that Mr. Sennewald's prediction is not far out of the way.

A Minister Pleads for Sunday Sales.

Boston, July 30.—It was recently stated in the Era that the druggists of Franklin were so thoroughly disgusted with the attitude of the selectmen in forbidding them to sell nothing on the Sabbath except drugs, that they had resolved to close their stores completely. This action is having a wholesome effect. A petition has been presented to the selectmen, signed by a prominent clergyman and 368 other citizens, setting forth that "the signers consider open drug stores on the Sabbath for the sale of all merchandise to be in the line of public accommodation and necessity," and the selectmen are urged to instruct the police accordingly. A public hearing will be given on the petition.

Undervaluation of Sponges.

Philadelphia, Aug. 1.—The suit which is said to have been brought by Collector of Customs of this port against Louden & Hill for undervaluation of sponges has not yet been placed upon the the dockets of the court, although the Collector claims to have turned the matter over to the United States attorney. Mr. Louden is, however, very sanguine over the results of the suit, and he thinks that it will never be brought to trial. From the manner in which the broker speaks, one is likely to believe that negotiations for the settlement of the differences are in progress. The sponge house has, however, placed the matter in the hands of counsel, and will not talk much on the subject except to say that the charges made were erroneous as far as they were concerned.

Philadelphia Druggist Will Bring Suit.

Philadelphia, Aug. 3.—There is considerable hard feeling in the trade from the manner in which some of the druggists in this town get out of paying their bills, and in future it is said that more drastic measures will be taken to secure prompt payment. It appears that at a recent sheriff sale of a drug stock in the northwestern section of the city there was considerable underhand work, and one of the creditors threatens to bring criminal suit against the proprietor of this store. It is said the sale brought only a little over $100, and as there was about $1,300 due to the various creditors, there was very little for distribution after the sheriff got his fees. A funny part of the arrangement was that many of the goods were said to have been bought in in the interest of the druggist, and when the fixtures were taken away from the store at night, the druggist occupied a prominent place upon the counter in the rear of the wagon. Besides this, one of the creditors says that the druggist made improper overtures to a gentleman so as to defraud creditors. On this, he claims, he will bring criminal suit.

A Drug Clerk Accused of a Fatal Error.

Westfield, Mass., Aug. 3.—F. V. Petit, clerk at Holland's drug store, is accused of making a blunder which cost a life. A doctor in the town says he bought a bottle of boracic acid and glycerin, and also had put up at the same time a preparation of corrosive sublimate. After treating a patient later in the day he became fearful that some error had been made, as the patient appeared to be suffering, whereas a soothing effect was looked for after the use of glycerin. On investigating the matter carefully the doctor found, he says, that the bottles had been wrongly labeled. He tried to save his patient's life, but without success. Now, Mr. Petit admits that the labels are wrong, but denies that they were so when he delivered the bottles, and says further that they were in the physician's possession for a week, and he was not allowed to see them for two days after he requested the privilege. An official investigation will be made.

Fly Paper Sales.

St. Paul, Minn., Aug. 2.—A new light has been thrown upon the matter of the sale of fly paper by general dealers in Iowa, to which reference was made in this correspondence recently. The Iowa State Board of Pharmacy protested to Noyes Bros. & Cutler, of this city, against the sale by them of fly paper to general dealers, claiming that only druggists had the right to deal in it. The St. Paul firm in its reply quoted the Iowa law which forbade the sale of poisons "for medicinal purposes" by any one but registered pharmacists. It now transpires that the law has been changed in Iowa, and as it now stands the sale of all poisons is confined to druggists. It is contended by Noyes Bros. & Cutler that poisoned fly paper does not come

under the head of poisons. The Iowa officials, however, do not seem disposed to press the matter, and nothing more may be heard of it.

Noted in St. Paul.

St. Paul, Minn., Aug. 2.—President Footner, of the St. Paul Commercial Club, has, in the name of the city and the club, invited the American Pharmaceutical Association, which meets at Denver, Aug. 7, to hold its next convention in St. Paul. W. A. Frost, of this city, president of the State Board of Pharmacy, will represent the local druggists at the Denver meeting and will make strenuous efforts to secure compliance with this city's invitation. The representatives of Minnesota's capital city will contend, and with good reason, that the saintly city is the most charming place in America for a summer convention.

A. McLaughlin, of this city, who has just started a drug store at 685 Wabasha street, was for several years the occupant of the city desk of the Ryan Drug Co.

C. S. Kendall, formerly from Michigan, and now a Minnesota pharmacist, has gone into the employ of Fred Scott, of Stillwater, Minn.

E. W. Fish, well known in the Twin Cities, is now running the store of W. S. Parker, of Lisbon, N. D.

Chicago Notes.

C. F. Class & Son, of Division and Larrabee streets, has sold out.

J. F. Matthes, of Whitall, Tatum & Co., has returned from his vacation spent at Fox Lake.

Mr. Peters, of the Fuller & Fuller Co., has returned from Bar Harbor and Cape Cod, where he has been spending his vacation.

Mr. P. B. Fitzgerald, of Morrisson, Plummer & Co., has returned from Niles, Mich. Mr. Fitzgerald reports an excellent time, and tells wonderful fish stories.

Dr. G. C. Fisher, of Indianapolis, is in this city buying goods for a new drug store which he intends soon to open in Indianapolis.

Herbert E. Stanyon, late of the Ottawa Flint Glass Co., has returned to his old home in Philadelphia.

Mr. Harry B. Woolston is in Chicago assisting Mr. J. F. Matthes in the interests of Whitall, Tatum & Co.

Among the Chicago people who will attend the coming meeting of the Wisconsin Pharmaceutical Association at Sheboygan on the 13th, 14th and 15th of this month, are Thomas Ballard and L. A. Lange, both of Morrisson, Plummer & Co.; Charles F. Matthews, of Sharp & Dohme; John F. Matthes, of Whitall, Tatum & Co., and H. A. Antram, of the Randolph Box & Label Co.

The plant of the Kuehne Semrad Flavoring Extract Co., occupying the second floor of No. 221 Kinzie street, Chicago, was damaged by fire on July 28. The loss amounted to about $2,000, and was fully covered by insurance.

NEW YORK AND VICINITY.

——J. F. Talsen has been located at No. 481 Sixth avenue for 17 years.

——Mrs. Sarah A. Ribble has sold her drug store at Washington, N. J., to C. A. Conwall, of Vineland, N. J.

——John H. Winters, N. Y. C. P., '86, has sold his drug store at New Canaan, Conn., to W. H. Hill, of Newark, N. J.

——It is rumored that the Fred Wuersten pharmacy, corner of Bowery and Canal street, has recently changed hands.

——Herman Simon, of the city department at McKesson & Robbins', is spending his vacation in the Catskills, with his family.

——Mrs. Hegeman, mother of J. N. Hegeman, and mother-in-law of Chauncey Depew, died at Dobbs Ferry, on Sunday, July 28.

——The engagement is announced of Mr. Frank R. McDermott, of the Nichols Chemical Co., to Miss Mary Hamilton, of Newcastle, Pa.

——Harry E. Lusk, of the Chicago branch of Dodge & Olcott, is spending his vacation with his parents at their home in Brooklyn.

——A. G. Geist, a graduate of the N. Y. College of Pharmacy, class of '91, has accepted a position with H. A. Cassebeer, 292 Sixth avenue.

——A. F. Donden, formerly clerk in Boeses' pharmacy, Broadway, Brooklyn, is about to open a drug store at 373 Marion street, Brooklyn.

——Thomas Furey, of the petty cash department at McKesson & Robbins', left on the 3d inst. for a two weeks' sojourn at Delaware Water Gap.

——John D. Mott, Jr., city salesman for McKesson & Robbins, contemplates spending his two weeks' vacation in Connecticut, with his family.

——Theo. L. Hepp is the manager of Balluff's pharmacy, 632 Sixth avenue. He is now doing double duty, the senior clerk being away on his vacation.

——S. Thornhill, who has been with Dr. C. T. Talaiferro, druggist, at Hicksville, L. I., left the doctor on August 1, to accept a more responsible position.

——W. C. Alpers, of Bayonne, N. J., pharmaceutico-littérateur and State Board Examiner in Pharmacy, is going to Denver to attend the meeting of the A. Ph. A.

——C. P. Bulson, of W. F. Rawlins' pharmacy at 135th street and Eighth avenue, passed his second-year examinations at the College of Physicians and Surgeons successfully.

——Paul Junck, formerly in the drug business at Sixth avenue and Fifth street, Brooklyn, has sold his store and purchased a pharmacy at 222 Throop avenue, Brooklyn.

——Frank H. Boyd, N. Y. C. P., '83, and S. Harper Folckermer, N. Y. C. P., '92, both in business in this city, leave for Denver, Col., and a trip through the West, about August 10.

——The premises now occupied by Druggist M. Stein, at No. 446 Sixth avenue, have been used as a drug store for thirty-five years. Mr. Stein has been located there over twenty years.

——C. C. May, of St. Louis, who has been in New York and vicinity for two weeks, has returned home. Mr. May owns and manages two leading prescription stores in St. Louis.

——M. J. Breitenbach sailed for Europe last Tuesday on the S. S. Havel. On the same steamer were Dr. I. N. Love and Dr. A. C. Bernays, prominent editor and surgeon of St. Louis.

——Robert C. Kraft, druggist at 138th street and Amsterdam avenue, is receiving the congratulations of his numerous friends, owing to his being presented with a healthy baby girl. Mother and daughter are doing well.

——F. Matthai, a graduate of the New York College of Pharmacy, class of '93, is head man for L. Keyser, at No. 430 Sixth avenue. The former name of the firm was Lawrence Keyser & Co., but Mr. Keyser is now the sole proprietor.

——R. Schoenfeld, one of Sharp & Dohme's city "hustlers" who has a large circle of friends in the drug trade, has just returned from a flying trip to Baltimore and Washington. Grover will probably feel sorry that he was not at home when "Rudy" called.

——F. E. Roen & Co., of No. 521 Sixth avenue, have for some time been sending out orders by a messenger on a bicycle. They find the scheme quite a good one, besides being a first-class advertisement for the store. Roen & Co. have been established at No. 521 since 1891.

——Albert B. Baltzby, of Seventh avenue and 134th street, will, on Aug. 18, begin a tour to Massillon, O., on his bicycle, accompanied by his brother. They will take a southern route, visiting Philadelphia, Baltimore and Washington. After quite a stay in Ohio, Mr. Baltzby will return awheel.

——Geo. E. Bird, of J. B. Frees, 179 Sixth avenue, has just returned from his annual vacation to Toronto, Canada. He had a very pleasant visit, and, from appearances, his vacation has benefited him greatly. He was the guest of his brother, Ed. J. Bird, who is interested in the Toronto Railway Company.

——A gentleman prominent in N. W. D. A. circles tells the Era that there are many manufacturers who will give their consent to the putting in operation of the new rebate scheme when the matter comes to a vote, yet they will not now admit that they are in favor of it. That will be the most important subject before the Denver convention, and he thinks the chances are good for the full indorsement of the plan.

——Druggist Hartvigson, of 2550 Third avenue, had a queer experience with a drunken man shortly after midnight on July 31. As he was entering his store to reach his sleeping apartments in the rear he was accosted by a man with a club, who warned him against entering the building, and assaulted him. A policeman captured the fellow, who pleaded guilty to drunkenness in court the following morning, and was held for trial.

——W. O. Kuebler, recently elected alderman from the Sixth Ward, Newark, has resigned his position with Lehn & Fink, to resume his connection with Pier Bros., the hop merchants of New York and Puyallap, Wash. Alfred Reusch succeeds Mr. Kuebler as Lehn & Fink's representative in New Jersey.

——G. A. Cassebeer, druggist, at Forty-second street and Ninth avenue, and a member of the N. Y. C. P. and German Apothecaries' Association, died on July 30 at Arkville in the Catskills. He was sick only four days with pneumonia. Mr. Cassebeer was seventy-eight years old, being one of the oldest New York City pharmacists.

——Fred. Morris, representing Lehn & Fink on Long Island, departed this week for a two weeks' vacation in Canada. Mr. Morris is a native of the British provinces, and annually renews his allegiance to the crown and his family. He usually engages in a one week's fishing trip on these excursions, the result of which is a half dozen fish dinners in New York.

——W. H. Lucas, of John Lucas & Co., Howard B. French, of S. H. French & Co., and Wm. Waterhall, of Waterhall & Co., Philadelphia, sailed on August 3 on the Aurania for a six weeks' visit to the principal cities of Europe. The office forces of the three firms decorated the state rooms with flowers, American flags, Philadelphia colors, etc., and a handsome floral piece expressing hearty wishes for "bon voyage" was one of the features of the occasion.

——Edward W. Runyon, for many years dean and professor of pharmacy in the California College of Pharmacy, San Francisco, is a member of the firm of Boericke, Runyon & Ernesty, dealers in physicians' supplies, medical and surgical goods, etc., 497 Fifth avenue, this city. He spends most of his time here, although he still retains his San Francisco drug store. Prof. Runyon has a wide acquaintance among druggists on the Pacific Slope and members of the A. Ph. A.

——The Kalish Pharmacy, corner Twenty-third street and Fourth avenue, is one store in this city which makes a specialty of catering to the professional wants of physicians and their patients. At almost any time displays of surgical goods, instruments, rare drugs, etc., may be seen in the show windows. Last week a "baby incubator" in the window attracted considerable attention from the crowds. Mr. Bourgongnon, a graduate of a French university and school of pharmacy, is the chemist. He was for several years associated with Dr. Doremus, and has done considerable "expert" work in medico-legal cases.

——Ryer & Berrian's store at No. 412 Sixth avenue, into which the firm moved on the first of May last, has proved to be much more suitable to their needs than the old one at No 381 on the same avenue. One of the attractions to customers is an 18-pound black cat that is gentleness personified. Mr. Ryer attributes the cat's size to the fact that he has only been fed on raw meat, and once a day. "Nigger" gets 5 cents' worth of raw liver in the morning and at 10.30 P. M. regularly receives a plate of ice cream, of which he is very fond. Mr. Ryer formerly owned what was then the biggest tabby in the city. She weighed 28 pounds.

——Several weeks ago Mr. Louis Roediger, druggist, No. 63 Division street, New York City, advertised in the New York World for a boy, and from numerous applicants selected a lad of good address by the name of Adam Hoffmann. He gave excellent satisfaction during the week or two that he remained with Mr. Roediger, but on Friday afternoon, July 26, he broke into the cash desk and stole about $75, and abstracted from the vest of the clerk, Mr. E. Sievers, his gold watch and chain, and handed the same, together with some of the small change, through the back room window to an accomplice. A servant girl in one of the upper stories of the house noticed this act, and, sounding an alarm, the accomplice was pursued and arrested, and the watch and chain recovered. During the chase young Hoffmann disappeared, leaving behind his hat and coat, but taking the $75, and nothing has been heard of him since. His confederate gives the name of Baumann, and is held to await the action of the Grand Jury.

——New York City has actually been able to furnish the details of one of the best sea-serpent stories of the season. A Borneo python, which died on shipboard during its journey to this port, was thrown overboard and its remains were washed ashore on Blackwell's Island, where a nightwatchman, after what the newspapers described as a hard battle, succeeded in capturing it. Subsequently another python on board the same ship died, and its remains started out on a tour of sensations. Druggist Sieke, of East End Avenue, does not claim to have seen it, but while on his way to Glen Island, in company with his camera, for a day's outing, he concluded to take a snap shot at the Fall River boat, Priscilla. The picture of the boat was a success, but while Mr. Sieke well knew of the propensity of people and things to crowd themselves into focus when public photographing is being done, he was somewhat surprised to find upon developing his negative that an object answering to the description of the famous sea-seprent was posing with serpentine grace in the foreground.

——Judge Hagner, of Washington, D. C., on July 29 directed that the Hammond Sanitarium Co., Dr. Wm. A Hammond and Mahlon Hutchinson, show cause by Aug. 9 why they should not be punished for contempt of court in violating the restraining order passed some time ago on the application of the Columbia Chemical Co. The order referred to enjoined the defendants until further action by the court from manufacturing, advertising or selling certain animal extracts said to have been discovered by Dr. Hammond. The latter was also restrained from permitting the use of his name by any other than the complainant company.

New York Botanical Garden.

The Park Commissioners have taken definite action in establishing the boundaries of the New York Botanical Garden, and at a meeting held on August 1 passed a resolution formally giving 250 acres in Bronx Park to the garden. The tract set apart includes the picturesque gorge through which the Bronx River runs, as well as the hemlock groves on both sides of the stream, which are regarded as the finest pieces of woods within the city limits. This particular spot has long been a favorite resort for the landscape artist, and its popularity will be in no way diminished under the management of the garden. The tract selected is bounded on the northwest by the tracks of the New York Central Railroad, beginning at a point about 600 feet below the Southern Boulevard, and proceeding in a northeasterly direction about 3,800 feet. Leaving the railroad track, the line runs in an easterly direction, slightly inclining to the south, for about 1,100 feet, the river crossing about midway of this section. Then the boundary line runs southward for about 3,800 feet, and from the lower end turns to the northwest, striking the Bronx River again at a point about 800 feet north of the Lorillard mansion. From this point it runs southward, following the middle of the river, to a point about 1,000 feet south of the mansion, and thence, with a gentle outward curve, to the starting point. The grounds of St. John's College are to the south of this curve. The site for the buildings has not yet been positively decided upon, but it is thought that they will be placed near the Bedford Park station on the Harlem Branch of the New York Central Railroad.

——During the past week the Sheriff has taken under his wing two of the drug stores in Philadelphia, one of which was sold out on July 18, and the other was to be sold out on July 22. J. M. Hillam, who occupies the store at 13th and Market streets, and has been conducting it for the last couple of years, was sold out, as he had given judgment a few days before to Smith, Kline & French Co. At the sale it was bought in by Smith, Kline & French Co. The business, however, will be continued and in all probability be conducted by Mr. Hillam. On July 22 the store of George W. Shock, at 23d and Parrish streets, was to be sold by the Sheriff on two liens entered against him, one by Bullock & Crenshaw, and the other by G. Berntz, trustee. Mr. Shock has been only a short time at this store, and recently gave a one day judgment note to Bullock & Crenshaw. This firm has a claim of $792, and Mr. Berntz, who represents several creditors, has a claim of $512. It is probable that this store will be bought in and that it will be conducted in a first-class manner in competition with a number of the cut rate stores in the vicinity, unless some one buys it who has a store in the neighborhood.

HERE AND THERE.

——Two druggists of Gordon, Neb., were arrested July 16 for the illegal sale of liquor.

——Emil Kuenster has bought the drug store at Shenandoah and Compton avenues, St. Louis.

——Chas. Franzeens, a Kansas City, Mo., druggist, has been fined for selling liquor without a license.

——Dr. Martin N. Roote, druggist, of Charlestown, N. H., died July 28, of heart disease, aged 65 years.

——Chas. Altmyer, clerk at John Klari's drug store, Wheeling, W. Va., is spending his vacation at Atlantic City.

——A. O. Mudge, a druggist at Blanchard, Ia., has been fined $560 for selling liquor in Missouri without a license.

——Druggist F. C. Berger, of Crestline, O., lost $100 worth of goods on July 29. Burglars are responsible for the loss.

——Nels. P. Johnston, druggist at Wahoo, Neb., died at that place on July 26. He was 38 years old and a bachelor.

——Druggist C. B. Gray, of Kansas City, was held up and robbed in his own drug store early in the evening of July 15.

——Emil Foelling, of St. Louis, has resigned his position with Brown's pharmacy, at Seventh and Chouteau avenues.

——It is at a drug store in Bangor, Me., that this pointed placard is displayed: "No credit. Eastern Trust Co. next door."

——Jas. Buckman, Eighth and Green streets, Philadelphia, contemplates spending a month in the mountains of Tennessee.

——Wm. Kahre, the druggist at 13th and Geyer avenues, St. Louis, has returned from an extended trip to Evansville, Ind.

——W. B. Berry, who represents James W. Tufts, Boston, in Northern New England, is spending his vacation at Bar Harbor.

——Druggist W. J. Gilian & Son, of Kansas City, were tried July 15 for selling liquor without a license and were discharged.

——Druggist L. Burton, of Sonora, O., was arrested recently at Kansas City, charged with running away with $1,400 of his wife's money.

——H. O. Wilson, a Wentworth avenue, Chicago, druggist, has been fined $300 in the Hyde Park police court for selling liquor without a license.

——Frank A. Sharp, of Port Elgin, N. B., was married July 31 to Miss Ada Ferguson. Mr. Sharp is in the drug business at Port Elgin.

——The pharmacy formerly kept by C. W. Poole, at 15th and Washington avenue, St. Louis, is offered for sale by the creditor wholesale houses.

——J. S. Ledbetter, a traveling salesman for Leich & Co., wholesale druggists, of Evansville, Ind., died in Cincinnati recently. He leaves a widow.

——Geo. F. Gehrum, city druggist in the Health Department of Kansas City, was found on the street, July 15, nearly unconscious from an overdose of morphine, and died a few hours later.

——A bottle of peroxide of hydrogen exploded in E. L. Neal's drug store at Gallipolis, O., causing great damage to shelf bottles, but no personal injuries.

——Capitalists from Cleveland, New York and Pittsburg are negotiating for a large tract of land in Lorain, O., on which to build a large chemical works.

——Colfax, Ia., is troubled by so-called druggists who sell liquor illegally, and a few days ago caused the arrest of three of them. A considerable quantity of liquor was confiscated and destroyed.

——The Good-Luck Medicine Co., of Leavenworth, Kan., has commenced suit against the Brown Medicine Co., of that city, to recover $402.88 on account.

——E. H. Davis, of Rochester, N. Y., after an outing of two weeks at Watch Hill, stopped in this city on his way home, and favored the Era with a call.

——R. P. Marshall, 16th and Race streets, Philadelphia, who has been for some time past in Lower California for his health, has returned very much benefited by his trip.

——Chas. Lindstrom, a clerk at Truppel's drug store, Chicago, was held up and brutally beaten by four foot-pads the evening of July 20, and lost his watch and money.

——Dr. E. C. Newport, for twenty-five years a leading physician and for two years proprietor of the Meriden House Pharmacy, at Meriden, Conn., died in that city on Aug. 2, after a short illness.

——H. C. Watt, of Broad street, north of Chestnut, Philadelphia, has closed up his store at that place, and in future will devote all his time to his store under the Broad street station, Market street.

——Dr. L. D. Putnam, long in the drug business at Grand Rapids, Mich., but who retired a few years ago, died in that city July 22, aged 72. He leaves a wife and one daughter and a large estate.

——Laciar & Co.'s drug store at Mauch Chunk, Pa., was entered by burglars recently, and goods amounting in value to about $100 were carried away. Entrance was gained by prying open one of the shutters.

——The Missouri Valley Wholesale Druggists' Association held its quarterly meeting at Kansas City on July 27. A good time, a good dinner, and discussion of trade interests were the features of the gathering.

——At Swampscott, one of the fashionable seashore resorts in Massachusetts, an attempt has been made to close all drug stores on Sunday, but thus far the selectmen have refused to give orders for such a change.

——Harry Barnard, a traveling salesman in the employ of Zehring Co., dealers in perfumes and toilet preparations, Dayton, O., died in Massillon recently. Cause of death attributed to a complication of diseases.

——Wright & Brayton, druggists at Ripon, Wis., have been arrested at the instigation of the Wisconsin Board of Pharmacy for keeping an unregistered clerk. The specific date of the offense is given as July 13.

——The Stillman Spring Water Co. has been organized at Bridgeport, Conn., with a capital of $12,500, for the purpose, in some degree, of selling carbonated water and all beverages of which water forms a part.

——The Australian Dry Color Co., of Chicago, has been incorporated with a capital stock of $5,000 to manufacture colors and chemicals. Incorporators: John J. Murray, Joseph B. Gardiner and Clarence E. Murray.

——R. Jenzsch, owning drug stores at Twelfth street and Ogden avenue, Twelfth street and California avenue and Twenty-second street and California avenue, Chicago, who suspended a short time ago, has resumed.

——Joseph Maserang, Jr., formerly of Glenn's pharmacy, St. Louis, has transferred his services to the St. Louis Medical Clinic. Before assuming his new work, however, he will enjoy a vacation on the Tennessee River.

——An Associated Press dispatch, July 19, announced the death by drowning at Fort Scott, Kan., of Wm. Wagner, of the firm of Wagner & Wagner, druggists, of Indianapolis, Ind. No such firm is known in Indianapolis.

——A Kankakee, Ill., paper states that since 1889 there has been in existence a city ordinance requiring druggists to pay a license of $1 a year, and to close their stores on Sunday, except between 9 and 10 A. M. and 4 and 5 P. M.

——F. M. Parker, of Red Wing, Minn., has lately improved his store by putting in a 10-foot double soda fountain. He reports that the drug business in that city is fair, but the weather has been too cool for a rushing soda business.

——It is reported that an electrical plant for the manufacture of phosphorus has been established at Grand Crossing, Chicago, and it is claimed will produce phosphorus at a much less cost than by the processes heretofore in vogue.

——Nora Hodgman, of Lincoln, Neb., wants $5,000 damages from Druggist Steiner, of that city, on account of injuries inflicted by a rocket carelessly fired from a stand in front of the store where fireworks were being sold on July 4 last.

——Some of the prominent druggists of Cincinnati are charging colored people 25 cents a glass for soda water as a hint that their patronage at the soda counter is not wanted. Suits under the civil rights act are threatened in consequence.

——Alfred Williams, a well known Roxbury, Mass., citizen, died recently of apoplexy. During the gold excitement in California he was engaged in the drug business at San Francisco. In 1858 he returned to Roxbury and again opened a drug store.

——The Palestine Drug Co. was incorporated at St. Louis on July 31. The capital is $12,000, and is paid up in full. The shareholders are Mary B. Bick, who holds 237 shares, and Kate Houneff, Samuel Whitman and John Bick, who hold one share each.

——The Malagan Drug Co. is the name of a new manufacturing enterprise at

Oswego, N. Y. The company will manufacture druggists' and barbers' supplies. John Morgan, formerly with Druggist Andrew Baltes, is manager, and George E. Morgan, sales agent.

——W. H. Torbert, of Dubuque, Ia., is doing some good missionary work for the A. Ph. A. by sending out a circular to the members of the Iowa Pharmaceutical Association giving five very good reasons why membership in the national organization is proper and profitable.

——A Buffalo man has been buying goods in that city recently and paying for them with imitation currency used by a theatrical company for advertising purposes. A boy in charge of the soda fountain at Gregory's Genesee Pharmacy was one of the victims of the sharper.

——M. M. Mason and F. Derracott, clerks at the Westmoreland Pharmacy, Atlanta, Ga., quarreled over a soda check on the evening of July 27. As a result Mason received a bullet wound in the neck and Derracott was locked up charged with intent to commit murder.

——Frank Garthoffner, formerly with Lohrman & Myners, St. Louis, has purchased the drug store of Wm. Wehrnbrechter, at 1401 O'Fallon street. Mr. Wehrnbrechter goes to St. Paul to take charge of a branch office of the Kansas City Homeopathic Pharmacy Association.

——Kansas City, Mo., druggists have agreed to give one day's receipts from their soda fountains to the Y. W. C. A. Geo. E. Kimball, the Main street druggist, held forth the first day, July 31. Other druggists who took part were Geo. P. Hardesty, Chas. B. Mumford, H. B. Sargent and W. U. Zahner.

——Oscar I. Olson, of the firm of Olson & Ellingson, Red Wing, Minn., has sold his interest to his partner, and has taken charge of the Hotel de Batlo of that city. P. Constantine, a graduate of the Northwestern School of Pharmacy, now employed at Eau Claire, Wis., will become head clerk for L. M. Ellingson.

——A customer in a Chicago drug store objected to paying 15 cents for a soda fountain drink, whereat a conflict was participated in between him and the clerk, an umbrella being vigorously used by each combatant. The clerk came off victor, and in the police court both of the contestants were discharged.

——The New England Drug Co., organized at Portland, Me., for the purpose of manufacturing and dealing in drugs of all kinds has filed its certificate. The capital stock is to be $50,000, but only a small amount has been paid in. The president is G. S. Dyer, of Plymouth, Mass.; Treasurer, A. J. Litchfield, of Cambridge.

——A coroner's jury which investigated the case of Harry W. McComas, a drug clerk in A. Nattan's pharmacy, 14th and I streets, Washington, D. C., last week, decided that he died from morphia and strychnine poisoning, the drugs having been taken with suicidal intent. No reason for the rash act was apparent.

——Some winter stock stored away in the cellar of A. W. Glennan's drug store, at 1633 Madison avenue, Baltimore, caught fire from an unknown cause on July 29 and a large quantity of oil was destroyed. The firemen engaged in extinguishing the flames were treated to refreshing draughts of lemonade and soda water by the proprietor of the store. House and stock are insured.

——The stock and premises of W. S. Freeman, druggist, Phillipsburg, N. J., were seriously damaged by fire on July 27. Mr. Freeman occupies rooms over the store as a dwelling and it is supposed that the fire was started by gasoline which a servant girl was using to clean windows. The girl was badly burned, as was also Mrs. Freeman, who endeavored to extinguish the flames.

——Geo. B. Evans, the well-known cut-rate druggist in Philadelphia, has made extensive additions to his store, Eighth and Arch streets, and it is now considered one of the finest in that city. Besides this, he has also added a new building to his store on Chestnut street, above Eleventh, the new portion being on Eleventh street and a connection will be made with the store on Chestnut street.

——A cut-rate war seems to be impending at Des Moines, Ia. It is reported that Norman Lichty, the well known druggist of that city, inaugurated the decline in prices on July 29, and the Druggists' Association took prompt action by selecting six stores to meet the competition. These stores will meet the cut, and will be widely advertised, the other members of the association selling at regular rates.

——The J. C. Ayer Company, of Lowell, Mass., on January 1, started a traveler through Connecticut, and in connection with his trip opened a prize contest in which everybody was invited to engage and guess in what order the traveler would visit the different towns and cities in that State, and how long it would take him to make the trip. The prize winners, a dozen or so, have just been announced as having received cash prizes ranging from $40 down to $5.

——The collector of customs at Ogdensburg, N. Y., recently assessed duty amounting to $15 on an artificial leg worn by an old soldier who had crossed the border from Canada, the soldier having bought the leg in the Dominion and worn it on his return trip. The collector held that it was dutiable as a foreign manufactured article. An appeal was taken to the Treasury Department at Washington and the collector was overruled. It was there decided that the leg was exempt from duty as an article necessary to the comfort and convenience of the wearer.

——A cool piece of thieving occurred a few evenings ago at a drug store in Chelsea, Mass. Three young men begged a ride on the highway. They made themselves so agreeable that the owner of the carriage, on reaching Freeman's drug store, offered to treat them. In payment he gave a $10 bill. While he was waiting for his change one of the men slyly started his horse, and in rushing out to stop the animal the owner forgot all about his money. But one of the thieves took it, the druggist, of course, supposing that he was a friend of the man whose horse was running away.

——The doctor and druggist baseball club, of Philadelphia, is not the success it was last year, and they are in want of a good pitcher. This club has for some years past been very victorious in their conflicts with the Chester doctors and druggists, but, so far this year, the tables have been turned, and the Chester club has come off victorious. The Philadelphia club has, however, a surprise in store, as it is alleged they have discovered a phenomenon, one who is said to have all the various styles of curves down to a fine point and such speed as it was never the luck of this club to have before.

——Magistrate Hughes, on July 29, held Frederick De Leister, 5156 Lancaster avenue; Mello Haymake, 52d and Master streets, and E. A. Perrenot, Lancaster and Girard avenues, Philadelphia, in $500 bail for their appearance in court for selling chloroform to Griffith Crea, of Pittsburg, who attempted to commit suicide with it. The matter has been turned over to the District Attorney, who will prepare a bill to prosecute these druggists. It is the intention of the magistrates to forward all this kind of business to the courts as promptly as possible, so that a stop can be put on this practice of selling poisonous drugs contrary to law.

——A plant is being built at Clifton, on the Annapolis & Baltimore Short Line Railroad, near Baltimore, Md., for the manufacture of chemicals. The promoters of the enterprise are Messrs. Joseph Vanruymbek & Frederick Vermeren. They have purchased 53 acres of land and erected a building 60 by 60 feet. Other structures will be reared later. Operations will be commenced about Aug. 15. Mr. Vermeren says he and his partner selected the vicinity of Baltimore because that port is a good point for the importation of articles from Europe, and is also favorably situated for the distribution of manufactured goods and for the export trade. For the present the firm will manufacture lead compounds.

Moving Day With the Harter Medicine Co.

St. Louis, Mo., Aug. 5 (Special).—The Dr. Harter Medicine Co., which has had its main office and laboratory in St. Louis for a number of years, began moving to-day, and will be located in the future at Dayton, O., close to Dr. Harter's home. The company chartered a special train for the occasion, which left over the Vandalia early this morning in charge of General Manager W. S. Kiddern, and Vice-President W. M. Haynes. The regular office force and its representatives from all over the country went along. A banquet is to be given at Indianapolis, when the train reaches there. The company's new plant at Dayton is said to be the largest of its kind in the country. The company will still retain a branch office at St. Louis.

ASSOCIATIONS,
CLUBS, SOCIETIES.

CALENDAR OF MEETINGS.

AUGUST.

13, Wisconsin—Sheboygan.
14, A Ph. A.—Denver, Colo.
14, Colorado—Denver.
21, Vermont—Burlington.

SEPTEMBER.

2, N. W. D. A.—Denver, Colo.
2, Manufacturers and Dealers in Proprietary Medicines—Denver.

——The Indiana County, Pa., retail druggists are agitating the advisability of organizing an association for mutual benefit and protection, and to establish uniform prices on all goods sold by them.

——The New York City branch of the Interstate Retail Druggists' League did not hold its regular monthly meeting Aug. 2, as there was not a quorum present for the transaction of business. An informal discussion of the poison laws was indulged in, however, with the understanding that the question should come before the branch at the next meeting. The advisability of meeting in the rooms of the College of Pharmacy, if they could be obtained for the purpose, was also under consideration.

——Secretary Bowers, of the Proprietary Committee of the N. W. D. A., has been spending a few days with the chairman pro tem. of the committee at Pittsburg relative to the new rebate plan that was issued previous to Mr. Kline's departure to Europe. This week Mr. Bowers will be in New York where he will hold a consultation with a number of the large houses there. The plan is meeting with much favor, and there is prospect that it will be favorably acted upon at the annual meeting of the N. W. D. A. A letter was received from Mr. M. N. Kline, who is now traveling in Europe. At the time of writing it he was in Geneva, where he was having a good time. He is in good health and is thoroughly enjoying his trip.

Twin Cities Want the Next A. Ph. A. Meeting.

The Twin City Commercial Clubs, having a membership of over 1,000 leading business and professional men of St. Paul and Minneapolis, are to make an effort to secure the 1896 meeting of the A. Ph. A. E. L. Danforth, secretary of the Minneapolis Commercial Club, writes:

"The Twin Cities—St. Paul and Minneapolis—are making active efforts to secure the 1896 convention of the American Pharmaceutical Association. We feel that the manifold beauties and attractions of the peerless dual metropolis of the Northwest are too well known to require extended praise or comment. We confidently say that the association will find a most cordial welcome and generous entertainment in our midst. I shall go to the Denver meeting next month with a strong invitation, which will be presented before the convention."

Milwaukee Druggists Take Action.

The Milwaukee Pharmaceutical Association at a meeting held July 30, discussed the question of cutting prices on patent medicines in order to compete with the department stores. A committee composed of Messrs. McMillan, Meadows, and Meissner was appointed to prepare a price list for the association. There was some talk of proceeding against merchants who sold patent medicines and who have not conformed to the new pharmacy law, which stipulates that no person, save a registered pharmacist, shall sell medicines in towns of more than 500 population. H. O. Frank, secretary of the association and a member of the Wisconsin Board of Pharmacy, will bring the matter to the attention of that body, and ask that some action be taken.

Wisconsin Association Meeting.

If the entertainment programme of the Wisconsin Pharmaceutical Association meeting at Sheboygan, August 13 to 15, is a fair indication, nothing but some unforeseen catastrophe or convulsion of nature is going to prevent the druggists of that State from having a time which the most flattering adjectives will fail to describe. The programme is one which is well calculated to arouse feelings of the deepest regret, gloom and despondency on the part of a recipient who has to be in some other place than Sheboygan on the dates mentioned. There will be about a carload of prizes to be distributed to those who can show either mental or physical superiority in various ways. There are twenty-one prizes offered for papers, exhibits, guessing, etc.; seven prizes to be voted for, and fifty prizes for winners in athletic contests. Among the latter are games of baseball, football, foot races, jumping, etc. The traveling men are to give a grand minstrel performance and street parade on the evening of Aug. 13, in which forty stars will participate. There is to be a reception at Lake View Park on the evening of Aug. 14, and a wooden shoe parade on the evening of the 15th. Every druggist in the State ought to be in attendance, as the invitation says: "You who have burned midnight oil to prove the atomic theory, and have with throbbing brain, hewn great chunks of chemical lore from the granite of your imagination, lay aside mortar and pestle and come. Bring your wife, family and friends and spend a few days in relaxation and pleasure."

——The Milwaukee, Wis., Drug Clerks' Association elected the following officers at its semi-annual meeting: H. F. Weber, president; A. J. Luehke, vice-president; Geo. F. Luehming, secretary; M. A. Kleinhaus, treasurer. Executive board: H. Emmerich, Rud Best and F. J. Lambeck. The association has secured the new hall at 302 W. Water street as a place of meeting. It is in a very flourishing condition.

G. H. SOHRBECK.
New President, Illinois Association.

ILLINOIS PHARMACEUTICAL ASSOCIATION.

The Illinois Pharmaceutical Association held its sixteenth annual convention at Peoria, July 24–26. After calling the meeting to order, President Lueder introduced the mayor, who delivered the address of welcome. After the response by H. H. Green, of Bloomington, President Lueder proceeded to read his annual address. He said in part:

"The sale and dispensing of medicines must be restricted to competent persons, and in my opinion competency can only be attained by a thorough practical and theoretical education.

"The general depression in business during the past year did not spare our profession, and the increased number of department stores, the great number of physicians who dispense their own medicines and the introduction of innumerable expensive proprietary and quack remedies did not improve matters. Who will remedy the evil—who solve the problem?

"The past year was an eventful one in pharmaceutical legislation. The new pharmacy bill, introduced early in the session in both Houses of the Legislature, was passed almost on the last day of the session with but few modifications. The bill was antagonized from the beginning and several bills introduced, notably House bill No. 354 by Graham, and House bill No. 488 by Challacombe, both granting the right to physicians to become registered pharmacists on the strength of their diplomas as doctors.

"The effect of such a law can easily be imagined. The strong opposition brought to bear against these latter bills by the united efforts of organization, local and State, caused their withdrawal. The State Medical Association had passed resolutions hostile to our bill, their chief objection being directed against the word 'recommend' in section 3, the physicians claiming that the word was synonymous with 'prescribe.'

"The law was indorsed and supported by the Chicago Retail Druggists' Association, the Apothecary Society, the Board of Pharmacy and the Illinois Pharmaceutical Association. The various legislative committees of these societies, assisted by some of our old and true 'stand-bys,' made it their business to see that the law was passed. Great credit is due our ever faithful secretary, Frank Fleury. The law is looked upon very favorably, and will undoubtedly bear good fruit. Under it the druggist has the right to recommend his goods to purchasers.

"A healthy future for the profession greatly depends upon the qualifications of our apprentices and assistants. A good fundamental common school education, followed by a thorough practical education, will best fit the young man for a course in a college of pharmacy. I do not believe in

a parrot education. Section 9 of the new law requires the registration of an apprentice, and that is certainly a step in the right direction. It is deplorable that some of our colleges of pharmacy and universities have abandoned the requirements of practical experience.

"The association should be made self-supporting; voluntary contributions can never uphold an association for any considerable time. The few active and paying members have done much in the interest of all the pharmacists of the State. We can say with pride that the Illinois Pharmaceutical Association is abreast of the times. To further their interests all pharmacists should become paying members. The traveling men can help our cause materially and will cheerfully aid to increase our membership. The Missouri, Wisconsin and other associations owe much of their success to the traveling men. Let us encourage and assist in maintaining the American pharmaceutical journals. The members of the Board of Pharmacy have labored with zeal and enthusiasm and each of them should be encouraged in his good work.

"I would recommend that the necessary expenses of future meetings be paid by the association. The expense of the social gathering should be paid by the attending members. Experience has shown that a social programme is absolutely necessary to make a successful meeting.

"The cut-rate evil has continued as before. Although it is in the power of the manufacturer to abate it, he has not done so. The druggist still continues to distribute samples for the manufacturers and to buy obscure remedies under the inducement of so-called 'offers,' generally consisting of advertisement of the article. The recommendation and suggestion made by my predecessor and the the legislative committee at our last meeting on the advisability of the association's controlling a line of domestic remedies should be earnestly considered."

Regarding the condition of national legislation the president said:

"Laws should be made to benefit the whole people, not a few individuals.

"I recommend the adoption of the following resolution:

"'Resolved, That a special committee on national legislation, to consist of three members, be appointed with authority to act independently, or in co-operation with such similar committees as may be appointed by other pharmaceutical associations, in behalf of measures promotive of the interests of legitimate pharmacy and the retail drug trade, as said drug interests may be affected by national legislation, including specifically the said law relating to alcohol taxation, the laws concerning trademarks, copyrights and patents as related to medical preparation, and the law imposing an annual tax on druggists as retail liquor dealers.'"

The president also recommended the adoption of the resolution by the American Pharmaceutical Association relative to securing better professional recognition for pharmacists in the army and navy. He also thought that this resolution should be amended so as to include pharmacists in the marine hospital service.

The president's address was referred to a committee of three, consisting of W. P. Boyd, Arcola; A. A. Culver, Momence; Thomas Knoebel, East St. Louis. The secretary of the association then read his report for the year. He said that 572 members had paid their dues for 1894 and 1895, for which certificates of membership had been mailed to them. His financial report included as receipts: Cash on hand, $153.07; dues, $573; total, $726.07. Paid out during the year, $701.14, leaving a balance of $24.93, which he had turned over to the treasurer. The treasurer's report showed cash on hand, $58.63, amount invested in Chicago bonds, $350. Secretary Fleury then reported for the executive committee, which, he said, had met at Chicago, Nov. 16, 1894. He related the business transactions, which included the selecting of the place for holding the convention, time, etc.

SECOND DAY'S SESSION.

This session began with a report of H. Lee Hatch, delegate to the Missouri pharmaceutical convention. A report was also made from the last named association by H. M. Whelpley, of St. Louis. For the committee on legislation R. C. Hattenhauer, of La Salle, reported what that committee had done to secure a revision of the pharmacy law. This report elicited considerable discussion, in which Messrs. Green, Pearl, H. H. Green, Fleury and Hallberg took part. It was the general opinion that the Illinois law was a good one and answered all purposes. C. S. N. Hallberg, of Chicago, reported for the committee on the U. S. Pharmacopœia. The report was received. Ex-President Emil Thiele reported for the committee on trade interests. He said he hoped the new law would prevent the cutting of prices, and that it would maintain them instead. He recommended that a committee of 7 be appointed to organize a company to manufacture certain remedies, with a capital of $20,000, and that Illinois druggists be invited to take stock in it. Thos. Knoebel also spoke on the question. It was proposed to tender the committee $100 with which to work, but Secretary Fleury reported that there were no funds available. This resolution was dropped and the report was adopted unanimously. The convention then adjourned for the morning. The afternoon session began with a report of the committee on adulteration, which was presented by the chairman, J. E. Hubler, of Peoria. The report stated that four lots of glycerin had been examined and found to contain no arsenic. Some sulphate of magnesia was found to contain chloride. Some chloride of lime was found deficient in available chlorine. Cream of tartar was found to contain bitartrate of calcium. Elm bark was found to contain starch. So several other articles were found adulterated or deficient. Variation was found in glass graduated measures. The report was received. This report elicited remarks from C. S. N. Hallberg, Thos. Knoebel and Dr. Whelpley, the latter stating that manufacturers and wholesalers should be taught to recognize the Pharmacopœia, a statement which elicited considerable applause.

The committee on prize essays reported that none of the papers presented at the last convention came under the provisions of the proposed awards. There are $350 in bonds available for this purpose, and the committee advised that papers presented in the competition should be so marked, and it also recommended that an amendment of the by-laws should be made to that effect. The recommendation was laid upon the table. Frank Fleury, chairman of the committee on deceased members, reported the names of twenty-three registered pharmacists in Illinois, who had died during the year.

W. P. Boyd, of Arcola, reported that records of the Board of Pharmacy had been thoroughly investigated by the committee and were found to be satisfactory. He also stated that the offices of the board at Springfield and Chicago are sufficiently appointed, and that the examinations conducted by the board are thorough tests of the qualifications of the applicants for certificates.

Secretary Frank Fleury then read the report of the State Board of Pharmacy. The complete records are in the hands of the printer, delayed by deficient appropriation, and he could not make a complete report. The receipts and expenditures of the board for 1894 were $7,755. The registered pharmacists, original number 94; time and experience, 89; examination, 203; renewals, 4,149; and the assistants, original, 156; examination, 206; and renewals, 932.

A communication from the Chicago Retail Druggists' Association asking the Illinois Pharmaceutical Association to pass resolutions for the renewal of the tax on alcohol, the revision of the trademark and patent laws so that they will not discriminate against the home manufacturer, and for the removal of the tax of $25 per year on druggists as liquor dealers was read, and the request was complied with. It was stated that twenty State pharmaceutical associations had done likewise. Mr. Fleury read a circular sent out by the Board of Pharmacy deciding what articles of the trade under the new law may be sold by parties other than druggists, and further stated that the apprentice, under the law, is not allowed to perform the duties of a registered pharmacist or assistant. A communication from the secretary of the Indiana Pharmaceutical Association in reference to fire insurance was read, and the advisability of druggists organizing a fire insurance company upon the mutual plan was discussed. A company upon this plan was organized in Ohio and it had been successful. A representative was present. It was stated that in the United States there are about 40,000 retail druggists, carrying $80,000,000 of insurance, at premiums of $1,500,000, with losses of $150,000 a year. The whole matter was referred to the committee on trade interests. C. S. N. Hallberg, of Chicago, facetiously remarked that the report should go to the committe "on ice." Mr. Hallberg then read a paper on tablet triturates and compressed tablets, many of which he had examined. He thought tablet triturates and compressed tablets were an imposition on the medical profession and came as near being a pharmaceutical swindle as anything he had ever run across. Mr. Thiele moved that this paper be referred to the committee on prize essays with favorable recommendation; the motion was carried. In the evening the members attended a banquet at the Turner Hall.

THIRD DAY'S SESSION.

This session began with the reading of a paper by J. E. Huber, of Peoria, on the solution of citrate of magnesia, elixir of valerianate of ammonia, and the cleansing of the tincture of iron

shelf bottle. He presented a method of his own of preparing the first named preparation, which he highly recommended.

The committee to whom the president's address had been referred presented its report, in which it was stated that the members heartily concurred with the recommendations of that officer, that the sale and dispensing of medicines should be restricted to competent persons, of thoroughly practical, as well as theoretical education. The suggestions, enlisting the aid of traveling men to increase the membership and popularity of the Illinois Pharmaceutical Association, and that the association should bear all legitimate expenses of the annual meetings were approved. The recommendation of the president and his predecessor in reference to the association controlling remedies was referred to the committee on trade interests at the last annual meeting. The advice as to the necessity of organizing by cities and counties as a protection to trade interests and welfare was approved.

The committee also indorsed the recommendation of the president that the Illinois Pharmaceutical Association approve of the resolution adopted by the American Pharmaceutical Association in reference to better professional recognition of the pharmacists in the army and navy. The report concluded with commendatory remarks concerning President Lueder, and thanking him for the valuable services he had rendered to the association during the past year. A vote was then taken, which resulted in the recommendation to the Governor of the names of Messrs. Hatch, Tyler and Paterson from which to select a member of the Board of Pharmacy. Officers were elected as follows: G. H. Sohrbeck, Moline, president; Thomas Knoebel, East St. Louis, I. W. Blood, Chicago, and W. C. Simpson, Vienna, vice-presidents; Frank Fleury, Springfield, secretary; H. H. Rogers, Kankakee, treasurer. Mr. Thiele offered an amendment to the by-laws providing that only members of the association be allowed to vote for members to the State Board of Pharmacy; this resolution was laid over one year, under the rules.

Charles Zimmermann, Peoria; R. W. Diller, Springfield; Hall Schuh, Cairo; R. C. Hattenhauer, La Salle, and Henry Goetz, Chicago, were appointed delegates to attend the meeting of the A. Ph. A. at Denver. The location of the next convention was referred to the executive committee, which is to be appointed by the president. After the installation of officers, the convention adjourned.

ENTERTAINMENT.

Nearly three hundred people attended the banquet at Turner Hall the evening of the second day. L. P. Wolf, editor of a local paper, was toastmaster, and the programme included speeches, toasts, orchestra music, singing by quartet, refreshments, etc. Responses were made by Messrs. Hallberg, H. H. Green, H. M. Whelpley, Judge N. E. Worthington, and others. Music was rendered by the Peoria Pharmaceutical Association Quartet, which sang several selections. Mr. Lueder accompanying them on the zither. One of the leading features of the evening was the guessing contest, which was won by Dr. Rogers, of Kankakee. An excellent programme of athletic sports was also provided at Lakeview for the entertainment of the druggists and their wives.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parenthesis the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Little Rock, Nov. 13.
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Oct. 9.
Colorado (C. H. Wells, Pueblo)—Denver, Sept. 7.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Sept. 3.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Wasbington)—Washington, Oct. 7.
Florida (Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Sept. 3.
Kansas (W. C. Johnston, Manhatton)—Wichita, Sept. 11.
Kentucky (Wiley Rogers, Louisville)—
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Aug. 14.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Oct. 8.
Massachusetts Freeman H. Butler, Lowell)—Boston, Oct. 1.
Michigan (F. W. R. Perry, Detroit)—Sault Ste. Marie, Sept. 3.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Oct. 15.
Mississippi (J. C. Means, Natchez)—Jackson, Oct. 1.
Missouri (F. W. Sennewald, St. Louis)—St. Louis Oct. 8.
Montana (G. W. Shoemaker, Billings)—.
Nebraska (M. E. Shultz, Beatrice—Lincoln, Aug. 14.
New Hampshire (George F. Underhill, Concord)—Manchester, Oct. 23.
New Jersey (Albert S. Elwell, Bridgeton)—.
New Mexico (W. C. Porterfield, Silver City)—Albuquerque, Sept. —.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburgh, Rochester, Syracuse and Yonkers.
North Carolina (Wm. Simpson, Raleigh)—
North Dakota (W. S. Parker, Lispon)—Fargo, Aug. —.
Ohio (W. R. Ogier, Columbus)—Cleveland, Oct. 15.
Oklahoma (C. P. Wickmiller, Kingfisher)—Perry, Oct. 1.
Oregon (Dan J. Fry, Salem)—Albany, Oct. —.
Pennsylvania (Charles T. George Harrisburg)—.
Rhode Island (Wm. E. Cates, Providence)—Providence, Oct. 7.
South Carolina (H. W. Hummel, Charleston)—.
South Dakota (I. A. Keith, Lake Preston)—.
Tennessee (J. O. Burge, Nashville)—Chattanooga, Oct. 16 and 17.
Vermont (J. G. Bellrose, Burlington)—Brattleboro, Sept. 25.
Virginia (E. R. Beckwith, Petersburg)—Richmond, Oct. 15.
Washington (W. H. T. Barnes, Seattle)—.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville) Sheboygan, Aug. 16.
Erie County, N. Y. (C. O. Rano, Buffalo)—Buffalo, Sept. 7.
Kings County, N. Y. (L. T. Perkins, 19 Greene ave., Brooklyn)—Brooklyn, Sept. 17.
New York City (Wm. Balser, M. D., 218 East 13th street)—College of Pharmacy building, Sept. 9.

——The North Carolina Board of Pharmacy has granted certificates to the following successful applicants who passed its recent examination: Caleb B. Bradham, Newburg; John S. Bryan, Goldsboro; Calvin W. Corrihen, China Grove; Christopher C. Fordham, Dunn, and Geo. K. Grantham, Dunn.

——The following applicants have successfully passed their examination before the Maryland Board of Pharmacy, and may engage in the drug business: George G. Smith, Charles H. Knight, James S. Webb and Benjamin W. Webb, of Maryland, and Wm. A. Gibson, of Charleston, S. C.

——The report of the New York State Board of Pharmacy for the year ending June 21 shows that 238 certificates were issued during the year. 408 candidates were examined, and 207 were licensed to practice. Ninety-eight candidates were re-examined. There were thirty-three complaints against alleged violators of the pharmacy law during the year, and six convictions. Governor Morton has reappointed Frank L. Norton, of Delhi, as a member of the board.

——The New Hampshire Board of Pharmacy recently granted certificates to the following persons, who successfully passed its examination: Senior, Walter S. Clark and John J. Mahoney, both of Exeter. Junior, Clarence P. Sargent, Manchester; Ira S. Jackman, Tilton; Herbert A. Blaisdell, Somersworth, and Arthur F. Clough, Tilton. The next quarterly meeting of the board will be held in Manchester, Wednesday, Oct. 23.

——The Illinois Board of Pharmacy, at a meeting held in Springfield July 22, 23, 1895, examined 36 applicants; out of this number the following were registered as registered pharmacists by examination: Harry A. Davenport, Gustave Frank and Ernest F. Knapp, Chicago; Fay Brown, Crescent City; George F. Hoffman, Pesotum; Moody Tidwell, Crab Orchard; Herman L. Ziegler, Peoria, and John A. Miller, Sadorus. The next meeting of the board for examination will be held in room 173, 39th street, Chicago, Sept. 10, 1895. Applications for examination must be on file in the secretary's office, Springfield, at least three days before the examination. No applications will be received on the day of examination.

——The following persons were granted permission to carry on the drug business by the Penn. Pharmaceutical Examining Board after passing a successful examination: Charles Kleinfelter, George G. Strott, B. F. Cain, William W. Long, C. W. Lindig, Samuel S. Wendle, W. S. Klomski, Stanley Szarznski, Deforrest Hart, Paul Herbert Gross, Harry Lewis Horst, D. F. Everett, Frank Howard Snyder, J. R. Smythe, F. A. Bunting, J. W. Starr, L. A. Kessler, S. A. Geakle, Edythe Weston, Philip L. Barment, J. A. Feassel, E. O. Franke, A. Spilker, J. D. Lehman, O. C. Bresser, Charles Poomsky, B. Perlman, C. L. Freeman, W. R. Lauterbacher, C. F. Schminkl, O. G. Fegley, A. C. Aichner, L. G. Nail, R. A. Simpson, W. M. Porter, C. B. Long, P. W. H. Schearer, Nicholas F. Weissner, M. D. Lingle, E. Q. Anewalt, George F. Hileman, William S. Warfel, A. S. Shuler, J. Willis Hall, Theodore E. Meyers, Thomas C. Waters, A. J. Civins, Charles W. Harter, Louis Frank, William B. Goff, Arthur C. Ried, Thomas E. Fording, Marcus C. Williams, R. B. Seybert, Harry G. Hollar.

BUSINESS RECORD.

We desire to make this a complete record of ll *new firms*, all *changes* in firms, *deaths, fires* nd *assignments* which occur among houses con nected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ARKANSAS.

Newport.—Owen & Auschutz, sold to E. & L. Bisplinghoff.

CALIFORNIA.

Los Angeles.—Dr. A. J. Shores & Co., incorporated.

Ventura.—Newby & Miller, sold to H. A. F. Miller, instead of J. T. Newby, as reported in issue of July 18.

FLORIDA.

Myers.—M. C. Billings, sold to B. P. Matherson, M. D.

GEORGIA.

Cave Springs.—Frank Wright & Co., sold to Watts & Bowman.

Macon.—South Macon Drug Store, sold to W. E. Shelverton.

Sugar Valley.—A. B. Frix, deceased.

ILLINOIS.

Canton.—Ross Drug Store, sold to B. F. Elliott.

Chicago.—C. A. Albrecht, sold to C. H. Heck.

L. W. Kadlec, deceased.

W. G. Perlau, 1097 Sheffield ave., removed to 944 Lincoln ave.

N. J. Pritzker, 395 S. Halsted, failed.

Decatur.—C. McCrum, sold to D. L. McGinnis.

Galesburg.—E. C. Sohn, sold to Frank H. Mapes.

Mt. Pulaski.—J. L. Schuler, new store.

Yorkville.—Knudson & Hallock, sold to Hallock & Ruby.

INDIANA.

Ashley.—Genser Bros., dissolved.

Goshen.—Goshen Pharmacal Co., East Lincoln ave., damaged by fire.

Greensburg.—W. J. Dobyns & Son, sold to Dr. J. H. Alexander & Son.

J. J. Hazelrigg & Son, sold to Dr. J. H. Alexander & Son.

New Castle.—James J. Johnson, closed.

Princeton.—Jones Bros., assigned.

IOWA.

Boone.—A. A. Anderson, sold to H. M. Curtis.

Centerville.—Elite Pharmacy, new store.

East Dubuque.—C. W. Leik, new store.

KANSAS.

Erie.—Dr. J. Limon, sold to N. B. & W. A. Howard.

Logan.—William Drumbiller, now Drumbiller & Co.

Stafford.—Frank O. Watson, sold to J. W. Stivers.

Topeka.—Waltmire's Drug Store, discontinued.

KENTUCKY.

Dawson.—Alexander's Drug Store, sold to John B. Brasher.

Madisonville.—Stock of T. B. Earle, sold to John B. Brasher, of Dawson, Ky.

LOUISIANA.

New Orleans.—Paul Crouere, sold to Nicholas M. Magalt.

Joseph Faber, sold out.

MAINE.

Portland.—James B. Totten, Cumberland and Locust streets, will open new store.

MARYLAND.

Baltimore.—A. W. Glannan, 1633 Madison ave., damaged by fire.

MASSACHUSETTS.

Cottage City.—Dr. Wm. Leach, sold to Dr. Dunbam.

W. Somerville.—C. A. French, closed.

Springfield.—Henry Adams, reopened.

Worcester.—W. W. Robbins, assigned.

MICHIGAN.

Ada.—J. D. Lewis, out of business.

Avoca.—C. A. Wells, sold to T. D. Matthews.

Escanaba.—The Mead Chemical Co., organized.

Grand Rapids.—Dr. Lemuel D. Putnam, deceased.

Kalamazoo.—Roberts & Hillhouse, discontinued; J. W. Patterson opened at their old address.

Union City.—Ewer's Drug Store, damaged by fire.

Vandalia.—Mix & Townsend, burned out.

MINNESOTA.

Blue Earth City.—J. Kamrar, new store.

Hutchinson.—A. Naegeli & Co., dissolved.

Morris.—Krueger & Slawson, now J. R. Krueger.

St. Paul.—A. McLanghlin, new store.

MISSISSIPPI.

Ocean Springs.—J. D. McKie, sold to H. F. Halstead.

Pickens.—Anderson & Tucker, now Payne & Anderson.

Blair & Payne, now Payne & Anderson.

MISSOURI.

Dallas.—C. McCrum, new store.

NEW HAMPSHIRE.

Candia.—Gilman Beane, Post Office Bldg., new store.

NEW JERSEY.

Phillipsburg.—Walter Freeman, Main st., damaged by fire.

NEW MEXICO.

Silver City.—W. C. Porterfield, damaged by flood.

NEW YORK.

Collin's Center.—H. F. Clark, assigned.

Goshen.—Edwin Dikeman, deceased.

Niagara Falls.—E. E. Phillpot, sold to Merriam & Cole.

Schenectady.—The Dr. Williams Medicine Co., incorporated; capital, $5,000.

NORTH CAROLINA.

Durham.—R. Blacknall & Son, burned out.

NORTH DAKOTA.

Kulm.—Young & Byar, new store.

OHIO.

Cleveland.—W. B. Maryin, assigned.

E. H. Richards, Quincy and 1st ave., new store.

Lima.—R. L. Hutchinson, will remove to Findlay.

Mt. Sterling.—Chas. A. Clark, assigned.

New Carlisle.—E. C. Miller & Co., sold out.

Vermillion.—F. E. Englebry, sold out.

OREGON.

Oregon City.—E. R. Charman, of Charman & Co., deceased.

PENNSYLVANIA.

Adamsville.—W. H. Blair, burned out.

Carbondale.—Chas. Morris, of Spaeth & Morris, deceased.

Columbia.—Will Bucher, 6th and Walnut, new store.

Easton.—John A. Weaver, moved to 336 Northampton st.

Great Bend.—C. D. Woodward, deceased.

Lock Haven.—C. C. Schaffle, assigned.

Meadville.—Frank Fowler, sold to P. H. Utech.

Philadelphia.—Leo. Myers, S. W. cor. 21st and Wharton, damaged by fire.

Pittsburg.—Mrs. M. H. Brewster, 1011 Carson, sold to S. Newcomb.

Pottstown.—Elmer J. Porter, sold to Samuel H. Porter, Jr.

RHODE ISLAND.

Harrisville.—Edward J. Day, Conner's Block, new store.

SOUTH DAKOTA.

Aberdeen.—F. G. Newell & Co., now F. G. Newell.

Mellette.—O. A. Griffis, sold to Fred. Hill.

TENNESSEE.

Erin.—N. O. Thomas, closed by sheriff.

Kingston.—A. B. Alexander, deceased.

Memphis.—The Besthoff Pharmacy Co., incorporated.

TEXAS.

Austin.—J. J. Tobin, failed.

Houston.—Dr. J. L. Cunningham, sold to J. A. Hargis.

VERMONT.

Manchester Centre.—C. J. Wait, sold to M. L. Bayless.

ONTARIO.

Durham.—Durham Pharmacy, assigned.

——F. B. Wynkoop, formerly pharmacist for J. H. Onsted, Sioux Falls, S. Dak., has accepted a position with a Minneapolis druggist.

——Frank W. Emery, for the past four years clerk with H. H. Hay & Co., Portlandthe Columbian Insecticide Co., of land, Me., has accepted a position with Boston.

TRADE MATTERS BEFORE THE MICHIGAN PHARMACEUTICAL ASSOCIATION.

Following is a copy of the report of the committee on trade interests presented at the annual meeting held in Detroit, July 16 to 19:

The committee appointed for the past year have not met together to discuss the question of trade interests; seemingly there has been no immediate call for doing so; and consequently any question between its members has been committed to correspondence. We, therefore, beg to lay before you the views of your committee on the question of trade interests as affecting the retail drug trade, as it appears to them at the present time. We have, in compiling this report, referred to the previous reports made by this association from time to time on the question of trade, and find therein many wise and able suggestions and criticisms of the relations between the manufacturer, jobber and retail dealer. While these conditions have been worthy of notice by the different committees, it appears to us very little has been done except discussion without subsequent action, for the benefit of this association.

Reports have been given to comment upon, and then the matter falls flat. Of course, under these conditions, very little permanent benefits can be derived. However, after reviewing the reports since 1888, there appears to be a few pertinent facts that have had frequent repetition, prominent among which are the following.

1. It is quite evident that the profits of the retail drug trade are being persistently invaded from all sides by dealers outside the trade, and a constant effort seems to be needed to prevent such invasion and encroachment.

2. Harmony of action and mutual interests seem to exist between manufacturer, jobber and retail dealer, regarding the output of the different products common to the trade; but with all this seeming harmony of interests, the condition of the retail drug trade grows worse each day, and we are led to believe that this interest is only in name and not a fact in every day business life.

3. A general and determined inertness and indifference by the retail drug trade as a class toward their own most vital interests, and the lack of perfect and efficient organization for strictly business purposes, and when organized, no active measures are taken or enforced for their benefit. Such conditions being true, the wrecking of the retail drug trade interests would seem naturally to follow.

Organization.

To start with this feature as a primary one is certainly proper. No one in these days can deny the benefits and necessity of organization. We see it in every walk of life, and it has been so since the beginning of history, when savages organized in a crude way for defense, later for accumulation of wealth, then for advancement in sciences and arts, and so on to the creation of great nations and the conquering of the world. Without organization nothing can be accomplished. Craftsmen enjoy privileges and

benefits from their organizations that would practically be impossible to secure without such bonds of interest. In our own business we have associations, but are they not lukewarm affairs, and are not the meetings often more of a holiday than a convention for the necessary consideration of business? I think they are. Social features are well enough in their place, but they should not be enjoyed at the expense of business interests. Therefore, we would suggest and earnestly plead for better and more complete organizations.

1. It appears to us that every man here should interest himself in bringing as many retail dealers into this organization as possible, for the purpose of strengthening it by numbers, for in unity there is strength.

2. No one should belong to the association who is not actively engaged in the retail drug business. Free discussion is often hampered by the presence of those who have other interests that may not always harmonize with those of the retail drug trade, and any embarrassment preventing members speaking their mind on certain points should be removed.

3. A committee on trade interests should be made a permanent one with executive authority, consisting of three, five or seven members, representing certain sections of the State, and they should be elected to serve one, two and three years respectively. A trade secretary should be employed by the association, and meetings be held at regular intervals each year, say one in two or three months. The society should pay the expenses of such meetings, and before this board all complaints regarding trade matters should be presented and there taken care of. As it now stands, trade reports are made, discussed in an indifferent manner, and then each one having his own interests to look after, nothing practical is accomplished with them. This leads to the oft-heard criticism that "the society does nothing practical," and which is indeed true. One of the greatest reasons why the retail drug trade do not profit by associations is that their operations are not conducted on business principles for permanent good.

The Sale of Proprietary Medicines by the Retail Trade.

This much discussed question has been before you many times, and no doubt you have read volumes covering the ideas of many who are interested in the question, both for and against your own interests, yet, after all this discussion, proposed restrictions, promises by manufacturer and jobber, talkative expressions by the wholesale trade, where is the sale of patent medicines to-day? It is simply worse than ever, and what has all this pretension and talk amounted to? Simply nothing. There is no use for the members of the retail drug trade to look for the support and protection they have reason to expect from the manufacturers and jobbers. While there are many honest people who would willingly do all they can as manufacturers or jobbers to restrict the sale of proprietary medicines to the hands of the retail drug trade, there are just as many more who are willing to sell everything they can and anywhere, and where there is a weak link in a chain, there is no greater strength in any part thereof. It is time we looked this matter in the face and stopped listening to sweet words and sweeter promises, and take the matter up and do something for ourselves. We have abundant evidence that this line of goods finds its way into the hands of any one who wants them, and no one seems to have much trouble in securing them. The only practical method which seems to have been suggested, lies within the report made by Dr. V. Mott Pierce, read before the N. W. D. A., and published in our 1894 report. Now while it may seem possible to effect this condition, it is highly probable the manufacturers will do nothing of the kind for obvious reasons.

1. They do not want so many small accounts as dealing with the retail trade will involve. The consequent loss and detail of business will be a very serious consideration to them. They like the check for the quantity purchased, their business being done much easier to trade through a few customers, rather than through many. Yet, it is eminently proper we should heartily indorse this proposed departure, and to pledge ourselves to patronize goods sold in this manner, and to encourage this scheme in every way we can. To this end our delegate to the N. W. D. A. should be instructed.

We cannot but recognize the fact that as long as proprietary articles are offered through the broker and jobber, who are competitors among themselves for the patronage of the retail drug trade, and who have a desire to increase their business beyond the territory within which they are expected to trade, they will sell outside of that limit to those who cannot secure goods from their local wholesalers, and the jobbers with whom they then come in competition will retaliate by selling outside of their limit, and any local arrangement made by local dealers, wholesale and retail, comes to naught under such conditions.

The fact is, the jobber and broker are after the "almighty dollar" and they mean to get it whenever they can. There may be exceptions to this fact, and as local dealers we can say that the Detroit wholesale trade have stood by us for several years in this battle against this class of competition. They now submit to the local asociation here, that having stood by them for about three years, and noticing that trade with the cutters is going elsewere, they cannot stand the drain upon their territory, and so have decided that unless the retail drug trade of Detroit can stop the sale of proprietary goods, etc., to the cutters of Detroit, they will, on October 1, begin to sell to the cutters in the city, and so eliminate any protection whatever that we may have had in the past. The conditions imposed upon the retail trade of the city to stop the cutters getting supplies, is almost amusing when we consider the fact that the N. W. D. A. and the manufacturers have been working on this problem for years, and even with their great resources and abilities, have failed to accomplish it, and if it were not for the fact that it simply adds another link to the chain of doubt that when the retail drug trade is in trouble, neither manufacturers nor jobbers have little consideration for it, as soon as their moneyed interests are in the least affected.

As a State association, we can now see with certainty that the jobbers of Detroit will sell to the cutters located in the State, because they must look upon the State as their territory, and it should come within the same reason as applied to the city, and so any degree of protection from this source is eliminated. This goes to prove conclusively, that we should indorse most heartily the proposition of Dr. Pierce, before referred to.

The Cutting Question.

This is the great question of the retail drug trade at present.

1. Can cutting be stopped? This is very doubtful. Why? Because the manufacturers fully appreciate the large and increased output through department stores, cutters from choice, grocery stores, etc., and they will not willingly put aside this trade for what they consider the inert and indifferent support of the retail drug trade, and there is considerable truth in their criticism of the retail dealers' methods of business. The only way it can be reduced is through Dr. Pierce's suggestion before referred to, and those makers who adopt this plan, be given support, and those who do not, throw out their goods entirely and fight them heartily in every way possible; kill off their trade. It can be done, because there was never a more truthful statement than the one made by Dr. Pierce, who says: "Patent medicines can hardly be sold in a grocery store. It would prejudice their sale and give a better chance for the druggist to sell his own substitution." And that is just what we must do. Force the patent medicines, whose proprietors will not support us, into the hands of the grocery store people, and then work our own substitutions against them. Do this every day and every hour, and we will see if the proprietor will not begin to recognize that the support which the druggist gives his medicines is not worth something to him. They never would have become the popular remedies that they are now, if we did not support them, and because we do give them this standing, it enables the department store, grocery store, notion house, etc., to simply play prices against us to our detriment and loss.

2. New patent medicines or proprietary articles that are being placed upon the market, should not be accepted by the legitimate retail drug trade except under agreement with the maker that he will not permit their sale by any except legitimate retail drug dealers, and those who maintain prices. Goods should be purchased on this basis, returnable if at any time the agreement is violated. This can be done, as protection in price can be maintained, as it has been by some

dealers already. What we must seek to do is this: not to give moral support to any interest, that when we have given strength and standing, will turn upon us and sell their products to any one without care of our interests, as many manufacturers of proprietary preparations have done. Such a plan could be put into operation through the secretary of the Board of Trade Interests.

3. Neither of these conditions above referred to being possible, what are we going to do about it? Sit still and groan and bear it, or not? That is the leading question. Well, we have a plan to propose; not a new one and not exactly our own. In fact, an oft-mooted question. One that has been tried with success in some instances, and failure in others. It simply rests with the pharmacists of this State to decide whether they have enough business acumen, ability and nerve to carry such a scheme through to success; or are content to remain the same inert, indifferent, careless men as the average manufacturer puts them down to be.

The following suggestion comes from several sources: Mr. H. G. Coleman, of Kalamazoo, started the proposed departure and has furnished some valuable material. The chairman of your committee devoted considerable time and thought to it, including a visit to Hamilton, Ont., investigating the Ontario Chemists Company, besides many who have been consulted and who have assisted in formulating the remarks we have to offer.

The Plan.

The proposition is simply this: Let us combine together and make us our goods, pharmaceuticals and special. Let us make manufacturing profits ourselves and reap some of the benefits that others now enjoy through our efforts. Can it be done? Why not? We would need capital. Can we not subscribe it? Facilities. Can we not create them? Expert manufacturers. We can hire them as well as the manufacturers do. Customers for our goods. We have them among ourselves, at little or no expense. Advertising. Can we not take the money and time we now spend advertising, singly, and do it collectively to better advantage, and at less expense? Will physicians buy our goods? Why not? If they had confidence enough in us to dispense their prescriptions will they not have as much in a class of goods made under our supervision, the contents whereof we know and can conscientiously recommend? It seems to us they must have; and our patrons for non-secret goods, will they not purchase from us our own products as freely as they do those made by others, and upon which our name appears as manufacturers, when we know nothing of the formulæ or the drugs from which they are compounded?

There is no question in the world why a departure of this kind could not be made and conducted in such a manner as to make us individually and collectively a great deal more money, and practically make us independent of the various influences which now surround our business. We believe there are enough among us who will think favorably on this question, and by the signs of the times, see that something must be done to increase our profits, and, seeing, will agree to do something. It is well here to note the great prosperity of the manufacturing houses. They are not better pharmacists than many among us, but they are better business men. The jobbing trade also prospers. Each year they tell you that they make no money, groan and look solemn, yet, we never hear of many of them leaving the trade or going out of the business, nor of many failures, and we can rest assured that they are not in the business for recreation solely, so just set this down as a plain, common sense fact, there is money in manufacturing, and why not make it this way?

The other day there came under our notice an interesting article regarding a colony of poor weavers in England, who banded together, putting in a few pence each, to purchase in quantity the necessaries of life. Starting in this unostentatious manner, to-day their society numbers several thousand stations, their wealth counts into the millions pounds sterling, and their steam ocean vessels bring them the products of every clime at first cost.

Is there not a lesson in their success for us? Are we not encouraged in this line of departure by precedent? You will find throughout the reports of the pharmaceutical societies, this class of advice: make more of your own goods. The profit lies in manufacturing; increasing the sale of your own products, etc., etc., or, as in Minnesota, where a strong recommendation is made to establish a co-operative laboratory. In fact, it seems almost universal, this feeling, and if we are first in the field we can reap the benefits and secure many stockholders from other States, and in fact sell our goods to dealers elsewhere.

We have a letter and the by-laws of the Ontario Chemists Manufacturing Co. of Hamilton, an institution founded somewhat on similar ideas.

The question of the profits of such an institution seems almost assured. Take one item alone, viz., traveling expenses, and that being estimated, it is a liberal profit in itself. Besides which, are we not as capable of running a laboratory as any private individual? Very few principals are workers in their own laboratories, almost all the work is performed by men hired for that purpose. Then, again, our margin of profit would be increased naturally, because each individual stockholder, pushing the sale of our goods, must necessarily increase the output at small additional expense. In advertising legitimate pharmaceuticals, no expense is necessary, because we are our own patrons, while this is always a heavy item in individual enterprise. Advertising specialties can be conducted at much less rates through advertising agencies than through individual local papers, and all materially benefit thereby. One hears on every side of the large fortunes made by successful specialties. It lies within our province to conduct just such a business as others have done. All we need is men of experience in similar lines, to do equally as well for us.

Economy of manufacture by retail dealers is always a doubtful question. They rarely consider the cost of time, which might be better employed in attending their stores and watching carefully for customers. Many of the goods they buy are in such small quantities that will not warrant their making them. Besides, crude drugs in small amounts are very questionable in quality, and generally much higher in price than when handled in quantity. The loss of alcohol is also a consideration in small manufacturing, to say nothing of uniform products, which in small quantities are difficult to obtain, and such tests as should be applied are often too expensive in both time and material to warrant their application to small amounts.

To practically consider this question of manufacturing for ourselves, involves a great amount of detail, each feature of which should have careful consideration and such organization be perfected that would give equal rights to all, and injustice to none. The small dealers should share equally with the greater. Each one proportionately to the amount of his trade. After discussion, should this question be approved a committee should be appointed and the matter taken up and systematically handled.

This report is more in the line of a suggestion, yet, to have some data, we have corresponded with a most competent manufacturing pharmacist, one who has had wide experience in several of the best laboratories in the country, and who is competent in every line. He tells us a laboratory for making pharmaceuticals with engine and boiler could be equipped for about $5,000, and the plant increased as time and demand should require. Now, presuming there are 1,600 pharmacists in Michigan, could we induce 500 of them to join such a departure, each purchasing $100 worth of stock, that would give us capital of $50,000, which would equip, stock and operate.

1. Each member should hold at least stock certificates for $100, and he would receive credit for a like amount on the books of the company, stock being held as security for such credit.

2. Each member would be entitled to vote his stock and no more, and no voting by proxy.

3. The laboratory should be conducted by a managing director under the direction of a board of directors.

4. The price of goods to be determined by the board of directors and maintained. Any one cutting prices of goods issued by the association would be dropped from membership and the stock forfeited to the company.

5. Dividends, if any, to be divided, first, not exceeding 7 per cent. in investment, and any surplus thereafter distributed in dividends, proportionately to purchases made by each individual, of manufactured goods bought and paid for.

The above is only a crude outline of salient points. We have here, as before referred to, the by-laws of the Ontario Manufacturing Co., which shows the basis of a Canadian institution now in operation, and, they report, successfully.

The question of strength in such a combination is also a most serious one. Any one who has read trade papers, must be impressed with the constant call for combination, so that it seems almost a vital necessity, but experience has shown that the possibilities of combining the entire retail drug trade of the United States are very doubtful, and while we cannot combine them all together for general protection, is it not quite possible that a few hundred of us can combine in a business departure wherein our mutual interests may be served? The possibility of making money each for ourselves, will prove a greater inducement than the mere matter of an association for general business interests.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

Chicago Pharmacy Exposition.

Chicago, July 31, 1895.

To the Editor:

The July 18 issue of your journal contains an article under the title, "The World's Exposition of Pharmacy and Hygiene." In that article you use the following language: "It is further found that the Chicago Retail Druggists' Association gives no support to it [the exposition] other than wishing it a fair measure of success, and that the name of this association is used in the way that it appears wholly without official authorization."

As president of the Chicago Retail Druggists' Association, I declare this statement false.

You also say, "We are reliably informed that the exhibit is not to be under the auspices of the Chicago Retail Druggists' Association." This statement is as entirely devoid of truth as its predecessor.

The article states also, "The action of the president, in allowing the use of the name of the association, has been repudiated by the latter."

It is difficult to understand how a respectable journal could be led into making a statement so notoriously at variance with the truth. Not only is every syllable of the statement false, but no excuse for the falsehood exists or ever existed.

The World's Exposition of Pharmacy and Hygiene has received the indorsement of the Chicago Retail Druggists' Association, and is to be held under its auspices. The association has thoroughly satisfied itself of the trustworthiness of the management; it has every reason to expect that the enterprise will be a success.

The association, which allows this exposition to be held under its patronage, has for its object the furtherance, in every legitimate way, of the interests of the retail druggist. It believes that a well managed exposition of pharmaceutical products and the specialties and side lines handled by druggists, in connection with which exposition popular lectures are delivered on sanitation, the preparation of food for invalids and children, the sophistication of drugs, the adulteration of food, and kindred subjects, can be made of material value to the retail drug business.

As a matter of justice, I ask that this statement be given the same prominence in your journal as that given the false and misleading statements it is designed to refute and counteract. Very respectfully,

THOS. V. WOOTEN,
President Chicago Retail Druggists' Association.

Chicago, July 29, 1895.

To the Editor:

In the issue of the Pharmaceutical Era of July 18, page 66, you have an article entitled "The World's Exposition of Pharmacy and Hygiene." Feeling that you do not intend to do me an injustice in the matter, permit me to give you a few facts in denial of your statements made therein. The Chicago Retail Druggists' Association does give the exposition its support, and its name is not used without official authorization. Again, the exposition is to be under the auspices of the Chicago Retail Druggists' Association. Finally, the action of the president in allowing the use of the name of the association has not been repudiated by the latter.

Kindly give this the same prominence in your paper as was given the article above referred to. Yours respectfully,

F. L. MAGUIRE.

An Old-Time Druggist.

Greensboro, N. C.

To the Editor:

I am one of your long-time-ago druggists, when Adam was a boy, when we used to manufacture our own tinctures in old-time style. Beat them up in an iron mortar. Made laudanum and paregoric in the old-time way, but they were reliable and we knew just what they were. In this age of progress and fashion, we don't know anything about how they are made, there are so many manufacturers and so many different strengths. Don't know which is best, and whether any is perfectly reliable or not; have to depend entirely upon the honesty of the manufacturer. Then, again, there are the sugar-coated pills. Who knows the ingredients, except the manufacturer? We used to manufacture our own pills, then we could recommend them, as we knew exactly what the ingredients were; now we are in the dark, and have to depend entirely upon others.

Well, the old-time druggist was about as reliable as the new, fashionable pharmacist of to-day, and made fewer mistakes. Our apprentice boys used to make mercurial ointment and cry over it. They would grind for a week, then set it aside and it would still show quicksilver. They would have to cry over it and grind again; it had to be perfect before we would pass it. That was our style of doing business—everything as it should be. In this day and generation they grind it, but we can tell what that is, but we cannot exactly tell the strength. Now I will give you a description of Matthews' first soda fountain. It was composed of a large wooden tub, nearly as big as a hogshead, filled with water and a large copper tub fixed with a pulley. The acid and water were put in something like a churn and stirred up in the copper tub and that would press the gas down. When pressed down sufficiently it would form the so-called soda water. We made it with bicarbonate of soda, but it was good and strong. How would this apparatus look alongside our splendid fountains of to-day? Don't you think it would burst its boiler and hide itself?

Although we were old-time druggists years ago, we are still keeping up with the boys and fashions. We take four journals, keep up with all the new remedies and new prices, and we think the Era is in the lead and beats them all.

What is the matter with the druggists? We see so many of them killing their wives and then themselves. Guess they use too much barley-corn or apple juice.

Our drug people won't pay the $50 license tax imposed by the last beautiful legislature. We don't handle the stuff, never did. I. N. CALLUM.

St. Louis Entertainment Programme.

St. Louis, Aug. 1.—The committee appointed by the St. Louis College of Pharmacy to arrange for the entertainment of the delegates en route to the Denver meeting has come out with the following programme, which will be fulfilled on Sunday, Aug. 11: 7:12 A. M., reception of delegates at St. Louis Union Station; 9:30 A. M., reception in parlors at Planter's Hotel, Fourth and Pine streets; 10:30 A. M., visit to Anheuser-Busch Brewing Association plant; 2 P. M., carriage ride (starting from Planter's Hotel) through principal streets, parks and Shaw's Botanical Garden; 7:30 P. M., luncheon at Forest Park Cottage; Committee on Arrangements—Thomas Layton, Adolph Braun, H. F. A. Spilker, Judge Sol Boehm, Prof. Francis Hemm and Dr. H. M. Whelpley, chairman.

St. Louis will be a sort of meeting place for the delegates from the Eastern and Central States, and it is proposed to give them a taste of St. Louis hospitality. The delegates will leave in a body the following morning by special train.

——The river excursion given by the St. Louis Drug Clerks' Society on the evening of Aug. 1, proved an enjoyable affair and a pronounced success. The attendance was large and select, and the boys assert that it surpassed anything given by the society so far. Secretary Rudolph S. Vitt was the principal member of the Arrangement Committee.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS.

Issued July 23, 1895.

543,002—Stephen H. Emmens, London, England.—Making ferric sulphate.
543,079—Frederick Burton, assignor to Aluminum Co., Ltd., London, England.—Purifying oils or fats.
543,108—John H. Stevens, assignor, by mesne assignments, to Celluloid Co., Newark, N. J.—Manufacture of solid or massive compounds of pyroxylin.
543,193—Albrecht Schmidt, Berlin, Germany.—Production of proto-catechuic aldehyde-meta-alkyl ethers.
543,197—John H. Stevens, Newark, N. J., assignor to Celluloid Co., New York, N. Y.—Compound of pyroxylin.
543,214—Wilhelm Majert, Berlin, Germany.—Aromatic glycocol derivative.
543,224—Edwin Walker, Erie, Pa.—Cork-puller.
543,256—Leo V. J. Lynen, London, England.—Process of and apparatus for extraction of zinc.
543,284—Eduard R. Besemfelder, Gross Mochbern, Germany.—Decomposing substances by means of ammonia salts.
543,326—Karl J. Bayer, Woburn, Mass.—Producing potassium chlorate.
543,423—Sebastian C. Guthrie, Evansville, Ind.—Dispensing case or cabinet.

TRADE-MARKS.

Registered July 23, 1895.

26,854.—Medicinal Beverages. Apohaqui Alkaline Spring Water Co., New York, N. Y. The word "Apohaqui."
26,855.—Magen Bitters. Sara B. Rothenberg, Oakland, Cal. A garter or band of alternate red and yellow colors, halved horizontally by a bar, upon which appears an escutcheon having a chocolate ground and bearing a displayed eagle, accompanied by the words "Berliner Magen Bitters."
26,856.—Certain Named Medical Compounds. Chas. R. Ray, Chicago, Ill. The representation of a segment of a disk with rays extending therefrom and the name "Dr. Ray's" appearing above the disk and across the rays.
26,857.—Certain Named Medical Compound. Alfred H. Wells, Hyattsville, Md. The word "Glandine."
26,858.—Remedy for Coughs, Colds and Pulmonary Complaints. Bartlett and Villinger, Augusta, Ga. The representation of two ornamental shields, one showing a pine tree and the other showing a crane near a shrub, together with the words "Bartlett's Yellow Pine and Crane Willow Balsam."
26,859.—Blood-purifier and Remedy for Rheumatism. Winnie G. O'Donnell, Lewiston, Me. The representation of a shield and a druggist's emblems at the corners, and the name "Durands" diagonally across the face of it.
26,860.—Remedy for Anemia, Chlorosis, Megrim and Neuralgia. Knoll & Co., Liestheal, Switzerland. The word "Ferropyrin."
26,861.—Liniment. Junius Barnes, Burlington, Vt. The word "Mysterious."
26,862.—Salve. Jeremiah Hubbard, Afton, Ind. Ter. The hyphenated word "Car-nu-lea-ya-tee."
26,863.—Salve. Wm. F. A. Neynaber, Chicago, Ill. The word "Theobromaline."

A patent granted July 23 to Karl J. Bayer, Woburn, Mass., for making potassium chlorate is based upon the following claim: "The process consists in mixing zinc oxide and water with potassium chlorid, heating the solution to near the boiling temperature, subjecting the heated solution to the action of chlorin, separating the potassium chlorate from the liquor by crystallization and concentrating the zinc-chlorid in the remaining liquor.

Stephen H. Emmens, London, England, on same date received a patent on a process of making ferric sulfate which consists, according to the claim, "in passing the gases from a sulfuret or sulfate-roasting or calcining-furnace into water in which ferric hydrate is suspended."

—Dowagiac, Mich., is to have a new peppermint distillery. It will be completed in time for this season's crop.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

The Lister Surgical Company, of Kearney, N. J., are moving their plant to New Brunswick, N. J. We understand they have increased their facilities, and that they intend to push their specialties very energetically.

Druggists frequently have trouble with corks. In instances of this kind the Williamsburg Cork Works, Brooklyn, N. Y., want to hear of it. They have a brand of corks with which the druggist, or rather his customers, will always be satisfied.

When you specify "Gordon's" and get what you order you have a chemically pure glycerin suitable for all the operations of the pharmacy. Gordon's glycerin does not cost more on account of its being pure. It is simply an extra quality for the market price.

Chas. P. Whittle, 182 Hanover street, Boston, has lately fitted up the following stores: J. F. Upton and Jas. E. Fitzgerald, Salem, Mass.; A. H. Sherman, Ludlow, Vt.; E. P. Brennan, Naugatuck, Conn.; E. H. Blumenkranz, Newport, R. I.; Clark & Mahoney, Exeter, N. H.

In addition to their original Yankee Brand Pure Spruce Gum, Curtis & Son, Portland, Me., have placed upon the market a pepsin gum which is put up in elegant and attractive small jars containing 40 packages. Try some of the new brand upon your next order. All jobbers have it.

Many druggists throughout the country are now interested in alcohol, and Jas. A. Webb & Son, 165 Pearl street, New York, are still able to quote the lowest prices on the product, f. o. b. Chicago or New York. Write to them for quotations on original packages.

The name "Planten" is so associated with capsules and perloids that it is no effort for the druggist to remember which kind to specify when he orders. But there are new forms and combinations constantly appearing, and every pharmacist should have the latest list. Write to H. Planten & Son, 224 William street, New York, for it.

The National Folding Box and Paper Co., with their several large factories in different parts of the country, claim to be able to quote the most satisfactory prices on folding boxes, etc. Every manufacturer who uses such goods should at least get their prices before purchasing or giving contracts. Address them at New Haven, Conn.

A good kind of pile ointment to keep in stock is one that the druggist can recommend. Stewart's Gipsy Pile Ointment is of this kind. It has been praised by thousands who have used it, and by many physicians. It costs 25 cents, retails for 50 cents, and the manufacturer, Fred. W. Stewart, Oswego, N. Y., pays express or postage on all orders.

Make your own fluid extracts.
It can be done.
It pays big. See p. 20, Era, July 4.
Harrop & Co., publishers, Columbus, O.

James W. Tufts, Boston, has just set up in the new store of T. F. Mahoney, Hudson, Mass., one of the finest soda fountains in the town. It is of Mexican onyx, with white and gold top.

Licorice in all its forms, stick, lozenge, powder, powdered extract and ammoniacal glycyrrhizin in scales are all specialties with Mellor & Rittenhouse, of Philadelphia. The demand for these products will increase as winter approaches, and the druggist who has the "M. & R." brand can assure his customers that they are getting the best that can be found.

In this country where people stir around and travel a great deal, such diseases as smallpox are liable to break out at any time. The duty of the druggist in such cases is to simply remember where he can procure a reliable vaccine virus, and procure it in a hurry. If he has the fine publication of the New England Vaccine Co., Chelsea Station, Boston, Mass., it will remind him of the proper thing to do. Better send for it.

Quality versus price is still the battlecry of competitors in the manufacture of pharmaceutical preparations. It may be needless to add that the Wm. S. Merrell Chemical Co., of Cincinnati, fight their battles on the score of quality first, and price as a secondary consideration. With the physician it is the problem of professional reputation and success as opposed to uncertainty and the hit or miss policy of the charlatan.

Metal goods, such as collapsible tubes, bottle stoppers, syringes, breast pumps, suppository, bougie, camphor ice and cosmetic molds, are in such frequent demand in the drug store that every proprietor ought to know where and how he can procure reliable goods of this character. A. H. Wirz, Philadelphia, will supply this information through his catalogues. Send for them.

Everybody in the trade knows that the colors, paints, stains, varnishes, etc., made by John Lucas & Co., Philadelphia, are as good as can be procured on the market, but the best goods in the world will not be sold unless the public is told of this great fact. This is where John Lucas & Co. excel—in telling people about their goods. Their advertising matter is in keeping with the attractiveness of their colors. Send for some of it and see.

"Through without change of cars," is an attractive announcement for the traveler, and "through without changing containers," ought to be just as attractive to the pharmacist who wants essential oils from Sicily, which show that they reach him without any "change." The Sicilian Essential Oil Co., 96 Maiden Lane, New York, do a through business of this kind, and their products, oils lemon, orange and bergamot in original 1-pound coppers, meet with no accident on the way. Write to them for prices and particulars.

The above illustration shows Hood's Automatic Weight Holder, a new contrivance for keeping weights where they can be found, and free from dust. "You push the button" and the weight drops into your hand, always correct. It costs $2, and Detroit jobbers have it in stock.

After a druggist buys gin he usually knows whether his purchase is a wise one or not. But before buying he should settle as many doubts as he possibly can. It is a good plan when a Holland gin is wanted to buy an article which actually comes from Holland, and whose manufacturer has a reputation in his own country. Swan gin exactly fills these requirements. Meder & Zoon are the manufacturers and Ferd. Ruttmann & Son, New York, are the importers, and the article which they import has a prestige which they are careful to preserve.

The manufacturer of a pharmaceutical preparation or specialty should leave nothing undone to bring it to the notice of the public. Often this expense is but nominal, especially when it is something which adds to the attractiveness of the package or otherwise calls attention to it. Woods, Sherwood & Co., Lowell, Mass., offer one means of helping the sale of such goods through their white wire display stands. When it comes to quantities the cost is so moderate that it cuts little figure when the benefit is considered. Send for catalogue and be convinced.

The pharmacist meets many difficulties in dispensing prescriptions upon which medicinal products of some particular form are prescribed. The physician specifies these because "somebody" has called his attention to them. Why not tell your physicians that you can dispense all drugs, capable of being so administered, in powder form, enveloped in Konseals, the wafer capsules formed of rice flour, furnished by J. M. Grosvenor & Co., 105 Milk street, Boston. Doctors take kindly to these pharmaceutical "wrinkles," and the above firm will send you some literature showing how you can get them interested in Konseals.

Although this is August people are talking about the fall and winter trade, and before the druggist knows it the holiday season's purchases will be clamoring for attention. As business is easy now it is a good idea to do some figuring on goods for the coming season. Send to the Florence Mfg. Co., Florence, Mass., for their catalogues and booklets describing Cosmeon Toilet Articles. These goods are exceedingly handsome, and the glitter of finely wrought aluminum brushes, mirrors, etc., will catch the eyes of every shopper in search of presents. As these goods are comparatively new, they are going to be in great demand for this purpose.

A new preparation of considerable importance will shortly be brought before the trade by the Chemical Factory of Dr. L. C. Marquart, Beuel-Bonn, Germany. It is an iodoform without a particle of smell called "Iodoformin." This new product is the invention of Dr. Eichengrün, of Bonn, and is not a mixture such as Iodoformium deodoratum, but a chemical combination containing 75 per cent. of pure iodoform. It is an odorless, white, extremely fine powder acting upon wounds, according to the testimony of different university clinics, just as satisfactorily as iodoform. It also possesses the property of thoroughly drying out the wound and accelerates healing without producing any irritation.

It is always cheering to hear a man say, in what he pronounces to be the dullest season of the year, that trade is "pretty good." Mr. Henry Spavin, of the Low Art Tile Co., Boston, states that orders for soda fountains are coming in with very pleasing frequency. Aside from many sales to confectioners and others, trade with druggists has been lively. Among the buyers are N. L. Graves, of Boston; L. A. Malloy, Marlboro; N. M. Des Chenes, Fitchburg; W. E. Barrows, Fall River; Frederick Brown, Nantasket; W. S. Burnham, Gloucester; G. M. Young, Portland, Me.; A. G. Shorey and H. S. Wheeler, North Vasselboro, Me.; J. J. Holland, Manchester, N. H.; E. P. Anthony, Providence, R. I.

Tartarlithine or lithium cream of tartar is a new acid lithium salt made by McKesson & Robbins, of New York. It is put up in tablet form in bottles of 100. The tablet effervesces in water and produces an acid solution which is extremely palatable and refreshing. Dr. Kirk, of Philadelphia, reports very gratifying results from its use in gout and muscular rheumatism, and Dr. French, of Rochester, also highly recommends it in cases of obstinate enuresis. The dose is two tablets in a glass of hot water immediately before going to bed, one tablet in a glass of hot water half an hour before breakfast and one tablet in water, not iced, before luncheon and dinner. Price to the trade, $7.50 per dozen bottles.

That longing to "go somewhere" which is so prevalent at this season of the year is strongly encouraged by the Michigan Central R. R. It does this by means of some very handsome publications, describing the many points of interest which can be reached via that route. One of these, "Niagara Falls from Different Points of View," contains some beautiful colored views of the great wonder, and some of the finest things that some of the best writers have said about it. Another book, "A Summer Note Book," describes Michigan resorts, the St. Lawrence River, the Adirondacks, the Hudson River, the Berkshire Hills, White Mountains, New England coast, etc., and artists, writers and printers have done their best to give a very attractive pamphlet.

Frank A. Stratton & Co., 35 Great Jones street, New York, has something to say to the jobbing trade about Mazzoni Violin and Banjo Strings. Every one of these strings is warranted. Each string is put up in separate wrapper (heavy waxed paper), making the packages air-proof, and obviating all danger of the strings drying up and becoming worthless. The violin strings are put up in square boxes (½ bundles), 5 bundles in a carton. The banjo strings are in full bundles. Samples have been sent to the leading musicians throughout the United States, and there is already a demand for the strings. Advertising matter for traveling men, and circulars for mailing or packing with merchandise are furnished freely. Write for particulars regarding prices and profits. The latter are especially favorable.

A new specific for the cure of all forms of kidney diseases, which is very highly recommended by physicians who have tried it, is Dr. Hobbs' Sparagus Kidney Pills, compounded by the Hobbs Medicine Co., of Chicago and San Francisco. The almost instant effect of the asparagus plant upon the kidneys has long been known, but little practical use has hitherto been made of its singular affinity for those organs, although French physicians have successfully employed decoctions of the plant in treating kidney complaints. It has now been found possible to utilize the active curative qualities of asparagus, in combination with other vegetable ingredients, the result being Dr. Hobbs' Sparagus Kidney Pills. The very high class of advertising put forth by the Hobbs Medicine Co. is noteworthy and certainly indicates their entire confidence in the curative powers of their new specific.

Thorough.

Advertising well done brings the best results. If you have but little to do with, cover a small territory thoroughly, do not spread "too thin." Working on this theory, the Humphreys Homeopathic Medicine Company, of New York, will send you copies of Dr. Humphreys' new and enlarged manual treating of his specifics, with your card on cover. If you will agree to circulate within a block or a few blocks of your store, state how many you require, make sure that your boy places one in the hand of every housekeeper on your block, let what is done be done thoroughly, and you will not alone make large sales of Humphreys' specifics, but you will bring to your store the best people of your neighborhood.

The Chicago College of Pharmacy has just issued its thirty-sixth announcement for the terms of 1895--96. It is finely illustrated, excellently arranged for ready reference, and every young man intending to study pharmacy should have a copy, which can be procured by addressing W. B. Day, actuary, 465 State street, Chicago.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail **druggists,** will be found on page 19 of this issue, in the back part of the journal.

Advanced: Cod Liver Oil, Oils Anise, Cassia and Peppermint, Sugar of Milk.
Declined: Arsenic, Balsam Peru, Balsam Tolu, Caffeine, Cubeb Berries, Gum Chicle, Menthol, Potassium Chlorate and Bichromate, Sodium Bichromate, Sodium Salicylate (Schering's), Quicksilver.

New York, Aug. 6, 1895.

There has been a gradual increase in the volume of business during the week under review, and tangible signs of the anticipated revival of trade are steadily multiplying. In addition to the perceptible increase in the number of orders received from out-of-town buyers, there is a decided improvement in the demand for future deliveries, indicating that both here and at interior points distributers are confident that the approaching season is likely to tax their energies to the utmost, and all are anxious to be in readiness for the active demand when it materializes. In a few commodities, existing conditions are not as satisfactory as they might be, but that is not surprising in a department of trade where such a vast number of articles are, of necessity, kept in stock, to meet the probable wants of consumers. In a general way the situation is very encouraging, and the majority of price changes continues to favor holders, in some instances marked advances being established, and in others there is substantial evidence that improved values will follow closely in the wake of an increased inquiry.

OPIUM.—The market for this leading article is practically as outlined in our last report, nothing of consequence having occurred to disturb the quiet condition resulting from lack of interest on the part of large operators. The demand for case lots and smaller quantities has continued fair and advices from primary markets have been of a sufficiently stimulating character to impart a steady feeling among holders, and there has been less anxiety to secure orders by making further concessions. There are many in the trade, however, who yet believe that when the new crop begins to seek an outlet, depressing influences will develop that are likely to cause a break in prices to the lowest point on record. On the other hand, speculators may take firm hold of the article, and the possible levy of an export duty by the Turkish Government may be an important factor on the "bull" side.

MORPHINE.—Business has continued of moderate volume without further change in prices, but the market, while apparently steady, is somewhat sensitive and it is claimed that competition between sellers is keen, and that close buyers are able, in some instances, to shade current quotations.

QUININE—Has continued active with a liberal demand from pill makers, and the market retains the strong tone previously noted. There is so little difference between the quotations of outside holders and those of agents of foreign manufacturers, that the latter are receiving the larger share of the orders from consumers, and all indications point to the ultimate elimination of the speculative element. Stocks in second hands are smaller than at any time for many years, and the continued manipulation of foreign markets prevents replenishing by fresh importations.

ALCOHOL—Is without quotable change, and the range of prices is somewhat nominal, but a slightly steadier feeling is manifest on the part of sellers with less anxiety to compete for each other's trade.

ARSENIC.—The available stock has been increased by recent arrivals, and with a lessened demand from large buyers, the tone of the market is easier and quotations are about ¼ cent per lb lower.

BALSAMS.—Copaiba is moderately active in a jobbing way at unchanged prices. Peru is quiet and slightly easier; small lots in original packages have been sold at about 5 cents under previous values, and jobbing quotations are correspondingly lower. Tolu has declined about 2 cents per lb without stimulating the demand. New crop Canada fir is arriving in limited quantities, and some resales are reported at the recently reduced prices.

SALICYLIC ACID—Continues unsettled and irregular with the general tendency in buyers' favor, owing to competition between manufacturers.

SALICYLATE OF SODA.—The decline in salicylic acid has had a depressing effect on values, but the only change yet announced is a reduction in "Scherings" to $1.10 per lb, including 1-lb bottle. A general reduction by American manufacturers is expected shortly.

CAFFEINE.—There has been more or less pressure to sell on the part of outside holders, and prices have declined about $1.00 per lb.

COLOCYNTH APPLES—Are firmly held at the advance noted last week, and holders of Trieste offer sparingly, still higher prices being anticipated.

COD LIVER OIL—Is decidedly strong and although some holders will yet accept former prices for limited quantities others have advanced their views, feeling confident that extreme figures will prevail during the approaching consuming season owing to probable scarcity.

CUBEB BERRIES—Have been more active but at easier prices, all varieties showing a decline of 1@2 cents per lb.

OIL OF ANISE—Is steadily moving upward, and a further advance of 5 cents per lb has occurred since our last report.

OIL OF CASSIA—Is fully 20 cents per lb higher and the demand has been quite active, especially from London. Stocks are light at all points and holders are decidedly firm in their views.

PEPPERMINT OIL.—All desirable grades of bulk are about 10 cents per lb higher, but no sales of consequence are reported. Case oil is quiet and unchanged.

CAMPHOR—Is unchanged in price but foreign markets are stronger, and the tendency here is toward a higher basis.

CHICLE—Has been arriving rather more freely, and the tone of the market is easier, with values showing a further decline of 2@3 cents per lb.

MENTHOL.—The London market is cabled lower, and an easier feeling is manifest here, with some holders willing to sell at 15 cents under former quotations.

QUICKSILVER.—There has been no change in foreign markets, but lack of demand has had a depressing effect on values here, and former prices can be shaded about 1 cent per lb.

ROOTS.—Golden seal, serpentaria and Mexican sarsaparilla are all slightly easier, but without important feature.

SUGAR OF MILK.—The demand has been very active, and with stocks very much reduced the market is stronger and all varieties have been advanced 1 cent per lb.

POTASH, CHLORATE—Is fractionally lower owing to competition between sellers.

POTASH, BICHROMATE—Is 1 cent higher in sympathy with foreign markets.

SODA, BICHROMATE—Shows a corresponding improvement under the same influence.

London Market Report.

London, July 27, 1895.

This has been, probably, the slackest week this year, the drug sales on Wednesday being very dull and uninteresting.

ALOES.—No varieties wanted except Cape, which sold at a slight decline to 25s. for fine bright hard, 23s. 6d. for good hard, 22s. 6d., slightly drossy, and 19s. 6d. for dull, a reduction of 9d. to 1s. per cwt. all round.

CAMPHOR.—Crude Japanese sold at the drug sales at 175s. It is stated that the syndicate has succeeded in unloading a good deal of its stock at high prices.

CASCARILLA.—One of the few drugs in demand at the sales. Fine silver quill, 48s.; thin dull bark, 27s.

CASSIA OIL.—Still receiving the attention of "bulls" and selling at 5s. 3d. for 70 to 75 per cent., and 5s. 6d. for 75 to 80 per cent.

CHRYSOPHANIC ACID.—Firm at 15s. per lb.

COCAINE.—Still remains at the low price of 14s. 3d. per oz. for 100-oz. lots.

COD LIVER OIL.—Isdahl's finest Norwegian, 170s.

CREAM OF TARTAR.—German powder, 75s.; French crystals, 73s.

INSECT FLOWERS.—Higher. New open flowers, 56s.; half-closed, 86s. 6d.; closed, 99s. per cwt., c. i. f. terms.

IPECACUANHA.—In demand at last week's rates.

JALAP.—Vera Cruz, 11d. per lb.

PEPPERMINT OIL.—A firm market. Cocking's oil quoted at 6s. 9d.

SENEGA ROOT.—Higher; 1s. 3d. per lb.

TOLU BALSAM.—Quoted firmly at 1s. 7d.

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ALCOHOL BLANKS.

Section 61, Act of Congress, dated Aug. 28, 1894, provides for the refunding of the Internal Revenue tax on all alcohol used in manufacturing in the arts and in medicinal or other like compounds. Retail druggists to secure this rebate should be prepared to present accurate record and proof of such use. We have prepared for druggists' use some special ALCOHOL BLANKS for keeping a proper record of alcohol used for manufacturing purposes, with full directions for keeping the record and for preparing your claims to secure the rebates. If you are not keeping such records, *these blanks may save you a lot of money.*

If you are a subscriber to the Era, we will send you a package of these Alcohol Blanks on receipt of 16 cents to cover the expense. *To non-subscribers the Alcohol Blanks are strictly net 50 cents per package*, postpaid.

Address
THE PHARMACEUTICAL ERA.
New York.

ALCOHOL REBATES.

It could not be expected that all lawyers would agree in regard to the validity of the claims against the Government by consumers of alcohol in accordance with Section 61 of the Tariff law, passed by Congress Aug. 28, 1894; at the same time there are so many lawyers who believe that these claims can be collected that it behooves every consumer of alcohol to prepare his evidence.

A general review of this subject, which now attracts so much attention in the drug trade, may not be out of place at this time. Clause 61, act of Aug. 28, 1894, reads as follows:

"Any manufacturer finding it necessary to use alcohol in the arts or in any medicinal or other like compound, may use the same under regulations to be prescribed by the Secretary of the Treasury, and on satisfying the Collector of Internal Revenue for the district wherein he resides or carries on business that he has complied with such regulations, and has used such alcohol therein, and exhibiting and delivering up the stamps which show that a tax has been paid thereon, shall be entitled to receive from the Treasury of the United States a rebate or repayment of the tax so paid."

The Secretary of the Treasury has positively refused to furnish the regulations referred to in the act, claiming that such regulations were not practical and that he had no funds for the expense of putting the same in force. The lawyers say that the Secretary has no right to put such an interpretation on the law; that he should have gone ahead and done the best he could, and if it did not prove a success in practical operation, then would be time enough to have the law repealed or amended. On the basis of these opinions nearly every large consumer of alcohol for manufacturing purposes is keeping a record of its uses and has arranged for the collection of his claims for rebates. The total amount of these claims has already run into the millions and is sure to be a serious matter for government consideration as soon as the courts render their decision on the test cases, which are now expected in October or November.

During the session of the fifty-third Congress an attempt was made to amend the present Tariff act, so as to compel the Secretary of the Treasury to appropriate the necessary regulations and arrange for the payment of these claims. The effort was defeated, but in the course of the debate upon the proposed amendment, Senator Lodge made the following significant remarks:

"The Tariff law carries, as every one knows, an exemption for alcohol used in the arts from the internal revenue tax, and the Treasury Department do not carry out the law because they say they have not sufficient money to do it. I cannot see why the carrying out of that part of the law does not rest on precisely the same ground as carrying out the income-tax provisions of the law. The Secretary of the Treasury has announced that, whether Congress made appropriations or not, he would carry out those provisions of law for the collection of the income tax, but he makes no provision to carry out this exemption. The persons who are entitled to this exemption are entitled to it clearly under the law until it is repealed. There can be no question of that. My proposition is to throw the burden of the expense on those who claim exemption.

"I take $200,000, not quite half of the first estimate of the Treasury Department. They have since raised their estimate from $500,000 a year to $1,000,000; but I have taken less than half of the first estimate, because it seems to me it is more than enough if the expenses of making the exemption were assessed upon those who claim it. As it now is, the persons entitled to that exemption will pay the tax, and the Government will then be deluged with lawsuits to recover it. IT IS ABSOLUTELY CLEAR THAT THERE WILL BE NO POSSIBILITY OF WITHSTANDING A SUIT ON THAT EXEMPTION. I believe myself that it is a proper exemption. But, however that may be, there is no doubt that it exists in the law, and that the persons using alcohol in the arts are entitled to it. And it being in the law, I cannot see why it is not just as plainly our duty to enforce that as any other provision of the law."*

It is generally recognized that no regulations will be made by the Treasury Department covering the presentation and payment of these alcohol rebate claims, and it is highly improbable that another attempt to compel the making of such regulations will be any more successful in the next Congress than it was in the last one. This being the case, all claimants must be prepared to meet the requirements of the U. S. Court of Claims, where suits for these rebates must be brought. The impression which seems to be prevalent among retail druggists that these claims can be collected without suit is entirely erroneous. The Era has caused to be prepared and is now distributing a large number of blanks for keeping the record of these claims, these blanks being especially prepared for the use of retail druggists and such consumers as use alcohol in small quantities.

We are advised that a bureau has been organized in this city for the collection of these alcohol claims for retail druggists. From their announcement we learn that the general plan of the bureau is to accept these claims upon a commission or contingent basis. It will furnish its clients with all the necessary instructions as to the purchase and use of alcohol and in the preparation and proof of claims. It will employ experienced attorneys and special counsel to attend to the formal proof of each claim before a

commissioner of the U. S. Court of Claims, who will take testimony in every suit where the claims are numerous and large enough to warrant such course. After a claim has been so proven it will be possible to secure judgment upon such a claim without separate trial by assent of government counsel. When the judgments are paid by appropriation of Congress (and a judgment duly obtained against the United States is as good as a government bond), then, and not until then, and only in that event will the bureau and its attorneys and counsels receive their compensation. At the same time the clients receive the rebates due them. The only expense to claimants who place their claims with a bureau will be incurred for postage and in attending formally before the commissioners to prove their claims.

The Latest Stage of the Cutting Evil.

The practice of cutting prices upon drugs and medicines has been with us long enough to allow a careful study of the evil, and like other things in which growth of evolution is concerned, the different stages of its progress can be readily recognized and classified. The first and fatal move is usually made by outside traders, although some druggists who are enamored with the bankrupt-fire-stock method occasionally forget that people do not buy medicines simply to take advantage of a bargain. This move is a signal for war and its accompanying casualties. There is a demand for organization, but even with such force the object is hardly ever attained. The aggressor is occasionally vanquished, but his methods and tactics have so infected the attacking body that peace finds them afflicted with the very evil which they have sought to overcome. Manufacturers and jobbers usually render service with their sympathy, and promise to do effective work when the retailers shall have become organized. After the initial engagement has been fought it is usually found that cutter and druggist are simply selling the same amount of goods in about the same proportion as formerly, but at reduced prices. This stage of the evolution of cutting is usually prolific of plans, and organization is kept up through sheer persistence on the part of a few. The prominent feature of organization during this period is "growling." This term is not used in a derogatory sense, although it expresses both grumbling and that show of rage which distinguishes the disturbed or encaged lion. After a certain period of growth this stage gives way to its successor. The latter is best described in the report of the Committee on Trade Interests of the Michigan Association published in our last issue, or in the reports of other bodies, notably those of Illinois and Minnesota, where co-operative schemes have reached such a point that offers of money are made to further them. These are matters of history, rather than of speculation.

Success during the succeeding evolutionary period, however, is a matter which still comes under the latter head. Heretofore organization has been a matter of monthly dues without tangible results. Hereafter it will be a matter of investment and desperate hustle to make that investment pay. This new phase of progress is worthy the attention of those who have been placidly waiting for the retailers to organize. The belief that retailers would not and could not organize was perhaps true under certain conditions, but a change of the conditions renders a revision of belief necessary.

This characterization of an unfortunate feature of the drug trade as evolutionary is not necessary for the druggist in that locality where cutting has long been prevalent. He undoubtedly recognizes these different stages, and the memory is at least a painful one. But for the trade of Des Moines, Ia., this leaf from the book of experience may be interesting. The same old story is being repeated there. The chapters are brief, three in number: 1st, full prices; each druggist selling the share which legitimate enterprise entitled him to; 2d, one man wants more trade; believes he can get it by cutting prices; 3d, other druggists still want a little trade; result, prices cut all around.

The conclusion of the story will be found in any standard work on the evolution of cut rates.

It is usually the proper thing to express sympathy with people who have measles, although there is no real benefit in such outpouring of spirit for the afflicted, and it is quite generally recognized that everybody had better have the disease and get over it as best they may. On the assumption that the trouble at Des Moines is one of those catching things which is recognized as endemic in many parts of the country and as one of the features of progress in the drug trade, the only thing to do is to offer the conventional amount of sympathy and refrain from aggravating matters by offering the usual suggestions which have heretofore been so current and unprofitable.

Foreign Alcohol in the United States.

The last Tariff act contains a provision in addition to the famous section 61 the practical application of which shows that it is not a hard matter to obtain "free alcohol" under certain conditions, one of these being a willingness of the Treasury Department to make matters easy, or at least not interpose obstacles in the way of those desiring to take advantage of the law. This provision, section 22, allows a drawback on imported materials used in the manufacture of goods to be exported, and it has been found to be quite a convenience for those manufacturers who use alcohol in medicines, perfumes, etc., which they send to foreign countries. Heretofore they have been allowed to manufacture in bond, using domestic spirits under the supervision of government officials and a burden of red tape and have thus had their internal revenue tax refunded when the r products were sent out of the country. This method, on account of the expense and trouble involved, was only employed by the larger firms, the smaller ones being practically shut out from such benefits. Under the new law matters are much simplified for all parties, and there does not seem to be much difficulty in framing regulations to protect the revenue. A great deal of confidence seems to be placed in the statements of parties who wish to do business in this manner, the only official interference being an inspection by the Government of the package intended for export and an analysis by a government chemist to determine the amount of alcohol in the finished product. The declaration of the manufacturer who desires a drawback must show the quantity of each kind of preparation, the percentage of alcohol in the finished product, the quantity of absolute alcohol used in the manufacture, the percentage of waste in manufacture based upon the quantity contained in the exported product, and, in addition, certain data regarding formulas and process of manufacture are required.

Section 22 simply requires that the Treasury Department shall ascertain certain facts regarding the use of alcohol, and the regulations prescribed by the Department seem to accomplish this end without serious inconvenience to any of the parties interested. Section 61 indicates a similar course of action, but the Department finds difficulties in framing regulations. This course is apparently dictated by motives of expediency rather than justice. The reluctance manifested undoubtedly arises from considerations of revenue, the spectacle of a Treasury deficit supplying an excuse for non-action. Had our export commerce been one of immense proportions, requiring many imported, duty-paying articles for the manufacture of goods for export, a depleted Treasury might have stood in the way of the formulation of regulations for section 22.

Another Patented Process and Product.

Another instance showing the policy of the U. S. Patent Office in interpreting the statute which allows the issuance of a patent for "an art, machine, manufacture or composition of matter or improvement thereon," is patent No. 544,104, issued Aug. 6, 1895, to Fritz Lüdy, Basle, Switzerland, assignor to Hoffman, Traub & Co., of the same place, for a new product, bismuth oxyiodidgallate, and the process of making the same. The claim is briefly for "the process of manufacture of bismuth oxyiodidgallate by the reaction of gallic acid upon bismuth oxyiodid," and the new article of manufacture is "the herein described bismuth oxyiodidgallate, constituting in a dry state a grayish-green, amorphous powder, which is insoluble in water and ordinary solvents, soluble in potash or soda lye, not decomposable by light, but decomposes slowly under the influence of moist air." It yet remains for the inventor to give his grayish-green powder a fancy name and secure a copyright, and chemists for the next seventeen years will have to be careful how they mix bismuth, iodine and gallic acid.

The Bereavement of Mr. McKesson.

Berkeley McKesson, son of John McKesson, Jr., died Thursday last, Aug. 8, at Cornwall-on-the-Hudson. It is seldom that so plain an obituary announcement conceals such a weight of affliction. For the sixth time within three years has Mr. McKesson suffered beneath the blow which divides even the closest bonds of family and affection. The father has seen his son, standing on the very threshold of a promising manhood, suddenly struck down and lost to that life of usefulness and honorable endeavor which it was his heritage to have known. In this final grief the cumulative afflictions of the last three years Mr. McKesson has the sincerest sympathy or the hundreds of friends who know him personally, and the thousands who know of him as the head of the great New York house.

To the sympathy which we feel for the sorrow of the father must be added the regret for him whose taking off has caused it. The death of a young man of twenty, with life stretching more than usually fair before him, and with the advantages of good birth, high character and careful training behind him, means a loss, the influence of which extends far beyond his own immediate family. Berkeley McKesson was a student at Yale College, which he had entered from St. Paul's School, Concord. He was about to finish his freshman year when his health failed a couple of months ago, and he returned to the home of his parents, No. 247 Fifth Avenue. From there he was removed to Cornwall-on-the-Hudson, where he lingered until blood poisoning set in with fatal results. The funeral was held Saturday, Aug. 10, at the Fifth Avenue home of his parents. In the absence of Rev. Dr. Warren, rector of Holy Trinity, who is in Europe, the services were conducted by the assistant rector. Interment was in the family plot at Greenwood. There are times when condolences, even if well meant, are not only useless, but painful, and we feel that this may be such a time. Mr. McKesson has our earnest sympathy.

A Medical Trade Union.

The belief entertained by some that in time to come all trade and professions will be organized in guilds and all exchange conducted through chosen representatives of such bodies has some show of realization through steps recently taken by medical men in Germany. The workingmen's insurance law, which is a prominent feature of German industrial life, making it incumbent upon manufacturers to organize for the purpose of insuring their employees against accident, sickness and incapacity for work through old age, and requiring employees to belong to sick clubs, etc., is mainly responsible for the action of the doctors. As soon as manufacturers and employees found that such things had become by law necessaries of life, they immediately began to figure on wholesale rates on medical service and medicines. The clubs or societies could name rates and tell the medical people to either accept them or let them alone, or they could create competition among the doctors by offering the exclusive contract for doctoring the organization at "excursion" rates. Both schemes worked (the doctors), and in consequence there has been considerable demoralization in the matter of medical fees. But it is a long lane which has no turning, and the medical thoroughfare in Germany is not of that kind. A German Practitioners' Association has been formed, and that body is going to have something to say about the rates which clubs shall pay for medical services. It intends to deal as a body with bodies of workmen and manufacturers.

PRACTICAL HINTS.

——Those who trust entirely to memory find very often that memory is capable of retaining nothing but what concerns their own personality.

——Drug Clerk: Don't attempt to start a drug store with insufficient capital, nor imagine that every corner lot in the city is just suited for a drug store.

——The successful pharmacist seeks education both inside and outside of business, and widens his horizon of ideas in every possible manner. He has an eye open constantly for new goods, and accepts valuable ideas regardless of their source.

——Affability and pleasant manners do not by any means imply servility, and there can be no excuse for the druggist or his clerk who fails to display them in the interests of the business. Politeness is one of the few weapons that the small dealer especially has at his command to meet the competition of larger dealers, as the larger the business the greater number of assistants required, and the less chance of the customers being treated with uniform deference.

——Caution is necessary in the use of abbreviations. They beget danger and mischief, unless the pharmacist be constantly on the alert. Acid hydroc. may mean acid hydrochloric or acid hydrocyanic. Aq. chlor. may mean chlorine water or chloroform water. Hyd. chlor. may mean calomel, corrosive sublimate or hydrate of chloral. Hydr. may mean hydrargyrum, hydrate, hydriodate, hydrochlorate, hydrocyanate, hydrastis or hydrastine. This list might be considerably increased.

——Druggists dress their shop windows in order that the public may be attracted by the display and induced to patronize the establishment. The following is a plan which has been carried out with success: Procure from a cabinet maker a number of cases—as many as will conveniently occupy the available window space—about 3 inches deep, with glass covers, and let these be divided into a series of compartments, say 3 x 4 inches. Fill the compartments with choice specimens of drugs, one case containing roots, another barks, another leaves, another seeds and fruits, another inorganic chemicals, and so on. These may be placed in the window without labels, in which case they will be an unfailing source of speculation to the passer-by; or they may be labeled, when they will be as eagerly and much more intelligently scrutinized. The advantage of this style of window dressing is that it supplies interesting material for the public eye; it involves no trouble after the cases are once filled; there can be no risk of spoiling valuable goods, and the cases always look clean and neat.

Ambrosia.

Two pints of raspberry syrup, two pints of vanilla syrup, one bottle of Hochheimer (Rhine wine), gum foam. For mixture use same quantity of syrup as for ordinary glass of soda, and fill up with seltzer water; throw one or two brandied cherries into the tumbler for decoration.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

While there are many side lines which the druggist can and should advertise to his advantage, he should not devote his entire attention to these to the detriment of his prescription trade. He should endeavor to educate the community in which he lives to look upon him as a capable pharmacist. The first thought after a person receives a prescription is for a careful pharmacist to fill it. If a druggist has impressed the idea of carefulness, even by telling it himself through an advertisement, the mind which is perplexed and worried by the incidents of illness easily remembers that druggist's name which has been associated with correctness. Such a reputation places the druggist above the ordinary shopkeeper, enables him to attract the best trade and command the best prices. We offer this week a suggestion for advertising the prescription department. The wording can be changed to suit each advertiser's individual case.

℞ (Means "take")

PRESCRIPTIONS.

We take special care to fill prescriptions correctly and promptly and know that our drugs are absolutely pure. We take no chances on this latter point, and you can't afford to take any chances in the filling of your prescription. The best pharmacist is the one you want to patronize.

We want your prescription trade.

KNIGHT & DAY,
Druggists.

If your local printer does not have the above cut we will send a duplicate of it to any Era subscriber for 25 cents. Order by number. This is No. 25.

CAN'T DO BUSINESS WITHOUT IT.

A. P. Happer, Scandia, Kan.—Cannot do business without the Era.

G. A. Candler, Madison, Wis.—The Era simply "knocks them all out."

John H. Pettibone, Sioux Falls, S. D.—Times are hard, but I do not feel that I can clerk without the Era.

F. R. Drake, Patricksburg, Pa.—I cannot do without the Pharmaceutical Era. It is too good a paper to do without.

H. H. Allen, Norwich, Kan.—I have failed to receive my July 4th number of the Era. Please send me another copy. Can't keep house without it.

T. J. Kavanaugh, Peoria, Ill.—Our meeting was a success and the Era was distributed to a good advantage, and was favorably commented upon by the members in attendance. Long live the Era!

Karl F. Brown, Greenfield, Ind.—I failed to receive the Era of July 11th and as it is too precious to miss, you will please send me one. I thought when you commenced to publish it weekly it would not give satisfaction, but it gets better every week.

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[Continued from page 169, August 8.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XX. ORGANIC PHARMACY.

(Continued.)

By Virgil Coblentz, Ph. G., A. M., Phil. D.

Esters.—(*Continued.*)

METHYL SALICYLAS, U. S. P.—$C_6H_4 < {COOCH_3 \atop OH}$.—Artificial Oil of Wintergreen. This is obtained by the action of salicylic acid or its sodium salt on methyl alcohol in the presence of sulphuric acid.

By the action of alkalies the compound is decomposed into its constituents. It is intended as a substitute for the natural oils of wintergreen or birch.

ÆTHER ACETICUS, U. S. P.—Ethyl Acetate ($CH_3COOC_2H_5$).—Usually obtained by distilling a mixture of fused sodium acetate, alcohol and sulphuric acid. The acid and the alcohol react to form ethyl-sulphuric acid, which in contact with the sodium acetate, is decomposed into ethyl acetate and acid sulphate of sodium.

Its properties are similar to those of ether. It is an excellent solvent for fats, resins, oils, etc.

ÆTHYL NITRITE—Spiritus Ætheris Nitrosi (Sweet Spirit of Niter).—This is an alcoholic solution of ethyl nitrite (C_2H_5ONO or $C_2H_5NO_2$) an organic compound belonging to the class of esters. This was made, according to the U. S. Pharmacopœia of 1880, by the action of nitric acid on alcohol.

This process is objectionable for two reasons: first, because the operation is difficult to regulate, and dangerous to the inexperienced operator; and second, because the product is largely contaminated with aldehyde (also acetic ether), which soon oxidize to acetic acid, causing a gradual decomposition of the ester.

The present pharmacopœial process possesses the advantage, that it is easily operated and controlled, and that it yields a pure ethyl nitrite, free from aldehyde and acetic ether. The nitrous acid is produced by the reaction between sodium nitrite and sulphuric acid ($NaNO_2 + H_2SO_4 = NaHSO_4 + HNO_2$) in the presence of alcohol;* hence, the liberated acid reacts in "statu nascendi" upon the alcohol, with immediate production of ethyl nitrite, which distills over, contaminated with alcohol and free nitrous acid. The presence of water and the action of sunlight and air on pure spirit of niter cause its rapid decomposition (shown by its acid reaction) by the splitting up of ethyl nitrite into nitrous acid and alcohol; hence the preparation should be preserved in well stoppered vials in a cool and dark place. Spirit of nitrous ether should never be kept in large vessels (carboys), since, owing to its volatile nature, it rapidly loses strength. Acetic acid frequently occurs in samples of the commercial spirit; this is due to its having originally contained aldehyde, which, under ordinary conditions, rapidly oxidizes to acetic acid ($CH_3COH + O = CH_3COOH$), imparting an acid reaction to the preparation, and causing effervescence when a crystal of potassium bicarbonate is dropped into it.

Only the deodorized alcohol of the U. S. P. should be used in this preparation; in the presence of a weaker alcohol, the ethyl nitrite rapidly undergoes decomposition; hence the fraudulent dilution of spirit of nitrous ether with water is a very reprehensible practice. Spirit of nitrous ether yields a green color with antipyrine; if it contains any free nitrous acid, it liberates iodine and bromine from their combinations. The presence of traces of nitrous acid may be detected by the blue coloration of guaiac paper. Alkalies, when allowed to remain in contact with the spirit, cause its gradual decomposition.

The proportion of nitrous ether in spirit of niter cannot be ascertained by means of its specific gravity, for the addition of ethyl nitrite (sp. gr. 0.900) to deodorized alcohol (sp. gr. 0.816), increases the specific gravity of the latter the same as does water. The assay of this preparation is treated under Pharmaceutical Assaying.

OLEUM ÆTHEREUM, U. S. P.—A mixture of compound ethers and ether, obtained by the action of sulphuric acid on a limited amount of alcohol. It contains ethyl sulphate [$(C_2H_5)_2SO_4$], ethyl sulphite [$(C_2H_5)_2SO_3$], ethylene (C_2H_4), and other homologues. Ethereal oil enters into Spiritus ætheris compositus.

AMYL NITRIS, U. S. P., $C_5H_{11}NO_2$.—The official product should contain about 80 per cent of iso-amyl nitrite. It is produced by the action of nitrous acid (nitric being reduced to nitrous by the alcohol) on iso-amyl alcohol, or by passing nitrogen trioxide through the alcohol heated in a retort.

The quality of commercial amyl nitrite varies greatly, hence assay of the preparation is necessary in order to dispense a uniform quality. Amyl nitrite is also sold in pearls which contain sufficient for one inhalation. When inhaled it increases the heart's action.

GLYCERYL or PROPENYL TRINITRATE, $C_3H_5ONO_2$—Nitroglycerin.—This dangerous explosive enters into the official Spiritus glonoini, or spirit of nitroglycerin, which contains 1 per cent. dissolved in alcohol. Nitroglycerin is obtained by the action of nitric acid on glycerin. It is decomposed by the action of caustic alkalies, being split up into alcohol and a nitrate. Special attention is called to the precautions directed in the Pharmacopœia as to its handling and preservation.

Fixed Oils and Fats.

The fats and oils are widely distributed in the plant and animal kingdoms, being either liquid, semi-liquid or solid at ordinary temperature; of greasy feel, imparting a permanent greasy stain to paper, insoluble in water, readily soluble in ether, chloroform, carbon disulphide, benzine and turpentine, and only soluble to a slight extent in alcohol.

They cannot be distilled without decomposition; when heated to a high temperature they decompose, giving off irritating vapors; when ignited they burn with a smoky flame. When pure, they possess (with few exceptions) but little odor, but on exposure to the air many undergo change and become rancid, developing an unpleasant odor and acid reaction, which in most cases is due to the presence of moisture and impurities. The fatty oils are distinguished as drying and non-drying oils. The former oxidize readily when exposed to the air in thin layers, leaving a hard dry film; they comprise the glycerides of the unsaturated acids (linolein, ricinoleic acids). The non-drying oils when treated with nitrous acid or a solution of mercuric nitrate, become solid (elaidin); these are glycerides of oleic acid.

* It should be noted that the amount of sodium nitrite directed in the formula given by the U. S. Pharmacopœia is too large. It would be correct if potassium nitrite had been directed. The proper amount is 635 gm. The specific gravity of spirit of nitrous ether is nearly 0.820, not 0.836–0.842 as given in the earlier issues of the U. S. P.

The fixed oils and fats are mixtures of esters of the various higher fatty acids with the trihydric alcohol glycerin; thus for example we find—

PALMITIC ACID ($C_{15}H_{31}COOH$).—The main constituent in many solid animal fats as glyceryl ester, in spermaceti as cetyl ester; in beeswax as myricyl ester; in olive oil as glyceryl ester, etc.

STEARIC ACID ($C_{17}H_{35}COOH$).—Associated as glyceryl ester with palmitic and oleic acids in tallows.

OLEIC ACID ($C_{17}H_{33}COOH$).—As glyceryl ester in nearly all fats, also in olive, almond, lard, cod liver and other oils. The fatty oils are chiefly triolein (glyceride of oleic acid); the fats consist chiefly of tristearin and tripalmitin.

On boiling the oils or fats with solutions of the caustic alkalies, saponification takes place, with the separation of glycerin and formation of salts of the fatty acids (soaps). Potassa soaps are designated as soft, sodium soaps as hard, and lead soap (Emplastrum plumbi), as insoluble soaps.

$$\underset{\text{Triolein (Olive Oil)}}{(C_{17}H_{33}COO)_3C_3H_5} + 3NaOH = \underset{\text{Sodium Hydrate}}{} \quad \underset{\text{Sodium Oleate (Sapo)}}{3(C_{17}H_{33}COONa)} + \underset{\text{Glycerin}}{C_3H_5(OH)}$$

Saponification may also be accomplished by treating the oils or fats with superheated steam, glycerin and the free fatty acid separating.

Extraction.

The animal fats are chiefly found beneath the skin or stored about the kidneys; they are purified by washing, melting and straining.

The vegetable fats or oils usually found stored in the seeds of fruits are obtained by expression or sometimes by extraction with a volatile solvent. These oils or fats are usually purified* by straining or, when it is desired to remove coloring matter, they are filtered through animal charcoal.

Adulterations.

The more expensive oils and fats are frequently adulterated with inferior grades or foreign products of similar appearance and properties. These are usually detected by the following general tests**:

1. Specific gravity.
2. Melting or congealin gpoint.
3. Solubility in various solvents.
4. Action of concentrated acids.
5. Saponification number, that is the number of milligrams of potassium hydrate necessary to saponify one gram of the fat.
6. Per cent. of iodine absorbed.

The Pharmacopœia applies various color reactions for the purpose of detecting adulterations or substitutions; in those instances where cottonseed oil might be the substituted or admixed oil, Bechi's silver nitrate test is employed, the presence of this causing a partial reduction of the silver.

Liquid Fats.

These consist chiefly of the triglycerides of the unsaturated fatty acids, and are liquid at ordinary temperature.

Drying Oils.

These oils when exposed to the air in thin layers dry out, forming a hard resinous like surface and do not give the elaidin reaction.

OLEUM LINI, U. S. P., enters into Linimentum calcis or carron oil; also Sapo mollis, which is a soft or potassa soap. Sapo mollis enters into the Linimentum sapo mollis. To this class belong also castor, hemp and poppy oils.

Non-Drying Oils.

These oils do not harden on exposure to the air, but are characterized by forming elaidin (solidifying) when heated with nitrous acid. Among these we have olive, almond, mustard, rape, neatsfoot, lard and fish oils.

OLEUM OLIVÆ, U. S. P., is a mixture of triolein with a little tripalmitin, and is obtained by expression from the ripe fruit of the Olea Europæ. Inferior grades are obtained by mixing the residue with hot water and again expressing. It is largely adulterated and substituted by cottonseed oil. Olive oil is used in preparing Emplastrum plumbi, which is an insoluble lead soap, and Unguentum diachylon. The official sapo is made from olive oil and soda; it enters into Emplastrum saponis and Linimentum saponis.

OLEUM AMYGDALÆ EXPRESSUM, U. S. P.—Obtained from the bitter or sweet almond by expression. Nearly pure triolein. It enters into Unguentum aquæ rosæ.

OLEUM ADIPIS, U. S. P.—Obtained from lard by expression at low temperature. Consists of triolein with variable amounts of tripalmitin and tristearin. Frequently adulterated with paraffin oils. It enters into Unguentum hydrargyri nitratis.

Oils which are intermediate, partaking of the properties of both the drying and non-drying oils:

OLEUM MORRHUÆ, U. S. P.—Obtained by heating the livers of the Gadus morrhua with steam and draining off the oil. It consists chiefly of triolein, adulterated with other fish oils.

OLEUM GOSSYPII SEMINIS, U. S. P.—Obtained by expression from the seeds of Gossypium herbaceum. The oil is usually decolorized by filtration through animal charcoal. It is employed extensively for adulterating other oils, also, when mixed with suet, as a substitute or for admixing with lard. Usually detected by the U. S. P. silver test. Enters into Linimentum ammoniæ and Linimentum camphoræ. To this group also belong sesame, castor and croton oils, etc.

Solid Fats.

These consist chiefly of the triglycerides of stearic, palmitic and myristic acids, being at ordinary temperature either of soft or hard consistency. Some are of vegetable and others of animal origin. Among these we have cacao butter, expressed oil of nutmeg, laurel and palm oils, also lard, suet and butter.

OLEUM THEOBROMATIS, U. S. P.—Cacao Butter.—Obtained by hot expression of the seeds of the Theobroma cacao, preparatory to the manufacture of chocolate. Because of its non-rancidity and low fusing point it is admirably adapted for the manufacture of suppositories.

ADEPS, U. S. P.—Lard.—Obtained from the fatty tissues of the hog by heating with water and straining. It is extensively used as a vehicle for ointments and cerates. When free from animal tissue and water, it keeps readily. To prevent rancidity it is benzoinated. See Adeps Benzoinatus, U. S. P.

SEVUM, U. S. P.—Suet.—Obtained from the fatty tissues of the abdomen of the sheep. It is used in the cerates.

Waxes.

These consist of esters of cerotic, lauric, myristic and palmitic acids with the higher alcohols. They are hard at ordinary temperature. Among these are beeswax, spermaceti, Chinese and Carnauba wax, etc.

CERA FLAVA, U. S. P.—Yellow Wax.—Obtained by fusing the honey comb in hot water, collecting and straining. It contains the myricyl ester of palmitic and cerotic acids. It enters into Ceratum resinæ, Emplastrum resinæ and Unguentum. When exposed to the sunlight in thin layers, moist, it is bleached, being official as

CERA ALBA.—This enters into cerates and ointments. Wax is generally adulterated with paraffin or saponifiable fats; the former is detected by heating with sulphuric acid whereby the wax is destroyed and the paraffin remains unaffected; the latter may be detected by boiling with alkalies and adding an acid to the aqueous solution when no precipitation should occur.

CETACEUM, U. S. P.—Consists chiefly of the cetyl ester of palmitic acid. Usually adulterated with stearic acid and paraffin. It is used in ointments and cerates.

Cyanogen Compounds.

These compounds contain the monad group—CN. According to the manner in which carbon and nitrogen atoms are linked, we distinguish between their compounds as cyanides and isocyanides (Nitriles or Isonitriles); in the former, the nitrogen is triad ($-C\equiv N$), in the latter it is a pentad ($-N\equiv C$). The various cyanides are derived from the yellow prussiate of potash (potassium ferrocyanide).

ACIDUM HYDROCYANICUM DILUTUM, U. S. P.—(HCN)—Prussic Acid.—This liquid should contain not over 2 per cent. of absolute hydrocyanic acid. It is prepared by heating a mixture of ferrocyanide of potassium and diluted sulphuric acid in a retort and passing the gas into water, taking the precaution to avoid inhaling any of the gas as it is intensely poisonous. The reaction is as folows:

$$K_4Fe(CN)_6 + 5H_2SO_4 = 6HCN + FeSO_4 + 4KHSO_4$$

As an alternative or extemporaneous process, the Pharmacopœia directs the addition of a weighed amount (6 gm.) of silver cyanide to a definite quantity of hydrochloric acid (5 cc.) diluted with

*The reader is referred to various books on Technical Chemistry, as Allen's Commercial Organic Analysis, Sadtler'a Industrial Organic Chemistry, etc.
**Ibid.

55 cc. of water; silver chloride is precipitated while hydrocyanic acid remains in solution. Thus:

$$\begin{array}{ccccccc} AgCN & + & HCl & = & AgCl & + & HCN \\ 133.6p & & & & & & 26.98p \end{array}$$

$$\begin{array}{ccccccc} AgCN & & HCN & & & & \\ 133.6 & : & 26.98 & : & 6 & : & X \end{array}$$

$$X = 1.21 \text{ Gm. HCN.}$$

We obtain by the decomposition of 6 gm. of AgCN 1.21 gm. of absolute HCN. Since the solution weighs about 60 gm., it would then contain 2 per cent. of prussic acid.

Official prussic acid is quite unstable, decomposing with the deposition of brown flocks of azulmic acid. The addition of a small per cent. of an acid will render it more stable. The dose is 1 to 3 minims. The cyanides official are those of mercury, silver and potassium.

By the replacement of an H in HCN by the OH group, we obtain cyanic acid, CN.OH. Only esters of this are known. Of the isomeric compound isocyanic acid, CO.NH, we have various salts, among which the ammonium isocyanate ($COH.NH_4$) which changes on heating into urea $CO < \begin{matrix} NH_2 \\ NH_2 \end{matrix}$ Corresponding to cyanic acid (CN.OH) and isocyanic acid (CO.NH) are the sulphur compounds $N \equiv C - SH$, sulphocyanic acid, and CS.NH, isosulphocyanic acid. The ammonium sulphocyanate ($CN.SNH_4$) is used as a reagent for ferric salts, giving a blood-red color. Among the esters of these acids those of isosulphocyanic acid are known as the mustard oils of the general formula CSN.R, the "R" standing for any of the radicals such as CH_3, C_2H_5, C_3H_7—C_6H_5, etc. The esters are all characterized by their pungent odors, one of these, the allyl sulphocyanide, being official.

OLEUM SINAPIS VOLATILE, U. S. P.—Allyl Sulphocyanide—Allyl Iso Thiocyanate ($CSN.C_3H_5$).—The black mustard contains besides a fixed oil myrosin, an albuminous body, and myronic acid, a glucoside. After the fixed oil is removed by pressure the drug is macerated with warm water, whereby the myronic acid is split up into allyl sulphocyanate, acid potassium sulphate and glucose, thus:

$$\begin{array}{ccccc} C_{10}H_{19}KNO_{10}S & = & CSN-C_3H_5 & + & \\ \text{Myronic Acid} & & \text{Allyl Sulphocyanate} & & \\ C_6H_{12}O_6 & + & KHSO_4 & & \\ \text{Glucose} & & \text{Acid Potassium Sulphate} & & \end{array}$$

The volatile oil formed is removed by distillation. It is obtained artificially by interaction between allyl iodide and potassium sulphocyanate:

$$C_3H_5I + CSN-K = CSN-C_3H_5 + KI$$

When treated with sulphuric acid (U. S. P.) the pungent odor will disappear and the product becomes crystalline.

$$\begin{array}{ccccc} CSN-C_3H_5 & + & H_2O & = & \\ C_3H_5NH_2 & + & COS & & \\ \text{Allylamine} & & \text{Carbon Oxysulphide} & & \end{array}$$

When dissolved in alcohol and shaken with ammonia water and allowed to stand, crystals of thiosinamine (allylthio-urea—$CS < \begin{matrix} NHC_3H_5 \\ NH_2 \end{matrix}$) are deposited (U. S. P.). This oil has a very pungent odor and is irritating; it enters into the Linimentum sinapis compositus.

Carbohydrates.

This class includes the starches (with cellulose), sugars and gums. These compounds, which are of great importance as food products, are termed "Carbohydrates," because they contain along with carbon hydrogen and oxygen in the proportion to form water; thus glucose, $C_6H_{12}O_6$, may be looked upon as $6C + 6H_2O$, or cellulose, $C_6H_{10}O_5$, as $6C + 5H_2O$. These groups are closely related to the hexatomic alcohols.

Starches.

STARCH, $C_6H_{10}O_5$.—Starch is a reserve product formed in all assimilable plants, occurring in roots, bulbs, seeds, fruits, pith of stem, etc., where it is stored for the future uses of the plant in building up its tissues and forming its various products. Starch exists in the form of minute granules of various shapes, by means of the structure of which we are able to identify different varieties.

AMYLUM, U. S. P.—Starch.—Obtained from potatoes (21 per cent.), maize (50 per cent.), wheat (64 per cent.) or rice (77 per cent.) by grinding and washing. When heated with water it swells up, the granules burst and a uniform translucent mass results, known as "starch paste." When iodine is added to starch an intense blue color is produced which disappears on heating the solution, reappearing again on cooling. When treated with nitric acid it gives rise to nitro compounds known as xyloidin. When heated to 200° C. or when submitted to the action of dilute acids or diastase (a ferment) it is converted into dextrine, which gives a red color with iodine. Dextrine is used largely as a mucilage, also in the arts as a substitute for natural gums. Amylum enters into Glyceritum amyli.

Among other starches we have the arrowroot, tapioca, sago, rice starch, cassava-inulin, lichenin, etc.

Cellulose and Derivatives.

CELLULOSE constitutes the cell structure of plants. Cellulose, after it becomes older and incrusted with inorganic substances, undergoes a slight change and is called lignin. As examples of nearly pure cellulose we have cotton, paper, cork, pith of plants, etc. It is obtained in pure condition by treating cotton, flax, jute, straw, etc., successively with dilute acids, alkalies and hydrofluoric acid which remove all soluble organic and all inorganic constituents. Cellulose is converted on boiling with dilute acids into dextrin and dextrose; by the action of sulphuric acid it is converted into amyloid; this occurs in the manufacture of parchment paper which is made by dipping unsized paper into a mixture of 2 parts of the acid with 1 part of water, then washing and drying. When cotton or cellulose is immersed in a mixture of nitric and sulphuric acids, nitro substitution products are formed, some of which (hexa-nitro-cellulose) are very explosive (gun cotton), while a mixture of tri and tetra-nitro-cellulose constitutes the official pyroxylin.

GOSSYPIUM PURIFICATUM, U. S. P.—Absorbent Cotton.—The raw cotton is boiled with alkalies to saponify the oil, washed, then bleached with chlorine, again washed with water and diluted hydrochloric acid; after thorough rinsing it is dried in the centrifuge. It is used in surgery in preparing the various medicated cottons, also used in making the official soluble gun cotton.

PYROXYLINUM, U. S. P.—Soluble Gun Cotton.—Made by immersing purified cotton in a cooled mixture of nitric and sulphuric acids until converted into the soluble tetra-nitro-cellulose [$C_{12}H_{16}O_6(NO_3)_4$], when it is washed and dried. This dissolves readily in a mixture of ether (3 p.) and alcohol (1 p.) giving rise to the official

COLLODIUM, U S. P.—Pyroxylin 3 gm., ether 75 cc., alcohol 25 cc. Collodium flexile contains Canada turpentine and castor oil in addition. Collodium cantharidatum consists of a solution of cantharides extract in flexible collodion. Collodium stypticum is a mixture of collodion with tannic acid.

The collodions should he kept in a cool place, remote from lights or fire, because of their great inflammability. They are used by painting on the skin, which, when the solvent has volatilized, leaves a transparent film.

Sugars.

These are ketones or aldehydes of the hexatomic alcohols. Aside from their chemical classification they are conveniently divided into the fermentable and non-fermentable sugars. The fermentable sugars are those which directly reduce Fehling's alkaline copper solution and are directly fermentable; among these are glucose, lævulose and maltose. The non-fermentable sugars do not reduce Fehling's copper solution and are not fermentable until hydrolized—that is, inverted by the action of boiling acids; to this group belong cane sugar (saccharose), milk sugar (lactose), trehalose, etc.

SACCHARUM, U. S. P. ($C_{12}H_{22}O_{11}$).—The refined sugar of Saccharum officinarum, etc. Sugar unites with bases such as calcium, strontium, iron, etc., forming soluble saccharates; one of these is official under the title of Syrupus calcis. It is employed in the preparation of syrups, elixirs, mixtures, troches, confections, etc.

SACCHARUM LACTIS, U. S. P.—Obtained from the whey of cow's milk by evaporating and crystallizing. In the powder form it is frequently adulterated with cane sugar, which may be detected by sprinkling over sulphuric acid; the latter turns immediately black. Milk sugar is used as a diluent in preparing the official triturations.

Glucoses.

GLUCOSE, $C_6H_{12}O_6$ (Grape Sugar).—Occurs along with fructose (fruit sugar) in most sweet fruits and juices. It occurs in the urine of diabetic patients. The commercial glucose (or starch sugar) is a dense syrup obtained by the action of sulphuric acid on starches. It is extensively used for adulterating syrups, also honey. Solid glucose occurs in white masses having a much less sweet taste than cane sugar.

FRUCTOSE, $C_6H_{12}O_6$—Fruit Sugar

or Lævulose.—Occurs along with glucose in ripe fruits and honey. It has been introduced in medicine under the name of "Diabetin" as a food for diabetic patients.

MANNA, U. S. P.—This saccharine secretion contains a hexatomic alcohol called mannite. It forms an ingredient in Infusum sennæ compositum.

MEL, U. S. P.—Consists of a mixture of dextrose (the solid or granulated portion, insoluble in alcohol) and lævulose (the liquid portion, soluble in alcohol). Honey is largely adulterated with liquid glucose (see U. S. P. tests). From this honey Mel despumatum is made. Honey enters into Mel rosæ.

Gums.

The natural gums are amorphous, translucent exudations, which swell up in water forming mucilaginous slimy-like liquids. They are precipitated from their solutions by acids or alcohol.

ACACIA, U. S. P.—A gummy exudation from the species of the acacia and mimosa. It consists largely of arabin or arabic acid. It is precipitated from its solutions by the addition of acids, alcohol, plumbic subacetate and coagulated by ferric chloride and borax. It enters into Mucilago acaciæ; Mistura glycyrrhizæ composita; Syrupus acaciæ; Pulvis cretæ compositus; troches, pills, emulsions, etc. Related to acacia are cherry, peach and wood gums.

TRAGACANTHA, U. S. P.—Consists largely of bassorin, which swells, but does not dissolve in water. It enters into Mucilago tragacanthæ.

CARRAGHEENEN is the mucilaginous constituent of Irish moss (Chondrus, U. S. P.). This is not affected by acids or alcohol, hence it forms a useful emulsifying agent.

Aromatic Compounds.

Benzene Derivatives.

These are derived from products obtained by the destructive distillation of coal, hence are contained in coal tar. Coal tar on distillation is separated into three fractions, namely; the light oil, which contains benzene, toluene, xylene and homologues; the middle (or creosote) oil, which yields chiefly carbolic and cresylic acids, chinoline bases, naphthalene, etc.; the heavy oil, which contains anthracene, phenanthracene, etc.

BENZENE (Benzol), C_6H_6, is employed in pharmacy because of its valuable solvent properties, dissolving rubber, sulphur, phosphorus, fats, etc.

From benzene, by the process of substitution, unlimited numbers of compounds are obtained; many of these are very important in medicine and pharmacy. By the action of nitric acid on benzene, nitro-benzene (oil of myrbane) is obtained; $C_6H_6 + HNO_3 = C_6H_5—NO_2 + H_2O$. Because of its almond-like odor it is used for perfuming soaps and toilet preparations. It is poisonous, however, and should not be used where it might be taken internally. Upon reduction with nascent hydrogen, nitrobenzene yields amido benzene or anilin ($C_6H_5—NH_2$); from this latter compound are derived a number of new synthetic remedies.

ACETANILID, U. S. P., $C_6H_5—NH(C_2H_3O)$—Antifebrin.—This antipyretic is obtained by boiling together equal quantities of anilin and glacial acetic acid in a flask provided with an inverted condenser, until a portion when removed on a glass rod, solidifies on cooling; the product is then poured into cold water, filtered off and the mass recrystallized several times from boiling water. The reaction is as follows:

$$C_6H_5NH_2 + CH_3COOH = C_6H_5NH—CH_3CO + H_2O.$$

Acetanilid when boiled with a concentrated solution of potassium hydrate, liberates aniline, which

$$\underset{\text{Acetanilid}}{C_6H_5NH—CH_3CO} + KOH = \underset{\text{Aniline}}{C_6H_5NH} + \underset{\text{Potassium Acetate}}{CH_3COOK}$$

may be detected by its odor; on adding chloroform and again heating, the disagreeable odor of isonitril is evolved (U. S. P.).

$$\underset{\text{Anilin}}{C_6H_5NH_2} + \underset{\text{Chloroform}}{CHCl_3} + \underset{\text{Potassium Hydrate}}{3KOH} = \underset{\text{Potassium Chloride.}}{3KCl} + 3H_2O + \underset{\text{Isonitril}}{C_6H_5N\}C}$$

Acetanilid possesses anipyretic properties. These are still retained more or less by its various derivatives, among which are

PARA-BROM-ACETANILID, $C_6H_4BrNH(C_2H_3O)$.—Antisepsin.

METHYL-ACETANILID, $C_6H_5N(CH_3)(C_2H_3O)$.—Exalgin.

BENZANILID, $C_6H_5NH(C_6H_5CO)$.

METH-OXY-ACETANILID, $C_6H_4(OCH_3)NH(C_2H_3O)$.—Methacetine.

ÆTH-OXY-ACETANILID, $C_6H_4(OC_2H_5)NH(C_2H_3O)$.—Phenacetine.

GALLANILID, $C_6H_5NH(C_6H_2(OH)_3CO)$.—Used in skin diseases.

Among the homologues of benzene is Naphtalin or Naphtalinum, U. S. P., $C_{10}H_8$. A crystalline product obtained by the fractional distillation of the heavy distillates from coal tar. It forms white shining scales melting at 80° C., insoluble in water, soluble in alcohol and ether. This is sold as "white" or "coal-tar camphor" being used as an insecticide. From this, its phenol, naphthol is derived.

Phenols.

The phenols are derived from benzene and its homologues by the substitution of hydrogen radical in the nucleus of a hydroxyl group; for example C_6H_5OH (Phenol), $C_6H_4 < \begin{smallmatrix} OH \\ CH_3 \end{smallmatrix}$ (Cresol).

Aromatic Alcohols.

When the hydroxyl group replaces a hydrogen atom of the side group, the compounds are called aromatic alcohols, for example $C_6H_5CH_2OH$ (Benzyl Alcohol). According to the number of OH groups replacing hydrogens of the nucleus, we obtain monatomic, diatomic and triatomic phenols.

Monatomic Phenols (Monoxy Benzenes).

ACIDUM CARBOLICUM, U. S. P.—Phenol, C_6H_5OH.—The official title is a misnomer, the product being a phenol and not an acid. It is obtained by fractional distillation of the so-called "heavy" or "dead oil" of coal tar. The crude product contains besides carbolic acid, a considerable quantity of the cresols and higher phenols; this product is official under the title of Acidum carbolicum crudum, U. S. P. The pure acid is obtained from the crude, by treatment with caustic potassa, potassium carbolate being formed. This product is then heated to char the organic impurities, dissolved in water, and the carbolic acid liberated by the addition of an acid. On distillation the oily liquid becomes colorless and readily assumes a crystalline form. Most of the carbolic acid is now obtained synthetically from benzene. Pure carbolic acid is soluble in about 15 parts of water, readily so in alcohol, benzole and glycerin, fixed and volatile oils. When first mixed with a little glycerin it readily dissolves in water in all proportions. It may be kept liquid by fusing the crystals (placing the containers in hot water) and adding water in the proportion of 1 to 19 (of the acid); liquefaction may be also accomplished by adding alcohol to the crystalline mass in the same proportions. Attention is called to the pharmacopœial tests of identity; an aqueous solution of carbolic acid giving a violet color with ferric chloride; with bromine water a white precipitate of tribrom-phenol ($C_6H_2Br_3OH$); the strong acid coagulates collodion or albumen; it unites with alkalies, forming soluble salts. Carbolic acid is employed as an antiseptic and disinfectant. As a wash it is applied in 2 to 5 per cent. solutions; as a dressing it is applied as a carbolated oil or petrolatum (5 to 10 per cent.). The U. S. P. directs that it should assay 96 per cent. of pure phenol (see "Decinormal Bromine Solution"). It enters into Unguentum acidi carbolici and Glyceritum acidi carbolici.

By the action of concentrated nitric acid upon the phenol, tri-nitrophenol or picric acid ($C_6H_2(NO_2)_2OH$) is formed, which, because of its bright yellow color, is used as a dye. Its potassium and ammonium salts become explosive when heated or struck. By the action of concentrated sulphuric acid upon phenol at low temperatures, ortho-phenol-sulphonic acid is obtained, $C_6H_4 < \begin{smallmatrix} OH\ (1) \\ SO_3H\ (2) \end{smallmatrix}$; this is known in a 33⅓ per cent. solution as "aseptol" or "sozolic acid;" if the solutions are allowed to become hot, or are heated, the para acid $C_6H_4 < \begin{smallmatrix} OH\ (1) \\ SO_3H\ (4) \end{smallmatrix}$ results. Salts of this latter acid are used in medicine under the title of "Sulphocarbolates."

SODII SULPHOCARBOLAS, U. S. P., $C_6H_4 < \begin{smallmatrix} OH \\ SO_3Na \end{smallmatrix} + 2H_2O$, Sodium-para-phenol-sulphonate. This salt is used as an anti-ferment.

CRESOLS, $C_6H_4 < \begin{smallmatrix} OH \\ CH_3 \end{smallmatrix}$ — Cresylic Acids.—Of these homologues of phenol, there are three, namely, ortho, meta, and para. These compounds occur in coal tar and also in beech and pine-wood tar. Crude carbolic acid contains these compounds in varying proportions. These phenols are superior to carbolic acid as antiseptics; the only difficulty attending their use is their insolubility in water, which has led to the introduction of

various combinations (emulsions) of it with soap, oleic acid, etc., which produce milky mixtures when added to water. "Tricresol" is a mixture of the three cresols in pure form, sufficiently soluble in water for antiseptic purposes. An iodine derivative of the meta-cresol has been introduced under the name of "Losophan" ($C_6HI_2 < {OH \atop CH_3}$).

THYMOL, U. S. P.—A phenol occurring in the volatile oils of several plants, obtained by fractionating the oils and exposing that portion which contains the thymol to a low temperature whereby it crystallizes out; or it may be obtained by treating the oil with a caustic alkali whereby a combination of the thymol with the alkali takes place; the aqueous solution after separation is treated with an excess of hydrochloric acid which liberates the thymol. Chemically thymol is a para-propyl-meta-cresol, $C_6H_{\overset{1}{}}{}_{\overset{3}{}}{}_{\overset{4}{}}(CH_3 - OH - C_3H_7)$. A derivative, obtained by adding a solution of iodine to an aqueous solution of thymol in sodium carbonate, is "Aristol," a dithymol-iodide ($C_{20}H_{24}O_2I_2$). Thymol occurs in hexagonal crystals, melting at 50° C., insoluble in water, but readily so in alcohol, ether, etc. As test of identity it should give a bluish-green color when sulphuric and nitric acids are added to its solution in glacial acetic acid. It is an antiseptic.

Diatomic Phenols (Di-oxy-benzenes).

From these compounds, which may exist in three isomeric forms, ortho $\binom{(1.2)}{(1.6)}$ — meta $\binom{(1.3)}{(1.5)}$ — para (1.4). We have but few official derivatives.

PYROCATECHIN.—This ortho compound (ortho-di-oxy-benzene) is formed by the dry distillation of catechin (Acacia catechu). The mono-methyl ethyl of this body is guaiacol, $C_6H_4 < {OH \atop OCH_3}$, the main and active constituent of creosote (beech-wood).

CREOSOTUM, U. S. P.—This consists of a mixture of phenols, chiefly guaiacol, $C_6H_4 < {OH \atop OCH_3}$, and creosol, $C_6H \begin{cases} OH & (4) \\ OCH_3 & (3), \\ OH & (1) \end{cases}$ these two constituting from 60 to 80 per cent. of the creosote. Creosote is obtained by distillation from beechwood tar, the heavier portion of the distillate being selected, and after washing with alkalies and sulphuric acid, it is again distilled, and that portion collected boiling over 250° C. Creosote is frequently adulterated with and even substituted by carbolic acid; the latter being distinguished, however, by certain tests (U. S. P.). The aqueous solution of creosote on addition of ferric chloride T. S., acquires a violet blue color which rapidly changes to brown with formation of a brown precipitate. With bromine water it gives a reddish-brown precipitate. When mixed with glycerin and then diluted with water, the creosote separates while carbolic acid forms a clear solution. Creosote does not coagulate collodion or albumen. Creosote is used as an antiseptic and also in treatment of consumption. It enters into Aqua creosoti.

GUAIACOL is employed now altogether in place of creosote either alone or in such combinations as guaiacol carbonate, benzoate (Benzosol) or salicylate.

RESORCINUM, U. S. P.—A meta-di-oxy-benzene, $C_6H_4 < {OH\ (1) \atop OH\ (3)}$, obtained by fusing various umbelliferous resins with caustic potash; synthetically by fusing m and p-benzene-disulphonic acids with potassa. This salt gives in aqueous solution, with ferric chloride, a blue-violet color. As test of identity, when heated with potassium hydrate solution and chloroform, the mixture acquires an intense crimson color. Resorcin is used in medicine as an antiseptic.

EUGENOL.—A *p* oxy-*m*-methoxy-allyl-benzene, $C_6H_3 \begin{cases} CH_2 - CH = CH_2 & (1) \\ OCH_3 & (3) \\ OH & (4) \end{cases}$

This constitutes the active portion of oil of cloves, of which it contains from 75 to 85 per cent. Eugenol is also found in oils of bay, allspice, and canella. It may be separated by shaking the oil with solution of potassa, removing the terpenes by washing with ether, then adding an acid in excess, whereby the eugenol separates as an oily liquid. It is used largely by dentists as a local anæsthetic.

Triatomic Phenols (Tri-oxy-benzenes).

Of the three isomeric, triatomic phenols, pyrogallol is the only one of importance.

PYROGALLOL, U. S. P.—Pyrogallic Acid ($C_6H_3—(OH)_3$).—This is obtained by the dry distillation of gallic acid;

$$C_6H_2 < {(OH)_3 \atop COOH} = C_6H_3(OH)_3 + CO_2$$

It rapidly reduces solutions of silver, gold and mercury. On exposure to air and light it rapidly turns darker. Pyrogallol is very poisonous, hence great caution should be observed in applying when used in the treatment of skin diseases.

Aromatic Alcohols and Aldehydes.

In the aromatic alcohols the hydroxyl group replaces a hydrogen in the side chain. Among these, benzyl alcohol ($C_6H_5.CH_2OH$) is of interest since it occurs as benzoic and cinnamic esters in Peru and Tolu balsams.

CINNAMYL ALCOHOL (Styrene), $C_6H_5.CH = CH.CH_2OH$, occurs as cinnamic ester in Storax, U. S. P.

OLEUM AMYGDALÆ AMARÆ, U. S. P.—Oil of Bitter Almond ($C_6H_5.COH$).—This is the aldehyde of benzyl alcohol, hence known as benzaldehyde. It is obtained from the bitter almond, after the removal of the fixed oil, by macerating in distilled water and then removing the generated oil by distilling over with steam. There is present in the bitter almond a ferment (emulsin) which in the presence of water causes the glucoside amygdalin to break up into benzaldehyde (oil of bitter almond), hydrocyanic acid and glucose, according to the following equation:

$$C_{20}H_{27}NO_{11} + 2H_2O = C_6H_5COH + HCN + 2C_6H_{12}O_6$$

Artificially it is obtained by the careful oxidation of benzyl chloride ($C_6H_5 — CH_2Cl$). The natural oil contains variable quantities of prussic acid (4–6 per cent.), hence it is a very dangerous preparation to administer, or even to use for flavoring purposes. This substance is removed by shaking the oil with ferrous hydrate (which unites with the prussic acid), and again distilling. The artificial oil may be distinguished from the natural product by the presence of traces of chlorinated products (see U. S. P.). The presence of hydrocyanic acid may be ascertained by adding sodium hydrate to the alcoholic solution followed by hydrochloric acid, which yields a blue precipitate. This oil should not be confounded with oil of myrbane (nitro benzene) which is poisonous, being used for perfuming soaps.

VANILLIN — Methyl-Protocatechuic Aldehyde.— $C_6H_3 — {OH \atop OCH_3 \atop COH}$ This is the odorous principle of the vanilla bean; it may be obtained from either coniferin, guaiacol or eugenol. It is ued in connection with coumarin in preparing essence of vanilla.

Aromatic Acids.

These contain one or more carboxylic groups (COOH) linked directly or indirectly with the benzene nucleus.

ACIDUM BENZOICUM, U. S. P.—(C_6H_5COOH).—This acid may be obtained from gum benzoin by the dry process of sublimation (flores benzœ), or the wet process (acidum et resina, præcipitatum); in the latter process the powdered gum is boiled with slaked lime, filtered and the resulting calcium benzoate solution decomposed by the addition of hydrochloric acid, whereby benzoic acid is precipitated. It is also prepared from hippuric acid [(acidum ex urina) (a benzoyl-amido-acetic acid)] by boiling with dilute acids; thus—

$$\underset{\text{Hippuric Acid}}{CH_2 < {NH\text{-}CO.C_6H_5 \atop COOH}} + H_2O = \underset{\text{Amido Acetic Acid}}{{NH_2 \atop | \atop CH_2\ COOH}} + \underset{\text{Benzoic Acid}}{C_6H_5COOH}$$

On the commercial scale, it is usually obtained from toluene (Acidum ex toluol) by oxidation ($C_6H_5CH_3 + 3O = C_6H_5COOH + H_2O$). The acid obtained by sublimation is characterized by a fragrant odor; that obtained from hippuric acid by a slight urinous odor; that obtained from toluol generally shows the presence of chlorine (U. S. P. test). The presence of cinnamic acid, which occasionally occurs in acid obtained from the gum, is ascertained by warming with a solution of potassium permanganate, whereby the odor of oil of bitter almond (C_6H_5COOH) is discernible. A neutral solution of benzoic acid in an alkali gives a flesh-colored precipitate with ferric chloride T. S. Benzoic acid is employed in preparing the various benzoates, such as lithium, sodium, ammonium, etc. The alkali benzoates are incompatible with acids and salts of the metals.

Among the substituted derivatives obtained from benzoic acid is saccharine

ortho-sulphamide-benzoic acid anhydride, ($C_6H_4 < {CO \atop SO_2} > NH$), a sweetening principle intended for the use of diabetic patients. As it is now prepared it possesses 500 times the sweetening power of cane sugar.

Oxy-acids.

ACIDUM SALICYLICUM, U. S. P. —Ortho-oxy-benzoic Acid.—$C_6H_4 < {OH \atop COOH}$

There are three isomers of this acid, the official product being the ortho; it occurs naturally as methyl salicylate in oils of wintergreen and birch, $C_6H_4 < {OH \atop COOCH_3}$ from which it may be obtained by treating with an alkali and afterward decomposing the sodium salicylate with an acid. Salicylic acid is now obtained synthetically; phenol in the presence of an alkali (soda) is brought into reaction (under certain conditions) with carbon dioxide or a derivative, the result is an alkali salicylate which, on treatment with an acid, liberates free salicylic acid.

Aqueous solutions of salicylic acid strike a violet color with ferric chloride. The official salts of salicylic acid are Lithii salicylas, Sodii salicylas and Physostigminæ salicylas. Salts of salicylic acid are incompatible with acids, salts of the metals and many alkaloids (in aqueous solution). Two esters of this acid are official: Methyl salicylate and phenyl salicylate. Salicylic acid and its salts are used as antiseptics.

METHYL SALICYLAS, U. S. P.—Artificial Oil of Wintergreen.—$C_6H_4 < {OH \atop COOCH_3}$ This is obtained by heating together methyl alcohol, sulphuric and salicylic acids and then distilling off the resulting ester—

$$\underset{\text{Methyl Alcohol}}{CH_3OH} + SO_2 < {OH \atop OH} =$$

$$H_2O + \underset{\text{Methyl Sulphuric Acid}}{SO_2 < {OH \atop OCH_3}}$$

$$SO_2 < {OH \atop OCH_3} + \underset{\text{Salicylic Acid}}{C_6H_4 < {OH \atop COOH}} =$$

$$\underset{\text{Methyl Salicylate}}{C_6H_4 < {OH \atop COOCH_3}} + SO_2 < {OH \atop OH}$$

Oils of wintergreen and birch are practically identical with this product. They are all incompatible with alkalies; used in medicine as antirheumatics.

SALOL, U. S. P.—Phenyl Salicylate. $C_6H_4 < {OH \atop COOC_6H_5}$ This is obtained by the action of phenol on salicylic acid in the presence of dehydrating agents as phosphorus oxychloride ($POCl_3$).

$$\underset{\text{Salicylic Acid}}{C_6H_4 < {OH \atop COOH}} + \underset{\text{Phenol}}{C_6H_5OH} =$$

$$\underset{\text{Phenyl Salicylate}}{C_6H_4 < {OH \atop COOC_6H_5}} + H_2O$$

By the action of alkalies, salol is split up into its constituents; for this reason it is used as an intestinal antiseptic, also in pharmacy for coating pills which are intended to act in the intestines only, since the salol coating passes unchanged through the stomach into the intestines, where it is dissolved by the alkaline secretions.

ACIDUM GALLICUM, U. S. P.—Tri-oxy-benzoic Acid.— $C_6H_2 < {OH_3 \atop COOH}$ Obtained by exposing powdered and moistened nutgall in a warm place for some time, then extracting the mass with boiling water, or by boiling the powdered nutgall directly with dilute acids. The tannic acid of galls is the anhydride of gallic acid, hence this process is simply that of hydration whereby tannic acid absorbs one molecule of water and is converted into gallic acid,

$$\underset{\text{Tannic Acid}}{C_{14}H_{10}O_9} + H_2O = \underset{\text{Gallic Acid}}{2C_7H_6O_5}$$

It can also be made synthetically. When heated, it is decomposed into pyrogallol and carbon dioxide. When heated with dehydrating agents it loses one molecule of water and is converted into tannic acid. With ferric salts gallic acid produces a bluish-black solution or precipitate. It is distinguished from tannic acid in not being precipitated by solutions of gelatin, albumen and alkaloids. It enters into Unguentum acidi gallici. The subgallate of bismuth is known as "Dermatol."

ACIDUM TANNICUM, U. S. P.—Gallotannic Acid—Digallic Acid ($C_{14}H_{10}O_9$).—The name "tannin" includes a large number of amorphous astringent substances, found in various plants, characterized by their astringent taste, by giving a green or blue-black color or precipitate with ferric salts, and with albumen or gelatin forming insoluble compounds. These tannins are distinguished from one another, as regards source, by their prefix, thus Gallo-tannic acid from nutgalls, Querci-tannic acid from oak-bark, Kino-tannic acid from kino, etc., etc. The official tannin is obtained from nutgalls by extraction with ether and evaporating on glass plates. When boiled with dilute acids or alkalies it takes up one molecule of water and yields two molecules of gallic acid, or conversely, the abstraction of water from gallic acid converts it into tannic acid—

$$\underset{\text{Gallic Acid}}{2C_7H_6O_5} - H_2O = \underset{\text{Tannic Acid}}{C_{14}H_{10}O_9}$$

It unites readily with gelatin and albumen, hence is used for converting hide into leather. With ferric chloride it produces a blue-black color or precipitate. Distinguished from gallic acid by precipitating solutions of gelatin, albumen and alkaloids (aqueous solutions). It is then incompatible with salts of the metals, alkaloidal solutions, also potassium chlorate, etc. This is also applicable to infusions or preparations of astringent drugs. In making up preparations containing tannic acid, iron vessels and spatulas must be avoided. It enters into Collodium stypticum, Glyceritum, Trochisci and Unguentum acidi tannici.

Aromatic Compounds with Two Condensed Benzene Nuclei.

NAPHTALINUM, U. S. P.—Naphtalene, $C_{10}H_8$.—That portion of coal tar, known as the "heavy oil" which distills over between 180° and 250° C., yields naphtalene, which forms white shining scales, insoluble in water but soluble in alcohol, ether and the oils. It is used as an antiseptic, disinfectant and insecticide, being sold as a substitute for camphor under the name of "coal tar camphor." It is used largely in technical industries. There are two hydroxyl derivatives or phenols of naphthalene, namely, *a* naphtol and *β* napthol.

NAPHTOL, U. S. P.—Beta Naphtol ($C_{10}H_7OH$).—Naphtalin, when treated with sulphuric acid, yields two naphtalene sulphonic acids, distinguished from one another as Alpha and Beta; these, when fused with caustic alkalies, yield the corresponding phenols, of which one, the beta, is used in medicine. This latter, the official compound, should be free from its isomer, the alpha naphtol, because of its toxic properties. The sample when mixed with water, a little syrup, and sulphuric acid (poured in so as to form a distinct layer in the bottom of the test tube), should yield a yellowish-brown color at the line of contact and not a crimson color, showing absence of the alpha variety. As test of identity, when warmed with a mixture of potassium hydrate and chloroform, the aqueous layer will acquire a blue color. Naphtol is used as an antiseptic.

(To be Continued.)

The History of Paraffined Paper in America.

Paraffined paper is an American improvement on waxed paper, which was an English invention. This waxed paper was made by dipping sheets of paper into melted beeswax. Such a treatment rendered the paper impervious to moisture and grease, and in England the product found some application in pharmacy and perhaps in other arts.

The first use made of waxed paper in America was by William Hodgson, who conducted a pharmacy at Tenth and Arch Streets, Philadelphia. This occurred in 1854. Mr. Hodgson had learned the usefulness of the article from John Bell, the well known English pharmacist. Mr. Hodgson used the paper between spread plasters for the purpose of preventing their sticking together. Although paper so prepared had long been known to writers upon scientific subjects, it found but this limited application in pharmacy and probably less use in other arts until 1865. But about this time the true value of a commodity possessing its properties was commencing to be appreciated.

Until the year mentioned waxed paper was prepared only by those who found it applicable to their own enterprises, but the increasing consumption of the article suggested to the firm of Mellor & Rittenhouse, of Philadelphia, the idea of manufacturing it for sale. To Mr. H. N. Rittenhouse, who was at the time a member of that firm but who is now an uninterested party, we are indebted for the data of this history. At this juncture we have an example of the ingenuity of American pharmacy. Paraffin was about this time beginning to claim some of the attention which it has since been found to merit. Suspecting in that substance the properties that contributed to the peculiar advantages possessed by waxed paper, this firm decided to substitute paraffin for the more costly beeswax with which to impregnate the pa-

per. This they did and, aside from the important feature of the difference in cost, the greater beauty of the paper saturated with paraffin was considered to be sufficient to favor the use of that substance. The first application of their product was to prevent the sticking together of plasters and then to such uses as the wrapping of articles that required the exclusion of moisture or that were to avoid contact with oily substances.

The experience of these parties proved the new product to be capable of replacing the old, and for the last two purposes mentioned paraffined paper is at the present time considered as almost indispensable. It rapidly replaced waxed paper but retained its name, so that what is intended to-day when waxed paper is called for is almost invariably the product prepared with paraffin.

Shortly after its introduction its adaptability to the uses cited attracted the attention of confectioners, to whom the first sales were made. By them the paper was used for wrapping candies. The annual sales of the article at that time amounted to not more than $150. In 1868 the originators of it exhibited samples of their manufacture at the annual meeting of the American Pharmaceutical Association, which was held in the Philadelphia College of Pharmacy. This exhibition not only served to direct attention to the article and to demonstrate its value as applied, but also suggested new uses for it.

The process of manufacture that was at first employed by the originators of paraffin consisted of impregnating with that substance sheets of paper spread upon heated surfaces. This plan was followed until the greatly increased demand for the product rendered such methods inadequate. Accordingly in 1877 these manufacturers invented a machine whereby the production could be more readily accomplished, and at the same time a company was organized for the purpose of developing what gave unmistakable evidence of becoming a business of itself.

As the product was never patented nor its preparation held a secret several firms quietly adopted the idea. They not only prepared it for their own use, but very probably also for sale, for, when at last the paper was recognized as a regular article of manufacture, competition was attracted to it from all sides. Various machines for its production were patented, and for ten or twelve years almost incessant litigation for alleged infringement followed as the consequence. After spending much money and experiencing many disappointments in the delays and decisions of the courts, the litigants finally concluded to harmonize and form a trust or some agreement whereby peace should prevail. Thus, from being a product of only a few hundred dollars' worth at the outset, paraffined paper has become a staple article, at least $400,000 worth now being annually consumed. In 1889 there were in various parts of the United States six concerns, with an invested capital of $100,000 to $200,000, engaged in the manufacture of paraffined paper. (Am. Jour. Pharm.)

THE DRUG TRADE 100 YEARS AGO.*

When America was discovered one of the chief advantages which the world derived from it, according to the learned men of that day, was new and powerful drugs. For a long time tobacco was one of the principal herbs that could be used in medicaments, and other powerful remedies were sassafras and jesuits' bark. The vegetable and animal kingdoms were very different here from those in Europe, and it was not surprising that both physicians and the unlearned fancied that among so many new things some must be very valuable. All of the old chroniclers dwelt much upon the health-giving qualities of American herbs. In the century before ours there was a heroic method of treatment, and no patient was satisfied unless he was dosed with strong-tasting drugs at short intervals. Everything that grew here was tried. There were no medical or pharmaceutical journals; there was no manual of drugs, and no statement, except in a disconnected way, of their advantages and disadvantages. Neither were there expert druggists. They were rather general storekeepers than good apothecaries.

The earliest mention of any essential oil, which was undoubtedly the first manufactured drug in this country, was in the instructions given to Sir Francis Wyatt, Governor of Virginia, in 1621. He was to invite attention to the making of oil of walnuts, and to employ the apothecaries in distillation. The inhabitants were likewise to search for dyes, gums and drugs. The South Carolina Agricultural Society in 1785 offered premiums for the raising of those trees and plants from which could be obtained senna, cassia, rhubarb, hops, madder and figs. But manufacturing was not entered into, except on that small scale represented by the co-operation of two or three men. Even Philadelphia does not seem to have done much in the way of manufacturing this line of goods till within the present century. The retail shopkeepers in any business which allowed of it sold also drugs and patent medicines. Those of the latter kind which were popular 100 years ago were Turlington's Genuine Balsam, James' Fever Powders, Analeptic Pills, Jesuits' Drops and Ryans' Incomparable Worm Destroying Sugar Plums.

Druggists in the Last Century.

The New York directory for 1789 names five druggists. On Queen street, now a part of Pearl street, there were two, Effingham Lawrence being at 227, and Besley & Goodwin at 228. Hanover Square had three. 23 was Francis Wainwright, 24 Timothy Hurst and 26 Oliver Hull. Effingham Lawrence was the druggist and apothecary to the Medical Society, a committee of which examined his store quarterly and certified that his drugs and medicines were genuine and faithfully prepared. No examination was then made anywhere in the United States as to the qualifications of a druggist.

In the beginning drugs were only a small part of the dealings of any storekeeper. Later they became the chief stock in trade of a few men. But when manufacturing began largely, business being conducted on a great scale, certain articles were no longer kept in stock by retail druggists, but were left to special dealers.

A druggist in England is often called a chemist. But a man may be a chemist, like Faraday, without knowing anything about the druggist's calling. Every factory of printing ink, for instance, keeps a chemist, who is a necessity to it. Neither is a druggist necessarily an apothecary; he may have no prescriptions to put up, and simply sells his goods as they are, in larger or smaller packages. The articles embrace thousands of kinds, and each year brings forth new ones.

Perhaps the earliest manufacturing druggists were those who made patent medicines. These are not the outgrowth of the present century; they have been made for hundreds of years. Originally powers were claimed for them beyond any that are now sold, extraordinary as this may seem. The claims for them stopped at one limit only—they were not guaranteed to raise the dead. Everything else could be accomplished, even the knitting together of a broken arm or the recovery of sight to one born blind. These pretensions had somewhat abated in 1795, but there was then more natural faith in the community than there is now, and the makers of patent medicines availed themselves of it.

Townsend's Sarsaparilla.

Fifty years ago prominent makers of patent medicines here were A. B. & D. Sands, Dr. S. P. Townsend, Dr. Jacob Townsend, Dr. Moffatt and Dr. Brandreth. The two Drs. Townsend, if there were two, availed themselves of the curative quality of sarsaparilla, then newly made known to the public, and claimed that their preparation would cure every ill that flesh was heir to. It was difficult for the public to understand the controversy. Young Dr. Townsend (S. P.) accused old Dr. Townsend (Jacob) of imitating him. The old doctor, on the contrary, insinuated that the young doctor stole his ideas and his methods from the senior. They had many columns of abuse and denunciation of each other in the papers, and were altogether the largest advertisers of the day. They posed before the public as uncle and nephew, but there were those who declared that the old doctor was a myth. Like Mrs. Harris, there was "no sich a person." He had been contrived by the young doctor to cause people to pay attention to the sarsaparilla advertising. Of course, there was an office for the old doctor, but he was never there, and other druggists who were envious declared that both brands of sarsaparilla were the same. The labels on the bottles were unlike, but not the contents. The mystery surrounding Dr. Jacob Townsend has not been solved to this day.

* From the "N. Y. Shipping and Commercial List."

In an advertisement of Sands's Sarsaparilla in 1847, now before the writer, Mrs. Beran alleged her lungs were completely gone; she was speechless, deaf, and with a dreadful cough. She took the sarsaparilla. Her lungs became well, her cough disappeared, she was able to speak clearly, and the deafness was gone. All this had been accomplished by this peerless medicament. Among other advertisements of the same day were those of Moorhead's Magnetic Machines, to cure illness; Dalley's (original and only genuine) Pain Extractor; the original and genuine Dally & Connel's Magical Pain Extractor, quite a different thing from the preceding one; Mrs. Jarvis' Cold Candy, the Graefenberg Pills and Green Mountain Ointment, Murray's Fluid Magnesia, Circassian Balm, Taylor's Balm of Liverwort, Griffith's Adhesive Plaster, and Wistar's Balsam of Wild Cherry.

A single number of the New York Sun a little later advertised Radway's Ready Relief, Samson's Liniment, S. P Townsend's Compound Extract of Sarsaparilla, Schenck's Pulmonic Syrup, Griffith's Hair Restorer, Morse's Compound Extract of Yellow Dock Root, and Mortamore's Compound Syrup. Great fortunes were made by some of these men. Jayne put up the tallest building that up to that time had been constructed in Philadelphia. Moffatt had built a structure on Broadway, Brandreth left a great fortune, and Dr. S. P. Townsend erected a palace on the corner of Fifth avenue and 34th street, where the Manhattan Club now is. It was undoubtedly the showiest place in town, and had any number of rooms, including among others a chapel, at which all of the religious papers cried out, as if there were not enough churches in New York to supply all needs. It cost $250,000, but was flimsily built, and when purchased by A. T. Stewart he was obliged to tear it down, as it would not admit of alterations.

Advertising in the Drug Trade.

One feature in the drug business was very different from now. Very little money was required for advertising. There were fewer newspapers, and ten would put in an advertisement for the price that is now asked by one. Kelley, who was still living in 1840, claimed that he was the first great advertiser Dr. Brandreth asserted that he saved James Gordon Bennett from failing, when the Herald was first established, by the amount of advertising he gave the great editor. Yet the sums spent by either Brandreth or Kelley probably never reached $5,000 a year. There are many druggists now who spend over $100,000 in advertising in the same time. It is a necessity. One of the very best patent medicines, known everywhere and which is employed by physicians as well as the laity, tried the experiment a few years ago of going without advertising. On Jan. 1 all advertising stopped. Sales continued till the middle of February as before; they were dull the remainder of that month and the whole of March; they fell off decidedly in April and May; June was stationary at the lower figures; July, August and September fell off a little further and October much more, but the proprietor had not the courage to refrain any longer from advertising. He had saved $18,000 on his advertising, but he had lost about $10,000 on his diminished sales. But where would the diminution end? The remedy with which he tried this experiment is one that was then, and is now, employed in nearly every house.

Wholesale Men in 1845.

Half a century ago the wholesale druggists were James S. Aspinwall, Samuel Bonne & Co., A. Boyer, Jr., & Co., William Burger, H. V. Bush, Bush & Hillyer, Silas Carle & Nephew, N. G. Carnes, Carnes & Haskell, Comstock & Co., Nathaniel Eaton, B. A. Fahnestock & Co., Graham & Co., Haskell, Merrick & Co., Hallock & Miller, T. R. Hibbard, Haviland, Keese & Co., Haydock, Corlies & Co., Adam Hill, Hoadley, Phelps & Co., Hull & Bowne, S Ingersoll & Co., Lawrence & Keese, Leeds & Hazard, William Mallory, J. B. Marsh, Son & Co., Israel Minor, John C. Morrison, Morton, Ladd & Co., Murray & Lanman, Murray & Talman, William B. Nichols, Olcott, McKesson & Roberts, Paul Pou & Co., William Radde, A. B. & D. Sands, H. H. Schieffelin & Co., Schieffelin, Son & Co., Seely & Crawford, Smith, Stratton & Wood, Southwick & Prior, J. &. W. Townsend, Joseph E. Trippe, J. & J. F. Trippe, William A. Tyler, William & John Underhill, Montagnie Ward, Samuel Ward, Wild & Barnard and William Mabee & Jones. Many of the retailers then named are still, or very lately have been in existence, names, however, being changed. Among these which will be recognized at once are John Milhau and Rushton & Co. Among the wholesalers Schieffelin & Co. have more than rounded out their century.

Increase in Druggists' Articles.

The number of druggists has now increased very much. It is hard to say what is not sold by them, if portable and compact. Certain classes of drugs are handled very largely by specialists, as they enter into uses in manufacturing, but more or less there is a call for every kind by both the retailer and the wholesaler. The drugs used in medicine are very different from what they were. Thirty years ago there were no antiseptic dressings for wounds; sixty years ago there were no anaesthetics. Tens of thousands of substances have been experimented with, and the results noted; drug stores must now keep what physicians require, no matter how difficult it may be to get. Life may depend upon the quickness with which a prescription is put up.

But there are so many things now kept in a druggist's that the dealer needs to be an expert man of business in other lines. Brushes, surgical appliances, pocketbooks, thermometers, spirituous liquors, stationery, and, in fact, everything is handled in many places. One very important part of a drug store in a good neighborhood is a soda fountain. A hundred years ago there was not one in America; sixty years since there were very few. Now this forms a very important part of the trade. In many locations the fountain does a greater business during the Summer than all the other departments.

ACETYLENE.*

By F. L. Slocum.

History: Acetylene (C_2H_2) was first discovered and isolated by Davy in 1837. He obtained it from the black mass produced in the manufacture of potassium. In 1858 Perrot produced acetylene gas by the action of the electric spark on the vapors of alcohol and ether. Quet observed that the gas formed by electrolytic action on ethylene gas in alcohol was taken up by sub-chlorid of copper and chlorid of silver, forming a very high detonating compound. In 1858 and 1859 Berthelot made a much more thorough examination of acetylene and its compounds, and established its properties in general.

There are many ways of producing acetylene, such as passing hydrogen between the poles in an electric arc; by exposing marsh gas, or coal gas, to a very high heat or an electric spark, but up to within a recent period the most practical way of producing acetylene was by the incomplete combustion of coal gas, as, for example, in the case where a Bunsen burner strikes back and burns inside the tube. The acetylene, which is always formed by the incomplete combustion of hydrocarbons, is, in this case, only partially burned, and can be collected in a solution of sub-chlorid of copper, with which it forms an insoluble compound—$C_2H_2Cu_2O$. This material, when dry, is very explosive and difficult of manipulation, hence, acetylene, up to the present time, has been very difficult to produce in quantity, in a pure state. In 1862 Woehler produced calcium carbide by heating a mixture of lime, zinc and carbon to a white heat. He found that the black mass formed would liberate gas when brought in contact with water. He tested this gas in the usual way, proved it to be acetylene, and promised, in a very short article which he wrote on the subject, that in the near future he would give a detailed analysis and full description of this method of producing acetylene, but Providence decided otherwise, as the doctor died shortly afterward, and never finished the work he had in mind. From that time until last year the production of acetylene, when wanted for experimental purposes, has been prepared by the old method—the incomplete combustion of a hydrocarbon gas. In 1893 H. Moissan produced calcium carbide, but did not make a thorough examination of same. In 1894 he produced calcium carbide by the action of the electric furnace on lime and carbon. The examination and analysis showed that its composition was CaC_2. Moissan is, therefore, the real discoverer after Woehler, and the first discoverer of the production of calcium carbide in a commercial way. Moissan has been experimenting for years with the high temperatures produced by the electric furnace and has made many very valuable discoveries, especially the production of carbides of different elements, as,

*Paper read at 18th annual meeting of Western Gas Association, Pittsburg, May 16, 1895. Reprinted from the Am. Manufacturer.

for example, he has lately produced a very pure carbide of aluminum, which, when brought in contact with water, produces marsh or natural gas [$(CH_3)_3Al_2C_3 + 12H_2O = 3CH_4 + 2Al_2(OH)_6$]. This is very interesting, as it is the first practical indication of the real sources of petroleum. The large amount of work that has been done with the high temperature of the electric arc shows that a whole series of carbides existed when higher temperatures were obtained than those within the present reach of human means, up to the time of practical operation of the electric furnace. In former ages, large masses of more or less pure oxids of different elements could have been brought in contact with carbon at very high temperatures, forming carbides. These carbides were deposited in the lower and heated measures of the earth's crusts, and, as they gradually cooled, water, in the form of steam, under enormous pressure, was brought in contact with them, producing many of the different hydrocarbons now found in nature. Moissan has lately made some nitrid compounds of different elements, which, when brought in contact with water, produced pure ammonia. These are mentioned, especially to give an idea of the range of this class of compounds, if a certain temperature can be obtained and maintained in any quantity. There has been within the last eight months numerous articles in the various technical journals as to the cost of the production of acetylene, and the gas fraternity in general have been very much agitated by at least some of these articles which would lead the reader to believe that acetylene was cheaper than daylight. Acetylene, or rather calcium carbide, has, as yet, not fulfilled the assertions of many of the articles written, and is not at present on the market at daylight prices.

Properties: Acetylene (C_2H_2, molecular weight 25.94, C = 92.31 per cent., H = 7.69 per cent.) is a colorless gas having a peculiar, disagreeable and penetrating odor. Its specific gravity is 0.91 observed and 0.89829 calculated. It is gas at all ordinary temperatures and pressures. Its critical point is at 37.05° C. and 1,000 pounds pressure. Above this temperature the gas cannot be liquefied, and is governed by the laws of permanent gases. At a temperature of 1° C. and 706 pounds it is a liquid. When liquefied it is mobile, colorless, highly refractory and lighter than water, and is a very strong solvent of fats. One liter of acetylene weighs 1.16148 grains; one cubic foot weighs 507.5338 grains, or 0.07255 pound; 1,000 cubic feet weigh 72.55 pounds. It has a heating capacity of 11,923 heat units in Centigrade and Kilo system. Its heat value, pound for pound (carbon = 1), is 1.48. Its heat value, volume for volume (hydrogen = 1), is 4.53.

The most interesting property of acetylene to the gas manufacturer is its extremely high candle-power, being 240 candles, with a consumption of 5 cubic feet of gas per hour. The comparisons of its luminosity with that of other well known compounds, as made by Vivian B. Lewes, are as follows, all based on an equal consumption of gas, viz., 5 cubic feet per hour:

	Candles.
Methane	5.2
Ethane	35.7
Propane	56.7
Eythelene	70
Butylene	123
Acetylene	240

Calcium carbide (CaC_2), a bluish-black, solid, crystalline, brittle mass, having a specific gravity of 2.22, can be heated to a red heat in an atmosphere of nitrogen without decomposition, but is immediately decomposed, when brought in contact with water, into calcium hydrate and acetylene. The reaction is as follows: $CaC_2 + 2H_2O = C_2H_2 + Ca(OH)_2$. As stated above, this interesting compound was first discovered by Woehler, and its practical production, by use of the electric furnace, by Moissan. There has been a great deal written in the last few months in regard to the cost of calcium carbide: Willson has put the price at $15 per ton, others at $40, and still others at $100 and so on. In this country and in Europe there has been formed numerous companies, both large and small, to promote and further the industry of gas manufacture by means of calcium carbide, but as yet there is but very little calcium carbide on the market. The writer is interested in a business where we have an electric current of sufficient voltage and amperage, and a furnace of sufficient capacity to produce calcium carbide in very large quantities. We have given some time to the production of this material. We find that the arc works entirely on resistance, and that the mass, before combination and after, is almost non-conducting; therefore, the production of carbide must be exceptionally small for a given amount of current. Nearly all the calculations that have been published have been theoretical and of little use in estimating the real cost of the manufacture of calcium carbide. The Aluminium Industrie Actiengesellschaft, in Neuhausen, Switzerland, who are exceptionally well located for the manufacture of this material, are advertising it at 5½ cents per pound. This is 14¾ cents per pound for acetylene contained therein. As acetylene weighs 72.55 pounds per 1,000 cubic feet, this would make it cost the consumer $6.20 per 1,000 cubic feet.

From our practical experience in the manufacture of calcium carbide, in a large way, we believe this to be a fair selling price, giving an ordinarily fair manufacturer's profit. Assuming this to be the case, the acetylene question, so far as the gas manager is concerned, for the use of enriching or illuminating, becomes of little interest. There is, however, one use to which acetylene can be put by the gas manager, even at its present price, which makes it of extreme interest to the manufacturer of any kind of gas for lighting purposes, throughout the whole civilized world, and that is its use as a light standard or unit. For the measurement of light, it is apparently the perfect standard for a light unit, as the requirements for an absolute standard of light is a gas which can be produced always in a like state of purity, in all parts of the world, preferably by means of decomposition of a substance in water, so that at a given temperature, the gas will always contain a certain percentage of moisture. This gas must be a definite compound, and be composed of the illuminating principle itself. It can then be burned at a certain speed and height through a specific gravity tip burner, and thus always give, constantly and exactly, an even and constant amount of light per unit of time. Acetylene, manufactured from calcium carbide, fills each and all of these conditions. In a recent very interesting paper by Professor Lewes, he showed quite conclusively that acetylene was the luminous principle in all hydrocarbon flames. Therefore, only acetylene, when burned in its pure state, would be able to give a constant luminosity. The apparatus necessary for the production of sufficient acetylene for light unit uses on the photometer is very simple. All that is required is a small holder in which the gas is taken from the top, working in a tank in which it can be sunk entirely below the water level. A small enlargement is made on one side of the holder basin, passing to the bottom, and of sufficient size to allow a wire gauze holder about two inches in diameter to be passed to the bottom and under the holder. The amount of calcium carbide necessary is then wrapped in the wire gauze, pushed down under the surface of the water, and the acetylene gas allowed to escape for a few seconds or until all the air is removed from the mass, and then it is passed to the bottom and turned underneath the holder and held there until the holder is sufficiently full. The holder is then allowed to stand until the temperature of the water is constant and near 15° C. The percentage of moisture in the gas has then become constant. The gas is burned, under a given pressure, through a special tip, the same that is used for specific gravity determinations, by diffusion. The writer anticipated giving the results of tests with photometric measurements, in comparison with normal candles, but has been unable to do so, and reserves this for a future publication.

In regard to the future of calcium carbide, there seems to be little hopes of its general use as a competitor of coal and water gas. Its chief uses will likely be in light housework, isolated lighting plants, possibly in car service, in the use for light unit and special purposes where other gas is not available, or where extremely high candle power gas is necessary and the present price is not prohibitory. It is going to be an industry that will gradually grow, and it is possible the production of carbide will become much cheaper than at present, although there is no indication of any great cheapening in its manufacture, from our present knowledge. Its use will likely be very extended in the general technical world, in fact, it is of far more interest in the numerous branches of organic chemistry than in the field of gas making.

PHARMACY.

WILD CHERRY PHOSPHATE. A good formula for the fountain contributed to Spatula directs 2 dr. each of fluid extract wild cherry and tincture cubeae, 4 dr. each port wine and spirits cognac brandy, 2 dr. fruit acid, and sufficient syrup to make 32 fl. ozs. Where's the phosphate?

AN INCOMBUSTIBLE PAPER is the subject of a recent French patent. Twenty gm. borax and 25 gm. zinc sulphate are dissolved each in 150 cc. water and the solutions mixed. One thousand cc. each of ammonia and phosphoric acid are added, and the paper or fabric steeped in the resulting solution.

FRIENDS OF SCIENCE.—There exists in Paris, says Ch. & Dr., an association known as the Société des Amis des Sciences, founded in 1857, by Baron Thenard with the object of assisting needy scientific men or their families. Since its origin a total sum of 1,320,000f. has been distributed. The pecuniary aid is not considered as a charity, but as a recompense for services rendered to science, and is meant to be considered as an honor to the recipients. The names and work accomplished by the latter are made publicly known. The annual meeting of the society was held in June.

A NEW DRY BATTERY.—M. Renault, professor at the Museum, Paris, has recently devised a neatly arranged dry battery. Each cell consists of a carbon vessel, in the bottom of which is placed chromic acid mixed up with gelatinous silica, this latter possessing the remarkable property of absorbing 60 times its volume of water. On the top of this jelly a disk of porous earthenware is laid which supports a zinc spiral immersed in a second layer of gelatinous silica, this time without the addition of the chromic acid. The cell is claimed to be very compact for its power.

TANNING FUR SKINS AT HOME.—An exchange is authority for the following: Take a dull knife and carefully scrape the flesh side, removing all bits of flesh or fat. Then take equal parts of alum and salt and rub them thoroughly in the fleshy side. If the hide has become dry, dissolve the salt and alum and rub the solution in. Then fold the wet sides together. Let it then lie in a cool place, where it will not freeze, for ten days. Then open it and sprinkle with sawdust and fold up again for twenty-four hours. Open, remove the dust and rub and manipulate the skin until it is pliable.

ABSOLUTE ALCOHOL IN ERYSIPELAS.—Dr. v. Langsdorff (Med. Week.) has treated thirty-two cases of erysipelas of the face and other regions by applications of compresses steeped in absolute alcohol, and has found the effects of this treatment excellent, all the patients having rapidly recovered (Amer. M. S. Bull.). The compresses should be covered with some impervious material, so as to delay evaporation of the alcohol. At first they are renewed every fifteen or twenty minutes; but as the morbid process appears to be checked, this interval being progressively lengthened in proportion. The treatment is continued until every inflammatory symptom has completely disappeared—a result which is usually obtained within two or three days, it is reported.

THE OCCURRENCE OF HYDROGEN PEROXIDE ON SURFACES COVERED WITH DRIED BOILED LINSEED OIL.—H. Noerdlinger (Pharm. Centralh. Jr. Soc. Chem. Ind.) remarks that when a surface upon which boiled linseed oil has been allowed to dry e. g., a piece of paper saturated with the oil—be moistened with an aqueous solution of potassium iodide, the reagent becomes yellow and ultimately brown from the separation of iodine. This reaction is stated to be due to hydrogen peroxide produced during the drying of the oil under the influence of light and air. The occurrence of hydrogen peroxide is not temporary, for the presence of this substance may be recognized for years after the oil had dried, if used either in the form of linseed oil paints or varnishes.

AN ARTIFICIAL RUBBER of more or less strength may be obtained by dissolving 4 parts of nitro-cellulose in 7 parts of bromo-nitro-toluol. Upon varying the proportion of the nitro-cellulose, says Pharm. Jour., there may be obtained a material possessing elastic properties and much resembling india-rubber, and even gutta-percha. Nitro-cumol and its homologues may, if desired, be used instead of bromo-nitro-toluol. Another substitute for india-rubber lately discovered by E. Desprez, of Paris, is the following: Gutta-percha in the form of sheet is taken and covered on one or both sides with a close-meshed fabric—even wire gauze will serve for some purposes—and the whole is agglomerated by pressure under heat. Sawdust, zinc dust and other suitable and cheap materials may, it is understood, be incorporated with the gutta-percha.

METALLIC OXIDES AND HIGH TEMPERATURES.—Lime is volatilized at a little over 2,000° C. and collects on the cool parts of the crucible in beautiful crystals (Moissan in Ann. Phys. Chim.). At still higher temperatures it melts and boils; when broken after cooling the mass has a crystalline fracture. Barium oxide and strontium oxide melt at lower temperatures, while magnesium oxide melts more difficully and at higher temperatures than any of the others above mentioned. When cooled after melting it forms very beautiful crystals. Oxide of aluminum is comparatively easy to melt, and when melted with a trace of chrome oxide forms rubies. Boracic acid, titanic oxide and zinc oxide melt easily in the electric furnace. Copper oxide dissociates. The stable oxides of iron melt into a solid, fine crystalline mass.

COMPOSITION OF NATURAL GAS.—Investigations made in Ohio show that the weight of 100 cubic feet of natural gas may be set down at 4.287 pounds; it is composed of 1.072 pounds of hydrogen and 3.215 pounds of carbon; requires for its perfect combustion 969 3-10 cubic feet of air, weighing 74.561 pounds; it makes in burning 9.648 pounds of steam and 11.788 pounds of carbonic acid, and produces 94.593 heat units when the steam is not condensed.

TOBACCO CURE.—A medical exchange gives the following as a remedy for weaning people from excessive use of tobacco:

Chloride of gold and sodium	1-24 grain
Strychnine nitrate	1-60 grain
Nitroglycerin	1-200 grain
Atropine sulphate	1-200 grain
Tincture digitalis	3 minims
Capsicum	¼ grain
Salicin	1 grain
Cinchonidia sulphate	1 grain

For one pill, to be taken three times daily.

PALM SUGAR, or jaggery, which is probably one of the earliest forms of crystallized sugar known to humanity, is procured from the sap of the cut flower stalk. By a singular provision of nature—very obnoxious, no doubt, to prohibitionists, but dear to the souls of unregenerate humanity—whatever produces sugar for one's toddy produces also on the same stem the toddy to put it in. The sugar palm of Malay pours from its cut flower stalk several quarts of sap daily for weeks together. Boiled down it produces "palm sugar." Allowed to ferment it turns into "palm wine," or toddy. "Malay beer" is palm wine mixed with bitter herbs, which checks fermentation. Can it be possible that the familiar American idiom "jag," as applied to persons under liquor, is derived from the Maylayan term "jaggery?"

CARNIFERRINE, the iron compound of phospho-carnic acid (Archiv für Anat. und Physiologie), is a proprietary article said to be prepared from meat extract. It possesses all the properties of the iron compounds occurring in natural foods is soluble both in dilute acids and alkalies, and consequently remains unaltered both in the stomach and in the intestinal canal. Direct experiment has demonstrated that it is absorbed in the digestive tract. Carniferrine is therefore exploited as an excellent blood-making material, indicated wherever the digestion is deranged and where the exhibition of large quantities of assimilable iron compounds in the form of eggs, etc., is inadmissible. It is prescribed in chlorosis, anæmia, neurasthenia, extreme loss of blood, after operations, in convalescence, etc. Dose for adults, 7½ grains daily; dose for children, 3 to 5 grains daily. It may be exhibited in any convenient form, as a powder (in a wine-glassful of water), in lozenges or pills As it does not dissolve until it reaches the stomach it does not attack the teeth.

The Cry of Substitution.

Much good sense is contained in an editorial in the Alumni Report. It says: "Every now and then the cry is raised that pharmacists substitute preparations of their own in prescriptions for those of pharmaceutical manufacturers. We all know how false such a charge is as applied to pharmacists generally, if by it is meant that they give preparations of their own where those of another are ordered. The obvious intention is to discourage pharmacists from making preparations which shall compete with those of the manufacturer by raising the general cry of substitution. No distinction whatever is made between a legitimate substitution that is honest, and an illegitimate one that is dishonest. There is substitution, and there is substitution. There is a substitution which consists in replacing the vast horde of proprietary medicines which infest the medical world of to-day, with products whose formulas are absolutely non-secret, which possess decided therapeutical worth and are the result of ripe pharmaceutical experience. This is one form of substitution, and, whenever a pharmacist can induce a physician to prescribe such products made by himself, he owes it to the public, the physician and himself, to do so. Then there is a form of substitution which consists in replacing proprietary preparations ordered in prescriptions, with preparations which may or may not be similar, but which have not been directed by the physician. There are no words of condemnation sufficiently strong to characterize such a practice, and there is no moral or legal code that sanctions it. No man has any right to filch the good name of another man's product. But he has the undoubted moral and legal right to make a name for his product that is equally as good or better. And this is the vital point in the whole cry of substitution raised by the manufacturers. It is not so much unauthorized substitution by pharmacists that is dreaded. As a matter of fact this evil is relatively small. But it is the growing practice of pharmacists making their own preparations for physicians' use, and bringing them into direct competition with their products, that manufacturers fear. Pharmacists are commencing to realize their advantages as never before. As a class, they have the confidence of the community in which they reside—more so than a distant manufacturer can have—and why should they not compete with their own products for their own trade? There is an honest, manly way of doing this, and there is a dishonest way; and, since the great mass of pharmacists are honest, conscientious and faithful public servants, there is no question as to which of the two methods is generally followed."

IMPROVED HONEY OF ROSES.—Touflet (Pharm. Cent.) gives the following formula which he says does not deposit glucose upon standing: Powdered rose leaves, 25 parts; alcohol, sp. gr. 0.875, 75 parts; honey, 80 parts; sugar, 34 parts. Exhaust the rose leaves with the alcohol, filter and distill off the filtrate to 40 parts. To this add the honey and sugar and bring to the boiling point.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Queries.

This department is not conducted for the benefit of anonymous correspondents and non-subscribers. Neither are queries answered by mail. C. W. O., C. D. S., and G. O. will therefore understand why their queries receive no attention.

Solution of Bromides of Arsenic, Gold and Mercury.

(T. A. W.) See Aug. 1, 1895, Era, page 144.

Skin Food.

(J. J. F.) See Era Sept. 1, 1894, p. 207, also Apr. 18, 1895, p. 495.

Sun Cholera Cure.

(P. J.) See National Formulary, page 88, formula No. 255.

Bottle Capping Varnish or Wax.

(W. D. B.) See formulas under this caption in May 16, 1895, Era, page 623.

Polish for Finger Nails.

(J. J. F.) Peroxide of tin, 6 ounces; tragacanth, 6 grains; glycerin, 4 drops; rose water, sufficient; mix and make into a paste. Color with ammoniacal solution of carmine.

Preservatives for Concentrated Tanning Solution or Extract.

(W. K.) We can give you nothing definite regarding the methods followed by manufacturers for keeping the so-called "tanning extracts" from fermenting. As you have given us no information regarding your preparation, we, therefore, cannot make any suggestions. If you will write us more fully we shall be pleased to investigate it, providing it comes within the scope of this department.

Iron in Brandy.

(L. M. M.) has a quantity of brandy which has become darkened by contact with iron, just how, or with what salt, he does not state. How may he clarify it?

Add enough tannin in solution to precipitate the iron, if there be any which has not yet been acted upon by the tannin of the brandy. Allow to stand a few days, and then add a solution of gelatin. After several days decant, and filter the decanted liquid through a wetted talcum filter.

Tasteless Syrup of Quinine.

(A. H. & Co.) The bitter taste of quinine and its salts depends almost entirely upon their degree of solubility, the more soluble salts being more bitter to the taste than those not so soluble. Of all the salts of quinine the tannate is the nearest to being "tasteless;" it is also the least soluble. A formula under the title "tasteless syrup of quinine" was communicated to the chairman of the committee on National Formulary of the A. Ph. A. in 1892 as follows: Tannin, 120 grains; quinine sulphate, 320 grains; water and peppermint water, of each, 16 fluid ounces.

Saccharine will not completely disguise the taste of quinine sulphate, although it has been often directed for that purpose. No doubt the most satisfactory adjuvants are those preparations containing aromatics, of which the aromatic elixir of yerba santa and aromatic elixir of glycyrrhizin, N. F., are examples.

Freckles.

(J. J. F.) Formulas are given for two preparations on page 715, June 6, 1895, Era. Here are two others:

1.) Chloride of ammonium.1 dram
Hydrochloric acid.....1½ drams
Glycerin .....1 ounce
Lait virginal.....1½ ounces

Mix. Apply to the freckles morning and evening with a camel's-hair brush.

2.) Potassium carbonate... 3 drams
Sodium chloride..... 2 drams
Orange flower water... 2 ounces
Rose water..... 8 ounces

Use as a lotion.

Silver Nitrate and Fowler's Solution.

(W. L. D.) In the prescription
Silver nitrate .....6 grains
Fowler's solution .....1 dram
Water, enough to make..4 ounces

an incompatibility occurs between the silver nitrate and Fowler's solution, silver carbonate, Ag_2CO_3, being precipitated. There is also a possibility of some silver arsenite, Ag_3AsO_3, being formed. Silver carbonate occurs as a white or yellowish-white precipitate, slightly soluble in water and somewhat soluble in excess of fixed alkali carbonate. Silver arsenite is yellow.

Hair Oil.

(C. C. S.) Oil may be colored red with alkannin or alkanet root. Here are three formulas:

Family Hair Oil.

1.) Castor oil .....1 pint
Alcohol .....6½ pints
Tincture cantharides .. ½ pint
Oil lavender ..... ½ ounce
Oil rosemary ..... ½ ounce
Oil cloves .....1 ounce
Oil bergamot .....2 ounces
Powdered alkanet root.1 ounce

Mix the oils in a gallon bottle; put the alkanet root on a filter or pack in a funnel and pour on the alcohol until the color has all been discharged, then add alcohol to complete the quantity directed.

Rose Oil.

2.) Cotton seed oil, extra...1 gallon
Oil of lavender.....2 ounces
Oil of rose geranium....1 dram
Alkanet root .....2 drams

Set aside for a few hours; filter through a flannel filter.

Burdock Root Hair Oil.

3.) Digest at a moderate heat 8 pounds of olive oil or sesame oil with 2 pounds of fresh burdock root; then pour off the oil from the roots, add 7 ounces of castor oil, color with alkannin and perfume with bergamot oil 2 ounces and palma rose oil 1 ounce.

Seasoning of Herbs and Spices.

(Subscriber.) Dick is authority for the following:

1.) Take of lemon thyme, winter savory, sweet marjoram and sweet basil, of each 1 ounce; grated lemon peel and eschalots, of each ½ ounce; bruised celery seed, ¼ ounce; proof spirit, 1 pint. Digest for 10 or 14 days. A superior flavoring essence for soups, gravies, seasonings, etc.

2.) Take of ground black pepper, 4 ounces; powdered turmeric, 3 drams; ground coriander seeds, 1½ drams; oil of pimento, 1½ fl. drams; oil of nutmeg, oil of cloves, oil of cassia and oil of caraway, of each ½ dram; alcohol, 1 pint. Digest with agitation for two weeks.

3.) Take of black pepper, 1½ ounces; allspice, 5 drams; nutmegs and burnt sugar, of each ¼ ounce; ground cloves, cassia, coriander and caraway seeds, of each 1 dram; proof spirit, 1 pint. Digest with agitation for two weeks, press and filter Used for flavoring. When made with alcohol and double the above weight of spices it makes an essence of savory spices.

An Effervescing Mixture.

(C. H. B.) asks criticism upon the following prescription:

Fairchild's extract pancreatis,
Salicin, of each.....2½ drams
Sodium bicarbonate..2 scruples
Deodorized tincture opium .....5 drams

Teaspoonful two hours after meals.

After allowing the mixture to stand a little time he noticed a frothy appearance and an increase in bulk; what causes it?

The reaction noticed is due principally to the acid of the syrup of orange liberating the carbonic acid gas of the sodium bicarbonate. The increase in bulk is also due to this reaction, the mixture being so thick and dense that the carbonic acid gas is not readily eliminated. An incompatibility occurs between the sodium bicarbonate and deodorized tincture of opium, the morphine in the latter being precipitated. The salicin is not soluble in the mixture. The combination is not a desirable one, and the prescription should not be dispensed.

A German (?) Mixture.

(Subscriber) sends the following order he received for interpretation and which, as near as the types can make it, we reproduce verbatim et literatim:

Durchdrängendes Oël.—Loor Oil
Häthtreinen and Grünes glieder
Equal parts.

What is wanted? We have shown this prescription to a half-dozen German pharmacists in this city, but none of them would stake his reputation upon his guess. The first ingredient was read as "penetrating oil" by each of them. Under this name one man would have dispensed ammonia liniment, while another thought olive oil would answer. "Expressed oil of laurel" was read by all as the second ingredient (Loor oil), while the last named, "Grünes glieder," was thought to be oil of hyoscyamus. One man thought the last two names referred to some one preparation, though he did not state definitely what it might be. One, however, stated that a patient bringing in this prescription to his store would never get a chance to go away without getting it "filled." Maybe some one of our readers can interpret it.

Tests for Saccharine.

(A. H & Co.) Saccharine is official in the British Pharmacopœia under the title "Glusidum." The following tests are given: A light, white, minutely crystalline powder, having an intensely sweet taste in dilute solutions. Heated it fuses and then sublimes with partial decomposition. It is but slightly soluble in cold water or chloroform, more so in boiling water, rectified spirit or glycerin. It is very soluble in diluted solution of ammonia, also in solution of bicarbonate of sodium with evolution of carbonic acid gas. The latter solution, when warmed and made neutral and evaporated to dryness, yields "soluble gluside" or "soluble saccharine," which is very soluble in water, 100 parts of gluside yielding nearly 113 of neutral "soluble gluside." Neither gluside nor soluble gluside is blackened by strong sulphuric acid, even when the mixture is gently warmed for a short time. On evaporating either with excess of strong solution of soda, maintaining the residue in a state of semi-fusion for a few minutes, cooling, dissolving in water, faintly acidulating with hydrochloric acid, and adding a few drops of solution of perchloride of iron, a reddish-brown or purplish color is produced.

Sarsaparilla Compound.

(E. J. V.)

1.) Tincture prickly ash bark .....10 drams
Fluid extract burdock.. 2 ounces
Fluid extract poke root. 2 ounces
Fluid extract stillingia. 2 ounces
Fluid extract sarsaparilla, enough to make. 3 pints

Dose, teaspoonful three times a day.

2.) Sarsaparilla root..... 1 pound
Burdock root..... 1 pound
Dandelion root.....½ pound
Mandrake root.....¼ pound
Rhubarb ..... 2 ounces
Red clover blossoms...½ pound
Boiling water, about... 3 gallons

Steep over a slow fire for 12 hours. Strain through a fine cloth and, while still hot, add granulated sugar, 5 pounds. If it does not dissolve, add a little more heat. Then take

Potassium iodide.....2½ ounces
Alcohol, 95 per cent...1 quart

Mix all together and add water to make 4 gallons. Dose, tablespoonful three times a day after meals.

3.) Fluid extract sarsaparilla ..... 1 ounce
Fluid extract stillingia.. 1 ounce
Fluid extract yellow dock ..... 1 ounce
Podophyllin ..... 3 grains
Simple elixir..... 4 ounces
Alcohol ..... 2 ounces
Glycerin ..... 2 ounces
Potassium iodide.....90 grains

In the Era Formulary a great variety of formulas for alteratives and blood purifiers may be found.

Tooth Paste.

(J. J. F.)

1.) Precipitated chalk.....12 ounces
Prepared chalk..... 6 ounces
Powdered orris..... 6 drams
Essence vanilla..... 3 drams
Tincture coumarin..... 6 drams
Tincture benzoin..... 3 drams
Ammonia (stronger).... 1 dram
Carmine ..... 1 dram
Otto rose.....12 minims
Oil cloves.....12 minims
Glycerin ..... 8 ozs. or q. s.

2.) Cuttlefish bone.....15 drams
Prepared chalk..... 5 ounces
Orris, Florentine.....20 drams
Carmine ..... 5 grains
Oil lemon.....70 drops
Oil rose geranium.....40 drops
Honey, strained.....10 drams
Syrup ..... 5 ounces

Triturate the solid ingredients to a fine powder, add the oils, then the syrup and honey, and thoroughly mix.

3.) Powdered charcoal.... 1 ounce
Powdered cinchona.... 1 ounce
Vanilla sugar..... 1 ounce
Oil cinnamon.....10 drops
Honey ..... 1 ounce

Mix and form a paste.

Silvering Mirrors.

(W. N. F.) The process of silvering mirrors is quite simple in itself, yet it is hardly adapted for amateur work. There are two distinct methods adopted for this purpose; the one consists of the application of a layer of an amalgam of tin, or other similar alloy, to the surface of the glass, while the other consists of real silver precipitated from a solution of that metal. The first process consists in applying a thin amalgam of tin and mercury to the surface of the glass, which is done on a perfectly flat and horizontal slab of stone bedded in a heavy iron-bound wooden frame with a gutter running around the outer edge. On the surface of this table, which must be perfectly smooth and level, is spread a sheet of tin foil, somewhat larger than the glass to be spread on; and after all the folds and creases have been smoothed out, the process of "quickening" the foil is commenced. A small quantity of mercury is rubbed lightly and quickly over the whole surface and the scum of dust, impure tin and mercury, taken off. Mercury is then poured upon the quickened foil until there is a bed of it sufficient to float the glass to be silvered (about ¼ inch deep), and, the edge at one of the sides having been cleared of the scum peculiar to mercury, the glass (scrupulously cleaned simultaneously with the above operation) is slid from that side over the surface of the mercury. Weights are placed over the surface until the greater part of the amalgamated mercury is pressed out and the table is then tilted diagonally, when all superfluous mercury finds its way to the gutter. The glass is left 24 hours under the weights, is then turned over silvered side up, and removed to a drainer with inclining shelves, where by slow degrees

as it dries and hardens it is brought to a vertical position, which, in cases of large sheets, is sometimes not arrived at in less than a month. This process is said to yield excellent results, producing a brilliant silver white metallic luster which is only subject to alterations by exposure to high temperatures, or by contact with damp surfaces.

Real silver is now very largely used to make mirrors, a process for manipulation being given by Drayton as follows: Dissolve 1 ounce of silver nitrate in 3 ounces of distilled water, add 1 ounce of water of ammonia and 3 ounces of alcohol. Let the solution stand for about 4 hours and then filter. When ready to use, add to each ounce of this liquid which is to be employed, ¼ ounce of glucose previously dissolved in a mixture of equal parts of alcohol and water.

Having cleaned the glass thoroughly, cover it with the liquid at a temperature of 160° F., which temperature must be maintained until deposition of the silver is complete. When quite dry, coat the surface with mastic varnish.

Behavior of Salts in Solution.

(Subscriber.) The behavior of chemical salts in solution can be pretty well answered by quoting the well known laws of Berthollet:

1. When two or more substances are brought together in solution, if by any rearrangement of the atoms a product can be formed which is insoluble in the liquid present, that substance will form and separate as a precipitate.

2. When two or more substances are brought together in solution, if a gaseous or volatile body can form it will do so and escape as a gas or vapor.

Here are a few generalizations abstracted from a paper read at a meeting of the Gross Medical College, Denver, recently: The carbonates, borates, phosphates, arseniates, hydrates and tannates of most alkaloids and metals, excepting the alkaline (sodium, potassium, lithium and ammonium), are insoluble in water; hence any aqueous mixture containing the respective elements of which the aforesaid salts are composed would be incompatible. The incompatibility of most common metals in relation to arsenic is attested in the case of iron, which is used as a chemical antidote in acute arsenical poisoning, and which may serve to remind one that tests and antidotes generally are incompatible with the substances for which they are employed. Nearly all metallic tannates are insoluble, ferric tannate in aqueous mixture being nothing more nor less than a blue-black ink. Tannin or tannic acid is, in fact, incompatible with nearly everything in the animal and mineral kingdom, and it constitutes an important part of most vegetables bitters and astringents, calumba, gentian and quassia being the chief exceptions to its presence. Continuing the enumeration of non-soluble salts, the chlorides, bromides and iodides of silver, lead, mercurosum and bismuth are insoluble, as are also the bromides and iodides of nearly all alkaloids. Hence the incompatibility of silver nitrate and sugar of lead with undistilled water, which always contains a variable but ponderable proportion of chloride of sodium and other metals. The fact that calomel (mercurous chloride) may be changed into corrosive sublimate (mercuric chloride) by the coadministration of any acid or salt containing chlorine, should warn us to be careful in this regard. The sulphates of calcium, barium, strontium, lead and mercurosum are insoluble in medicinal amounts; hence the objection to the dispensing of Epsom or Glauber's salts in limewater and the reason for the antidotal use of these salts in cases of acute lead poisoning. The metallic sulphides are nearly all insoluble and of a black color.

The second law of Berthollet, relating to incompatibility with evolution of gases, has its most frequent application in the combination of carbonates with stronger acids than carbonic, which, indeed, is about the weakest known. When powerful oxidizing substances, such as nitric and chromic acids, potassium chlorate and permanganate, are brought into contact, forcibly or otherwise, with readily combustible compounds like glycerin, sugar, phosphorus, sulphur and ether, highly explosive gases (or liquids or solids) are liable to be produced.

A few further rather axiomatic principles remain to be stated: Acids and bases are evidently incompatible, since when brought together they always unite to form salts, which may or may not be insoluble. Stronger acids will displace weaker ones from their combinations in salts; alkaline hydrates and carbonates likewise evict the weaker bases, for example, alkaloids, from their saline habitations. Glucosides, such as the glycyrrhizin of liquorice root, are decomposed into sugar and other compounds by free acids or alkalies; hence we should never employ aromatic sulphuric acid to dissolve the quinine sulphate in a mixture which also contains liquorice for disguising the bitter taste of the salt.

No reaction takes place when zinc sulphate and cocaine muriate are combined in solution.

Manufacture of Concentrated Lye.

(J. C.) Concentrated lye, as found in the market, consists of about sixty per cent. of caustic soda. The process of manufacture may be divided into three distinct stages, viz.: (1) the manufacture of salt cake or sodium sulphate from common salt; (2) the conversion of salt cake into soda ash or sodium carbonate; and (3) the decomposition of soda ash by quicklime and the formation of caustic soda. Salt Cake Process.—This stage of the manufacture consists in the decomposition of common salt by sulphuric acid, with the aid of heat. The charge of salt and acid is placed in a covered shallow pan, contained in the salt cake furnace, and strongly heated by a fire placed underneath. The salt is in this way decomposed with the formation of sodium sulphate and hydrochloric acid—

$$2NaCl + H_2SO_4 = Na_2SO_4 + 2HCl.$$

The hydrochloric acid passes off by the flue as a gas, along with the products of combustion from the fire. These gases are led by the flue into and through a couple of scrubbers, or tall brick towers filled with coke or broken bricks moistened by a shower of water which constantly trickles down and meets the ascending current of acid gas. The acid is thus absorbed and condensed, and is drawn out of the tower to the chimney. After a certain time, the cake of sodium sulphate in the pan is raked out on to roasting hearths, placed on each side, where the decomposition of the common salt is completed.

Black Ash Process.—This is the name given to the method of converting the salt cake, prepared as above, into soda ash or sodium carbonate; and the purification of the salt when prepared. It is effected by heating the salt cake on the hearth of a reverberatory furnace with coal-slack and chalk or limestone. The reaction which takes place is twofold, the salt cake being first reduced to sodium sulphide, which is then converted into sodium carbonate by combining with the heated chalk:

(1) $Na_2SO_4 + C_4 = Na_2S + 4CO.$

(2) $Na_2S + CaCO_3 = Na_2CO_3 + CaS.$

The fused mass of calcium sulphide and sodium carbonate, when raked out of the furnace, has a black color, from the presence of sulphides and coal, which gives the process its name.

When cool, the mass is treated with water, which dissolves out the sodium carbonate, giving a clear solution which, when evaporated down and calcined, yields the soda ash of commerce; or, if concentrated only and allowed to crystallize, gives soda crystals or hydrated sodium carbonate ($Na_2CO_3 + 10H_2O$).

Caustic Soda Process.—The concentrated solution of soda ash obtained as above is boiled with lime, and the resulting calcium carbonate allowed to settle, the clear liquor being drawn off and evaporated almost to dryness, when it solidifies on cooling to form white caustic soda of commerce. For full details on the manufacture of alkali special works on the subject must be consulted. The fused caustic is filled into iron drums while still liquid, and there solidifies.

Another method of preparing sodium carbonate or soda ash is that known as the "ammonia-soda process." This consists in decomposing a solution of common salt with ammonium bicarbonate, which gives sodium bicarbonate and ammonium chloride, the former being precipitated and the latter remaining in solution. This ammonium chloride is then heated with lime, to liberate ammonia, which is converted into bicarbonate of ammonia by combination with the carbonic acid, evolved in the conversion of the precipitated bicarbonate of soda into the monocarbonate by heat; and the ammonium bicarbonate thus produced is employed to decompose a fresh quantity of salt solution. In this way the process is made continuous and has been successfully and profitably worked for some years.

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ALCOHOL CLAIMS.

Having stirred up the retail druggists of the country to the importance of taking advantage of the alcohol rebate clause of the Tariff law of 1894, the Era finds that many are still in doubt regarding the mode of procedure they should follow. The statements made regarding the serving of notices on the collectors of internal revenue were from a prominent firm in this city, which is handling many cases prepared by wholesale houses, and should be closely followed. If the druggists will look up the matter in the back copies of the Era they will notice it was said that the serving of a notice on the collector that the druggist was to begin the practice of saving the stamps and keeping a record is not perhaps an absolute necessity, but is a wise thing to do. It simply serves as a link in the chain of evidence, and may be a technicality that will aid any claim.

Druggist James Foulke, of No. 107 Monticello Avenue, Jersey City Heights, followed the Era's advice and served a notice on the collector of his district. He received in reply a rather curt note setting forth that the Secretary of the Treasury had failed to make any regulations governing the alcohol rebate matter, etc. This was only what is expected. Mr. Foulke has been advised to file the collector's answer with his claim, and all druggists who receive answers like his to their notices should do the same.

For the benefit of a number of druggists who apparently do not read articles written in their interest very carefully, it is again stated emphatically that alcohol for manufacturing and for counter sales must not be drawn from the same package. This has been repeatedly stated. An out-of-town druggist asks, "Will rebates affect small retail dealers?" If he means, "Can the little retailers get the rebate?" the answer is, of course, if the Court of Claims decides in favor of the petitioner. The humblest druggist has the same chance as the biggest wholesaler. Another druggist wants to know how to get the stamp off the package which is used the year round for alcohol. He can soak it off and have a new one put on each time he gets the cask filled. If the retailers are wise they will buy a barrel of alcohol at a time, as the Era advised last week. These are some of the questions which are coming into the Era office. The mail brings every day scores of applications for alcohol blanks. The druggists of the Western States seem to be more wide awake than their Eastern brethren in this matter. Out of the hundreds of applications that have come in the following names were selected at random from a package of 500 letters:

Dr. J. P. Bishop, Charlestown, W. Va.; H. J. Milburn, Detroit; George F. Fairman, Big Rapids, Mich.; E. T. Spencer, Philadelphia; Adolph Mueller, Highland, Ill.; M. C. Metzger, Cairo, Ill.; A. G. Ellis, Brooklyn, Wis.; C. H. Babcock, Worthington, Minn.; Walker Bros., Hermann, Mo.; B. W. Slagle, Smith Centre, Kan.; E. K. McElroy, Ayrshire, Ia.; Martin & Huguely, Winchester, Ky.; D. E. Scanlan, Chapman, Kan.; King Bros., Fayetteville, N. C.; J. H. Peckham, Seneca, Kan.; Hanson & Emerson, Sauk Centre, Minn.; G. W. Silcher, Renville, Minn.; C. T. Woods & Co., Cheyenne, Wyo.; the Academy Drug Store, Scandinavia, Wis.; E. B. Patton, Waupun, Wis.; Kuhn & Co., Omaha, Neb.; H. J. Batdorff, Philadelphia; Alexander Bros., Cameron, Mo.; W. J. Snoddy, West Lafayette, Ind.; John L. Kennard, Yeoman, Ind.; Baumbach, Morisse & Co., Alexandria, Minn.; A. M. Priest, Shelbyville, Mo.; Blake & Co., Boulder, Colo.; City Drug Store, Roseville, Ill.; H. B. Allen, Richland Centre, Wis.; L. A. Duffin & Co., Whitewater, Wis.; B. Wood, May & Co., Charles City, Ia.; John Bertrand, Hattiesburg, Miss.; Frank J. Lord, Denver, Colo.; J. L. Sincoke, Adel, Ia.; J. F. Kinney, Lexington, Neb.; Gering & Co., Plattsmouth, Neb.; A. Meisner, Davenport, Ia.; John R. Everett, Genoa, Neb.; H. P. Tucker, Grand Island, Neb.; A. W. Praun, Ridgeway, Ia.; F. J. Atwater, Manchester, Ia.; Burdashaw & Co., McCormack, S. C.; Harrison & McDaniel, Columbus, Tex.; Dr. J. F. Morris, Crowley, La.; W. J. Studley, Algona, Ia.; C. M. Webb, Rolfe, Ia.; J. S. Talcott, Elk Point, S. D.; N. L. Wallis, Pea Ridge, Ark.; T. M. Reahard, Dayton, O.; H. C. Gempp Drug & Paint Co., St. Louis; A. B. Morgan, Malden, Mass.; E. L. Smith, Port Henry, N. Y.; F. M. Parker, Red Wing, Minn.; George Smale, Independence, Ia.; E. G. Baughart, Saginaw, Mich.; Hartnagel & Harrison, Belleville, Ill.; F. L. Dolan, Freeman, Mo.; W. A. Ball, Carmi, Ill.; A. W. Seebohm, Pomeroy, O.; Dickson Drug Co., Dickson, Tenn.; F. W. Franz, Sioux City, Ia.; W. J. Summerwill, Odebolt, Ia.; William Mittelbach, Boonville, Mo.; George R. Ewell, Richmond, Va.; J. H. Hale, Nacogdochia, Tex.; Columbia Drug Co., Columbia, Ala.; W. G. Sprague, Flushing, Mich.; Chas. Fisher & Co., Peoria, Ill.; I. H. Trowbridge, Marseilles, Ill.; Frank Herbert, Bridgewater, Ia.; the J. F. Davis Drug Co., Portsmouth, O.; A. R. Champney, Perrysburgh, O.; U. J. Overman, Tonlon, Ill.; Welaka Pharmacy, Welaka, Fla.; Newell & McPhail, Osseo, Wis.; Fisher Bros., Baraboo, Wis.; W. D. Burd, Black Rock, Ark.; W. B. Terry, Princeton, Ky.; T. G. Vandeveer, Effingham, Ill.; Francis Hemm, St. Louis; G. C. Lantenschlager, Dayton O.; G. C. Himmelman, Akron, O.; W. C. Sloan, Masonville, Ia.; Emil L. Boerner, Iowa City, Ia.; C. F. Keener, Newport, Ky.; A. Masinda, Prague, Neb.; T. C. Loehr, Carlinville, Ill.; J. F. Kiedaisch & Son, Keokuk, Ia.; W. A. Green, Amboy, Ill.; L. B. Bullock, Manawa, Wis.; A. H. Tillson, Dixon, Ill.; J. S. Kane, Onsted, Mich.; Stoehr's Pharmacy, Elgin, Ia.; C. F. Schaefer, Chicago, Ill.; M. N. Hamilton, New Lisbon, O.; A. W. Isbell, Calmar, Ia.; A. E. Anderson, Ironwood, Mich.

The Harter Medicine Co. in its New Home.

The removal on Aug. 6 of the Dr. Harter Medicine Co. from St. Louis, Mo., to Dayton, Ohio, briefly alluded to in the Era of Aug. 8, was a most unique affair, both in the manner in which the move was made, and the incidents which marked the journey of the officers and employees of the company and the plant between the two cities. The event had been quite thoroughly advertised along the route, and the passage of the special train of 20 cars from St. Louis to Dayton was attended with such demonstrations as are usually bestowed upon the "greatest show on earth" or upon some important political personage along about election time. The train, known as "The Black and Yellow Special," consisted of 18 freight cars equipped for fast running and two passenger coaches. The freight cars were loaded with the office and laboratory fixtures, machinery, supplies, advertising matter, printing plant, etc., while the coaches were comfortably filled with officers and employees of the firm, invited guests, representatives of the press, musicians, etc., to the number of two hundred. Stops were made at several points en route, and large crowds inspected the train and were entertained with music and speeches.

At Terre Haute the drug trade of that city exchanged courtesies with the travelers. Indianapolis was reached on the evening of Aug. 6, where a stop was made for the night. A reception by delegations representing the drug trade and press and a banquet at the Bates House were features of the stop-over at the Indiana capital. The following day was consumed in the trip from Indianapolis to Dayton, and the reception at the latter city was an event of no ordinary character, a reception, parade and banquet testifying to the hearty welcome which was extended by the city through her representative business men to its new acquisition. There were nearly one hundred carriages and turnouts in line for the parade, twenty-one of them being decorated wagons of the company, some of them bearing enlarged fac-similes of the Harter prepara-

tions. There were also eighteen wagons bearing fireworks.

The banquet at the Hotel Atlas in the evening was an elaborate affair tendered by the Dayton Board of Trade to the members of the company. The speeches and toasts served to bring before the new arrivals in a happy manner the manifold advantages of Dayton as a place in which to live and do business, its extensive manufacturing plants, railroad facilities, etc., furnishing plenty of material upon which to dilate.

The special train was in charge of W. M. Hayner, general manager, and W. S. Kidder, assistant general manager of the company, and the long journey of 350 miles, which required an almost endless amount of detail and arrangement, reflected great credit upon their executive ability.

The removal of this large establishment from St. Louis to Dayton, a much smaller city, though one of great promise commercially, is naturally an occurrence which excites much comment in the drug trade. But the Harter medicines are so widely known that the prestige of a big city is not necessary to further extend their reputation, and besides the business was first founded at Troy, a town near Dayton, and afterward removed to St. Louis, so that this second move is but a return to that section of the country in which the firm first became known. In addition to this the members of the company are considerably interested in commercial enterprises in the Miami Valley, and the new location at Dayton enables them to keep these better in hand.

Dr. M. G. Harter the originator of the Harter medicines, was for many years a practicing physician at Troy, O. The manufacture of his preparations was one which naturally grew out of his success as a practitioner, and in 1866, his facilities at Troy having proved inadequate, the business was transferred to St. Louis, where his brother, S. K. Harter, became interested in their manufacture. Upon the death of M. G. Harter in 1873 a stock company with a paid-up capital of $300,000 was formed, S. K. Harter owning a controlling interest. In anticipation of the present move, the corporation surrendered their charter in October, 1894, and the business is now operated as a copartnership with S. K. Harter, W. M. Hayner and W. S. Kidder as managing members.

The new Dayton home of the company is one of the handsomest buildings in the city, and was constructed especially for its use. The structure is of brick, iron and glass, six stories high, located at the corner of First Street and the Canal. The building has a floor space of 70,000 square feet, and is perfectly supplied with all the necessary machinery and appliances for manufacturing and conducting the business of the firm. One of the features of the structure is a dome, the apex of which is crowned with a mammoth bottle representing "Iron Tonic," and which, while emblematic of the firm's business, serves a further purpose as a supply reservoir, holding forty barrels of water.

John Hodge.

John Hodge, treasurer and manager of the Merchants' Gargling Oil Co., died very suddenly at his residence in Lockport, N. Y., Aug. 7. Though he had been indisposed for some months, he was on the streets and around the morning of his death. He had just sat down to dinner when he straightened out in his chair and expired.

Mr. Hodge was born in Jefferson County, N. Y., in 1837 and found his way to Lockport when that city was little more than a village. In early life he evinced a liking for the study of law, but this was relinquished and he became associated with the Merchants' Gargling Oil Co., a connection which he maintained until the time of his death. He was recognized as a representative business man, had been active in a variety of fields in his adopted town and was a commissioner of State Reservation at Niagara.

In 1871 Mr. Hodge built the Hodge Opera House in Lockport, at a cost of $125,000. It was burned down shortly after it was erected and was rebuilt. Mr. Hodge declined the nomination for mayor of Lockport, which was offered him in the spring of 1878. He was interested in educational matters, and was for several terms the president of the Board of Education at Lockport. In 1871 he began to present a valuable medal to the pupil of the Lockport Union School who was the most worthy of it. It is known as the "Hodge Medal." Mr. Hodge was the treasurer and manager of the Gargling Oil Co. He was the treasurer and a director in the Utica, Lockport & Lake Ontario Railroad, and the treasurer of the Lockport & Buffalo Railroad.

In Masonic circles Mr. Hodge had an extended acquaintance, having held in 1894 the important office of Grand Master of the Grand Lodge of Masons of New York State. He was also Grand Receiver of the A. O. U. W. of this State and Chief of Scottish Rite. He was also well known as a member of the National Wholesale Druggists' Association and of the Association of Manufacturers and Wholesale Dealers in Proprietary Articles. As chairman of the Committee on Legislation in the latter association his efforts were appreciated and his words of counsel were often sought by his fellow-members. His funeral occurred Saturday, Aug. 10, and was attended by a large concourse of people. Messrs. F. S. Hubbard and representatives of Plimpton, Cowan & Co., Buffalo, Paine Drug Co., and E. H. Davis & Co., of Rochester, were present from the N. W. D. A., and the Association of Proprietors was represented by a committee composed of members of the World's Dispensary Medical Association, and D. Ransom, Son & Co., of Buffalo, and H. H. Warner & Co., of Rochester.

Death of Berkeley McKesson.

Berkeley McKesson, aged 20 years, the second son of John McKesson, Jr., of McKesson & Robbins, died on last Thursday evening, Aug. 8, of blood poisoning, after a sickness of six weeks. He had been staying at the Storm King Club, Cornwall-on-the-Hudson, and died there. His funeral took place at the residence of his parents, No. 247 Fifth Avenue, on Saturday last.

Mr. McKesson was injured about a year ago, and his untimely decease was a direct result of the blow then given accidentally. He had been engaged in business with his father's firm and was well liked by all associated with him.

Death of H. H. Hay.

Henry Homer Hay, the oldest druggist in Portland, Me., died on Aug. 9, aged 75 years. Mr. Hay was born at Waterford, Me., in 1820 and his family removed to Portland in 1828.

Mr. Hay became a clerk at 17 years of age in the drug, paint and dye-stuff establishment of Masters & Co., subsequently T. R. Hayes & Co., located at No. 230 Middle Street. In 1841 he entered into business with Robert Dresser under the firm name of H. H. Hay & Co., to carry on the wholesale paint and drug business.

Two years after forming his partnership with Mr. Dresser he sold out to his partner and purchased W. W. Lincoln's stock and fixtures at No. 14 Monument Square. In 1856 he removed to the present store formed by the junction of Free and Middle Streets, where he remained until the time of his decease, having taken his sons Charles and Edwin into partnership.

Mr. Hay was a member of the New Church, and his life was in strict accord with its teachings. He was a man of modest and quiet demeanor, simply honest and direct in sincerity of character. He was very fond of his home and family, and invariably interested in the welfare of the sick or distressed.

He was one of the oldest Odd Fellows in the city, having joined Ligonia Lodge in December, 1843. He was also a member of the Eastern Star Encampment and Atlantic Lodge of Masons, the Natural History Society and Board of Trade.

He belonged also to the Portland Paint and Oil Club, the New England Paint and Oil Club, the National Wholesale Druggists' Association, and was one of the first to join the American Pharmaceutical Association. He naturally by the laws of heredity took up the

handling of medicine, his father, grandfather and great-grandfather all having been physicians.

Prof. D. H. Robinson.

The following particulars, additional to the notice in the Aug. 1 Era, are supplied by Prof. L. E. Sayre:

Prof. D. H. Robinson, of the University of Kansas, and author of "Latin Grammar of Pharmacy and Medicine," died Sunday, July 20, 1895, at his residence in Lawrence, Kan., after a brief illness. He was preparing to take charge of the Latin department of the summer school in Colorado Springs, when diarrhœa showed itself and in the course of a few days proved to be the premonitory symptoms of typhoid fever. The disease took such firm hold that in a few days he was beyond all hope of recovery. Prof. Robinson was a graduate of Rochester University, which institution recently conferred upon him the degree of Ph. D. He was born June 24, 1837, on his father's farm in Cayuga Co., N. Y. In 1864 he came to Kansas, and in 1866 began his connection with the institution with which he has since been connected—he with Prof. F. H. Snow constituting at first the entire faculty. As a Latin scholar and instructor he has attained a national reputation. He was the full type of the scholar, the gentleman, the Christian. He has passed from our sight, but his memory will always be fragrant, precious and his work lives after him.

George H. Vrooman.

George H. Vrooman, president of the National Paint, Oil and Varnish Asociation, resident of Chicago and widely known to the paint trade, lost his life Aug. 5 under peculiar circumstances. He was bathing in the natatorium of the Chicago Athletic Association and swimming to the edge of the pool attempted to climb out. He was seen to fall backward, and though quickly rescued from the water the hardest efforts of physicians did not avail for his resuscitation.

A meeting of the Executive Committee of the St. Louis Paint, Oil and Drug Club was held Aug. 7 at 3 P. M. President Kent said he had called the meeting to take action on the death of Mr. Geo. H. Vrooman, president of the National Paint, Oil and Varnish Association, which occurred suddenly at Chicago on the afternoon of the 5th inst. Mr. Kent said that he had already authorized the treasurer, Mr. Geo. S. Mepham, to wire an order to Chicago for an appropriate floral tribute on behalf of the St. Louis club. This action of Mr. Kent was unanimously indorsed by the committee. On motion of Mr. Robert Whitelaw, Messrs. Kent, Mepham and Stearns were appointed a committee to draft resolutions of sympathy and regret.

—H. Othmer & Co. will open a new drug store at Forty-seventh Street and Grand Boulevard, Chicago. Their stock was purchased of the Chicago house of Whitall, Tatum & Co. on Aug. 9.

Wholesale Drug Club.

St. Louis, Aug. 10.—It is almost certain that the Wholesale Drug Club of St. Louis will disband at its meeting Aug. 13. The club has been organized two years. Its object was to promote and protect the interests of the trade; to unite the wholesale trade of the city in reforming abuses, and to create friendly feelings by social intercourse and interchange of views on subjects pertaining to the wholesale drug trade.

It was claimed by representatives of several wholesale drug houses that the resignation of the Meyer Bros. Drug Company, handed in at the last meeting, will make it necessary for the club to disband, because the resigned firm will probably act independently of the rates of the club, and each house should be in a position to protect its interests.

George K. Hopkins, of the Hopkins-Weller Drug Company, said: "The object of the organization was mutual protection. If Meyer Brothers withdraw it will be necessary for the club to disband for individual protection. There were many things which entered into the work of the club, small in themselves, but have resulted in great benefit to the wholesale trade. Before the club was formed retail druggists would telephone an order for a one-twelfth dozen bottles pills. This would mean one bottle, cost ten cents. Wholesale houses kept armies of small boys to deliver such orders. There was no money in it. The organization has adjusted this and similar abuses of the trade. Now, instead of buying in such small quantities the retailer orders six bottles; that means a sixty-cent order, which is just as easy to deliver, and not so expensive to the wholesale dealer as when the messenger was sent out six times for the same order. This is only one of the benefits to the wholesale trade. We enjoyed reunions and gave dinners which tended to create pleasant social relations. When one member of the family leaves the circle it makes it unpleasant for those who remain. It may be advisable to disband."

The club was composed of the six wholesale drug houses in the city, viz.: J. S. Merrell Drug Co., Meyer Bros. Drug Co., Moffit-West Drug Co., Hopkins-Weller Drug Co., Collins Bros. Drug Co. and Daugherty-Crouch Drug Co.

The officers were: Courtney C. West, president; George K. Hopkins, vice-president; Theodore F. Meyer, secretary; C. P. Walbridge, treasurer. Executive Committee: Courtney C. West, Mr. Graham, of the Daugherty-Crouch Drug Co., Mr. Miller, of Collins Bros. Drug Co., George K. Hopkins, C. P. Walbridge and Theodore F. Meyer.

With reference to the trouble Gustave J. Meyer, Secretary of Meyer Bros. Drug Co., made the following statement to your correspondent: "The trouble is this—the rules of the club provide that only one delivery shall be made per day. We are charged with making two deliveries per day or rather irregular deliveries, taking back containers and making concessions in prices. The charges have been made in writing, but we deny their truth. We have abided by the rules and regulations of the club, but could, if we were so disposed, bring similar charges against other members of the club. But this is simply an instance. Many of the rules of the club were arbitrary. We had them modified as much as possible, but could not get all the concessions we wanted. There were other annoying features. We believe in live and let live. The rules of the club were too strict. We believe in a broad gauged policy. We believe we are here for the benefit of the retail trade, and propose to cater to it. A great many complaints have been made by the retailers as to the stringent rules of the club, and upon investigation we found that they were well founded, hence we thought it best to step down and out."

Courtney C. West, the president of the co-called combine, is in the East at present, and his version of the trouble could not be ascertained.

Only a Scheme to Rob.

DRUGGIST WINDOLPH'S CLERK CONFESSES THAT HIS CLEVER STORY WAS FALSE.

J. Ford Windolph is the druggist at State Street and Flatbush Avenue, Brooklyn, who some time ago saved himself from being robbed by throwing ammonia at two burglars who had managed to get into the store. Now his store has become known to the public again through a fake story told by Mr. Windolph's clerk. This young fellow, Herbert McConnell, reported to the police last week that a thief had come into the store, bound him and robbed the till of $101. The story told was very circumstantial and made almost a column in some of the New York newspapers. The clerk had, according to his own story, been threatened with a pistol, gagged with a wad of rags and tied with curtain ropes. His hands were tied behind his back, his eyes blackened and a blow on the back of the head given him. He was found by Mr. Windolph at 7:30 in the morning and the police were called in. They were suspicious from the first, but did not know what to make of the many wounds on the clerk's face.

In a day or two McConnell confessed that the whole story was an invention. He and his room-mate, C. E. Louthood, had planned the robbery. Louthood wanted $80. McConnell let him into the store at 2 o'clock in the morning. He tied the clerk, punched him in the face, chloroformed him and then took the cash. Louthood was arrested and confessed also. Both were locked up in Raymond Street Jail and will shortly be sentenced. Almost all the money was recovered.

—Lyman-Jeffreys Co. is a newly incorporated Buffalo firm, which proposes to deal in drugs and all the articles which make up the ordinary drug stock. Its capital is $30,000, subscribed by Charles W. Jeffrey, John S. Gotshall and George A. Jeffrey, all of Buffalo.

Judgment by Consent.

St. Louis, Aug. 8.—In the United States Circuit Court at this point yesterday judgment by consent was entered in the trademark infringement cases brought by Chas. I. Hood, of Massachusetts, and the Wells & Richardson Co. of Vermont, against the Allen-Pfeiffer Manufacturing Co. of St. Louis. In accordance with the stipulation Hood was awarded one cent damages and the Wells & Richardson Co. $100. The defendants confessed to having manufactured a preparation known as "Hodd's Sarsaparilla" with the hope that the public might take it for "Hood's Sarsaparilla," and "Haine's Extract of Celery," which the incautious purchaser might think was "Paine's Celery Compound." The defendants also agreed to refrain in the future from manufacturing the imitations, which was the principal object of the suit.

Ohio Food Commission Victorious.

Cincinnati, Aug. 12 (Special).—The case of the Food Commission on behalf of the State versus Herman Mueller, a salesman for the Charles A. Looker Rectifying Co. of this city, whose arrest on five charges of selling impure vinous and spirituous liquors was announced in last week's issue of the Era, was called for trial Saturday morning before Justice Winkler and promptly disposed of by the defendant pleading guilty to each of the five counts and paying $415, the aggregate amount of the fines, $50 in each case and the court and analysis fees.

Mr. Mueller was fined $100 for selling a compounded wine as a pure medicinal sherry wine. The sudden termination of this case created some surprise here, as it was generally presumed that the powerful Liquor Dealers' Protective Association of Ohio was assisting the Turner Co. in contesting the case, as has been customary heretofore when a liquor prosecution arose.

Sale of Poisons in Philadelphia.

Philadelphia, Aug. 10.—The druggists are somewhat exercised over a statement in one of the daily papers that poison could be obtained without much trouble and without going through the formula prescribed by law. It appears that a reporter by making false representations secured a number of poisonous drugs. It is contended that the law relative to the dispensing of poison is somewhat lax, and if it was strictly enforced it would result in a hardship to many. It is also said that there are a number of druggists who pay little heed to the law. The city authorities have taken the matter up and in future will prosecute all druggists who do not comply with the law. A few days ago the district attorney presented a bill to the Grand Jury, in which three West Philadelphia druggists were charged with selling poison to a man who afterward attempted to commit suicide. It appears that the facts as laid down in the bill were not enough to warrant the holding of the druggists, and the Grand Jury exonerated them.

Druggists Are His Game.

Minneapolis, Minn., Aug. 7.—A morphine fiend of the city has been working the principal drug stores lately in a rather smooth manner. This is his plan. He will enter a store and request a package of morphine, which is everywhere sold for half a dollar. Taking it from the clerk he places it in his pocket and then asks the price. The clerk informs him that it is never sold for less than 50 cents. The purchaser expresses surprise and intimates he has been in the habit of getting it for 35 cents. The druggist tells him such is less than cost, and expresses doubt that it could be procured for that money. The visitor says he has got it for that amount and will do so again, and hands the package from his pocket. When he has gone it is learned that the morphine slave got away with the package, leaving one resembling it in the care of the druggist.

Massachusetts Druggists Under Fire.

Holyoke, Mass., Aug. 9.—Extraordinary interest has been manifested in this city in the action of the local Board of License Commissioners compelling several of the prominent druggists to appear before them and submit to close questioning in regard to sales of liquor. All this was done at the instigation of the State Board of Registration in Pharmacy, whose agent has been investigating matters. One dealer was accused of keeping a large quantity of beer on hand; others were forced to admit laxity in the recording of sales. They were not represented by counsel and freely answered all the inquiries made. What conclusion the License Board reached at the private session at the close of the hearing remains a secret, but it is supposed that a sharp warning will be given to all druggists to be more careful in observing the law.

Dr. Hammond's Animal Extracts

Washington, Aug. 9.—Dr. William A. Hammond made another move yesterday in the litigation between himself and the Columbia Chemical Company over the manufacture of animal extracts by filing a cross-bill. The Columbia Company brought a petition in equity May 17 last for an injunction to prevent Dr. Hammond from manufacturing the extracts except under a contract signed some months ago with the company. This was granted as asked after argument, saving certain restrictions about the use of Dr. Hammond's name in advertisements. By the cross-bill, filed yesterday by Mr. Samuel Maddox as solicitor, a rule was issued on the Columbia Company to show cause Aug. 12 why the temporary restraining order of June 25 should not be dismissed.

The cross-bill asks that the contract between Dr. Hammond and the Columbia Chemical Company be dissolved. It is claimed by Dr. Hammond that the company is publishing advertisements and letters that are false and fraudulent and that extracts are being manufactured at the office on Fourteenth Street, although the contract specifies that they shall be manufactured under Dr. Hammond's supervision. Further complaint is made that the company has sold medulline under the name of muscaline because their stock of the former was exhausted when an order was received from a customer. A last charge is made that the company is now selling extracts made from materials bought in Chicago and brought here in an ice box, being four or five days in transit. It is urged that this impaired the virtue of the medicine and that the company has refused Dr. Hammond a request to re-treat it.

Poor Trade in Baltimore.

Baltimore, Md., Aug. 12.—For some time it has been apparent to those familiar with the situation that critical days were approaching for the retail drug trade in Baltimore. Not only has the business of pharmacists been seriously affected by the commercial depression which lessened the earning capacity of the people, but it also suffers from competition within and without. In the latter classification belongs the injury inflicted by department and cut rate stores and the steadily progressing division of the business. Until a comparatively recent date pharmacies had almost exclusively the sale of many articles which can now be obtained almost everywhere. In his desire to make both ends meet the druggist added to his stock, it is true, but his hitherto exclusive domain was also invaded more and more, and in the end he was the loser. Under the head of competition within comes the multiplicity of drug stores far in excess of the actual requirements. There are over three hundred depots for the sale of medicines in Baltimore, and some of them must go to the wall. The strain upon the proprietors has now reached the snapping point. Not less than three druggists have made assignments in as many days. On Tuesday of last week Arthur L. Tumbleson, whose store is at the southeast corner of Broadway and Lombard Street, executed a deed of trust to Edward D. Fitzgerald for the benefit of creditors. A bond of $2,000 was given, indicating assets of half that amount.

On Aug. 7 Albert E. Schmidt, whose pharmacy is at the corner of Pennsylvania Avenue and Bloom Street, made a deed of trust to Frederick Leist. Mr. Schmidt estimates his assets and does not believe that his liabilities will exceed that amount. A contributing cause of failure in this instance was the long continued illness of Mrs. Schmidt.

On the following day John K. B. Emory, of Park Avenue and Dolphin Street, applied for the benefit of the insolvency laws and Thomas A. Murray was appointed trustee, giving $2,000 bond. The amount of assets and liabilities is not stated, but Mr. Murray assigns as the direct cause of the failure Mr. Emory's ill health and his consequent inability to look after the business.

——The Palestine Drug Co. is a new St Louis corporation. Its capital is $12,000 and the incorporators are P. Homeff, S. A. Whitman, M. B. Bick and John Bick.

Poison Easy to Secure in St. Louis.

St. Louis, Aug. 8.—A local newspaper demonstrated the other day that it was quite an easy matter to secure poison in St. Louis, although the law is very strict about the matter. Half a dozen druggists were caught unawares and sold a representative of the paper enough poison to kill an army. Although no official action was taken with reference to the matter, it is thought that the druggists will take the hint and in the future pay stricter attention to the matter, else it may get them into hot water. The law prescribes a heavy penalty for any one selling poison in quantities sufficient to kill.

A Selectman Accused of Permitting Illegal Sales of Liquor.

Boston, Aug. 12.—In the course of his sermon yesterday one of the prominent clergymen of Milford said: "Observe, now, some of the violations of the liquor law. One of the selectmen told me that he knew of a druggist who sold any quantity of liquor, yet he allowed him to do it. A man told me, who frequented this drug store on Sundays, that the proprietor averaged $50 every Sunday for the sale of liquor and $20 for the sale of drugs. At 10 cents a drink that would make 500 drinks on one Sunday. Some of the other drug stores have been nearly as bad. Men under the influence of liquor could be seen leaving them."

Snakeroot.

St. Paul, Minn., Aug. 9.—One of the St. Paul wholesale drug houses has just shipped a large quantity of Seneca snakeroot to Bavaria, Germany. The root grows nowhere but on the Western prairies, and over 100 tons will be shipped from Minnesota and the Dakotas this year. Some years ago when the Indians at White Earth, this State, were on the verge of starvation, a missionary applied to the head of the above-named drug house for advice. He was informed that the Indians might gather snakeroot and the druggist would take all they could furnish at a fair price. Since then the Indians have received quite an income from the industry.

Fined for Selling Impure Water.

Boston, Aug 9.—There was a novel case heard to-day in the Chelsea Police Court, a drug clerk at Crescent Beach being arraigned on a charge of selling to a State inspector a small quantity of impure water labeled "Aqua Destillata," which under the laws of the State must be free from all impurities. It was alleged by the Government that an analysis of the water showed that it contained impurities. The defense was that the impurity was caused by the air or gases getting into the water while being opened. The clerk was found guilty and fined $5.

—The Imperial Chemical Company, with a capital of $5,000, has filed articles of incorporation at St. Louis. The incorporators are: William Shults, 100 shares; H. G. Stripe, 99 shares and Jacob Leonhardt, 1 share.

New Antitoxine Experiments.

St. Louis, Aug. 10.—The Health Department of this city has resumed the work of producing antitoxine and proposes to make experiments on the new plan. Supply Commissioner Richardson recently sent to Philadelphia for fifty guinea-pigs. These are to be used for producing the perfected antitoxine, which is considered superior to that secured from the horse. Guinea-pigs are not always obtainable in lots of fifty and the department had to go to considerable expense to get what it wanted. The experiments are to be made at Quarantine, under the supervision of Dr. Ravold, bacteriologist of the Washington University.

Report of the Patent Office.

The Commissioner of Patents, John B. Seymour, has submitted to the Secretary of the Interior a summary of his report for the fiscal year ended June 30, 1895.

It shows that during that time there were 36,972 applications for patents received; 1,453 applications for designs; 77 applications for reissues; 2,314 caveats; 2,183 applications for trademarks, and 318 applications for labels. There were 20,745 patents granted, including reissues and designs; 1,804 trademarks registered, and 6 prints registered. The number of patents which expired was 12,906. The number of allowed applications which were, by operation of law, forfeited for non-payment of the final fees were 3,208. The total expenditures for the year were $1,195,557, the receipts over the expenditures $157,390, and the total receipts over expenditures to date to the credit of the Patent Office in the Treasury of the United States, $4,566,757.

Hodgkins Prizes Awarded.

The Committee of Award for the Hodgkins Prizes of the Smithsonian Institution recently completed its examination of the 218 papers submitted in competition by contestants from almost every quarter of the globe, and announced on Aug. 6 the following decisions:

First prize of $10,000 for a treatise embodying some new and important discoveries in regard to the nature or properties of atmospheric air to Lord Rayleigh, of London, and Professor William Ramsay, of the University College, London, for the discovery of argon, a new element of the atmosphere.

The second prize, of $2,000, was not awarded, owing to the failure of any contestant to comply strictly with the terms of the offer.

The third prize, of $1,000, to Dr. Henry de Varigny, of Paris, for the best popular treatise upon atmospheric air, its properties and relationships. Dr. de Varigny's essay is entitled "L'Air et La Vie."

A considerable number of papers submitted in competition received honorable mention, coupled in three instances with a silver medal, and in six with a bronze medal.

The American committee was composed of the following members: Dr. G. Browne Goode, appointed by the secretary of the Smithsonian Institution; Assistant Surgeon-General John S. Billings, by the president of the National Academy of Sciences; Professor M. W. Harrington, by the president of the American Association for the Advancement of Science.

A Foreign Advisory Committee, composed of the late Professor Huxley, M. Jansen, of the French Academy of Science, and Professor Wilhelm Von Bezold, director of the German Meteorological Service, has been consulted in connection with the award of the prizes.

Honorable mention with silver medal was awarded to F. A. R. Russell, vice-president of the Royal Meteorological Society of Great Britain; to C. L. Madsen, of Copenhagen, and to A. L. Herrera and Dr. Vergara Lopez, of the City of Mexico. Honorable mention with bronze medal was awarded to Drs. Franz and Carl Oppenheimer, of Berlin; Alexander McAdie, of the United States Weather Bureau; Dr. O. Jesse, of Berlin; Hiram S. Maxim, of Kent, England; Dr. A. Loewy, of Berlin, and E. Deberaux-Dex and Maurice Dibos, of Rouen, France. Honorable mention was also awarded to Dr. C. Smart, United States Army; Dr. A. Marcuse, of Berlin; Dr. A. Magelssen, Christiania, Norway; Professor C. Nees, Copenhagen; Dr. F. J. B. Cordeiro, United States Navy; Professor F. H. Bigelow, Washington; E. C. C. Baly, London; Dr. F. Viault, Bordeaux; Professor E. Giesler, Bonn, Germany; Dr. J. B. Cohen, Leeds, England; Professor Emile Duclaux, Paris, and Dr. Ludwig Eilosvay von Nagy Ilosva, Budapest, Hungary.

The Hodgkins Fund, from which these prizes were drawn, was donated in October, 1891, by Thomas George Hodgkins, of Setauket, N. Y. The donor specified that an income from a part of this fund was to be devoted to the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man. An announcement of the prizes which were offered was made by the secretary of the Smithsonian Institution in March, 1893. The offer of a prize of this value excited general interest throughout the civilized world. It is not likely that the income from this fund will be expended exactly in this way another year, but another method may be adopted which will accomplish the same purpose.

Hitting a Rival.

It is not everybody who can deal a competitor a crushing blow, and at the same time temper the stroke with an appearance of naiveté which hides bitterness of feeling. As an illustration of this a writer in the Youth's Companion quotes the following from a country storekeeper:

"It would," he says, "kinder offend my customers if I give 'em fly powder instead of cinnamon, same's Michael Thomas done, over to the cross-roads. Mrs. Fletcher, she tinctured her gingerbread up with the fly powder, an' it wa'n't what you'd call an up an' down success. It made feelin' betwixt her an' Michael, an' she drives clear over here now to trade."

NEW YORK AND VICINITY.

——R. S. Johnston, of Merck & Co., is back from the West.

——J. F. Pound, of Dodge & Olcott, is in town from Detroit for a few days.

——Theodore Weicker, of Merck & Co., is expected home the first of next month.

——Charles Weisz, of McKesson & Robbins, goes away this week for his annual outing.

——Eugene Webb, of Stevens & Webb, has been spending two weeks in Portland, Me.

——William H. King, of Raleigh, N. C., has been in town for a few days on a vacation trip.

——T. B. Breen has returned from a vacation trip up the State, much refreshed by his outing.

——Druggist Manning, of Manning & Stevens, Bound Brook, N. J., called on friends in this city last week.

——Miss Nellie Sullivan, cashier in Perry's Sun Pharmacy, is at the Thousand Islands for a two weeks' outing.

——John Paul Jones, New York salesman for Sharp & Dohme, has returned from a pleasant trip to Maryland and Virginia.

——Peter Van Schaack, of Chicago, accompanied by his wife, is spending a few days at the Brunswick en route to the seashore.

——John Lewis, Brooklyn salesman for McKesson & Robbins, is spending his two weeks' vacation at Asbury Park with his family.

——J. Applebaum has taken the position of junior clerk with S. Glevan, No. 258 East Broadway, corner of Montgomery Street, this city.

——Lefferts Vanderbilt, the well-known manufacturer of soap at No. 14 Water Street, in this city, died on Aug. 5 at his home in Brooklyn.

——H. De L. Palmer's drug store at No. 110 Main Street, Binghamton, was entered by burglars recently. Only $50 worth of property was taken.

——Eugene G. Kessler, N. Y. C. P., '86, nephew of Druggist Kessler, of Thirty-fourth Street and Second Avenue, this city, has taken up the study of medicine.

——Louis A. Spaeth, N. Y. C. P., '91, has resigned his position with H. Fisher & Son, No. 181 Broad Street, Bridgeport, Conn., to come back to New York City.

——Hugo Selesky, formerly with Dr. Jaeckel, No. 1278 Myrtle Avenue, Brooklyn, is now with the William M. Olliffe Pharmacy, No. 6 Bowery, New York City.

——George Macmonacle, who has been with J. A. Carpentier for the past year, has resigned his position with a view to entering the wholesale or manufacturing business.

——Among those who went to Denver from Brooklyn to attend the A. Ph. A. convention were Professors Schimpf and Bartley, of the Brooklyn College of Pharmacy.

——Frank N. Fassett, formerly of Fassett & Messaros, and now with Albert B. Baltzly, at Seventh Avenue and 134th Street, has been spending a few days at Asbury Park.

——S. Cutler Dentz, New Jersey salesman for Sharp & Dohme, will spend a week at Asbury Park, which seems to be a favorite summer resort for New York drug trade men.

——Hammel & Gillis are about to begin the manufacturing of colors in the premises formerly occupied by the Arthur Buel Manufacturing Co., Buckingham Street, Perth Amboy.

——By the will of the Duchess of Castelluccia, who died recently in New York City, Evelyn J. Hudnut, wife of the well-known Broadway druggist, receives one-half of a large estate.

——F. H. Huntley's drug shop in West Troy has a smart clerk, who caught a thief with his pockets full of goods stolen from the counter and made him give them up. The thief was turned over to the police.

——Thomas Burne, of the city department at McKesson & Robbins', will rusticate and breathe the ozonized air of the Catskills for the next two weeks. He will be located at Hunter, Greene County.

——Simon Frumpkin, 40 years old, was found dead on Aug. 4 in a cheap lodging house on the Bowery. From papers found in his room Frumpkin is believed to have been a druggist. His death resulted from heart disease.

——Miss Selma Granat, a graduate of the New York College of Pharmacy, class of '93, has left her position at the William M. Olliffe Pharmacy, No. 6 Bowery, to become analytical chemist for a prominent physician in this city.

——J. A. Sangston, manager of the New York office of the Low Art Tile Co., has been visiting Wilmington, Del., for a week, but is back at his office preparing to still further increase the office's remarkable business of the present year.

——A. A. Mitchell, of Perry's World Pharmacy, has the sympathy of many friends in the loss of his son. Mr. Mitchell is major of the new mounted troop in Brooklyn, and was, in fact, one of the prime movers in its organization.

——Moses A. Huff, at one time a prominent druggist of Lyons, N. Y., died recently. He had been postmaster of the village and later on was confidential clerk in Lyons and Paterson, N. J., for a well-known contractor. He leaves three sons.

——John McGarigle, of Perry's Sun Pharmacy, returned on the Lucania last week from a pleasant six weeks' outing in Europe. He enjoyed a number of days rambling around London, Paris, and Brussels, finding especial attractions in the latter city.

——Henry Eisentrager, a druggist at No. 1882 Third Avenue, has been arrested on a warrant from Coroner Hoeber charging him with complicity in the death of Clara Newman, who died from the effects of criminal malpractice on Aug. 7 in this city.

——The name of Charles Wylie, proprietor, now appears on the sign of the Neergaard Pharmacy, at the corner of Fifty-third Street and Sixth Avenue, in place of that of W. Hofert, manager. The latter has not been connected with the store for a long time.

——Dennis A. Falvey, manager of Garretson's Pharmacy, Main Street, Flushing, L. I., was married on July 31 to Miss Sheriden, of the same place. Mr. Falvey was a graduate of the class of '88, N. Y. C. P., and has many friends who wish him and his bride long life and prosperity.

——Willets Wilson, a graduate of the Philadelphia College of Pharmacy, and formerly employed by McClune & Fisher, of Ithaca, N. Y., has accepted a clerkship with J. A. Carpentier, the druggist at 123d Street and Eighth Avenue, New York City.

——Robert Wenzley, of the package department of McKesson & Robbins, returned from his trip abroad on Saturday, Aug. 3, on the steamship Umbria. He reports having had a pleasant time visiting his parents in Ireland and his numerous friends in England.

——Charles N. Crittenton and a party will leave New York on Aug. 19 in a private car called "Good News," to do evangelistic work throughout the United States. The wealthy Fulton Street druggist proposes to be gone 18 months. The car will be used as a home, and from the platforms Mr. Crittenton and his friends will speak to gatherings.

——J. W. Voorhees, an agent for the Clinton Pharmaceutical Co., was arrested in Ellicottville, N. Y., on Aug. 1 on a warrant charging him with petit larceny. Voorhees was formerly the company's agent in Pennsylvania, and was accused of causing the company a loss of $1,000 through alleged speculations. He gave bonds for further appearance before Judge White in Ellicottville.

——Pretty soon some New York druggist will advertise himself well by placing a sign in his window which will read something like this: "Do you kiss? If so, use our carbolized rose water. It helps make the healthiest, sweetest kisses." All this because the Board of Health officials recommend the use of carbolized rose water as a means of avoiding diseases which may possibly be communicated through indiscriminate kissing.

——There has been no further statement from Police Commissioner Roosevelt in regard to the threatened proceedings against druggists for selling soda water on Sunday. Commissioner Grant said last Saturday: "We are too busy with the Excise law—that is with the saloon keepers. We will get around to the druggists later." So it is evident that the Police Board have not given up the idea of a raid on soda dispensing pharmacists.

——The builders who have been repairing the McKesson & Robbins storehouse on Ann Street, damaged by fire about five weeks ago, will have finished their work in a few days. Within a week it is expected that all the departments that were thrown out by reason of the fire will be in their old places. It is impossible, according to one gentleman connected with the firm, to make an accurate estimate on the loss, but it will run between $20,000 and $25,000.

——Some time ago the Grand Jury of New York County found an indictment

against Percy D. Taylor, bookkeeper of the firm of Ellis & Golderman, dealers in druggists' supplies at No. 88 Leonard Street. The firm believed that Taylor had swindled them by means of forged checks and had then gone to Europe. The district attorney's office sent Detective Jacobs abroad to capture Taylor and he was brought back to stand trial for forgery. He was committed to the Tombs.

——The druggists of suburban towns would make themselves very popular with bicyclists if they would put bicycle racks outside their stores. The cost would be a mere trifle and would attract the wheelmen to the stores. The rural druggist is already highly in favor of the wheel, even if he is not a rider, for his trade in soda water is materially affected by the calls from riders. A Washington Heights druggist tells the Era that at closing time last Sunday night he had 30 bicyclists in his store and outside clamoring for cold soda.

——A press dispatch from Elliston, Ky., dated Aug. 8 stated that Druggist R. A. Dickerson was fatally shot by Dr. A. G. Elliston, of New Castle County. Dr. Elliston had been called by a telegram to Elliston, where his father was dying. Suspecting that Dickerson, with whom he had a deadly feud on account of a lawsuit, would waylay him he armed himself. When the train slowed up he saw Dickerson on the platform and fired on him through the car window. Elliston escaped up the track, but was afterward arrested. Dickerson died in a short time.

——The well-known family of Duryeas in Glen Cove has a new relative by marriage in the person of Fred. Kopetshinny, formerly of Jersey City, but now connected with the drug business of N. J. Finlay & Co. One of the prettiest young women in Glen Cove society was Miss Myra Duryea, who loved the drug clerk but was refused permission to marry him by her father, the well-known Henry T. Duryea. Mr. Kopetshinny and the young woman accordingly ran away to New York and were married at the Little Church 'Round the Corner.

——Druggist E. J. Ehlers, whose store is at the corner of Cedar and Greenwich Streets, in this city, is trying to do a public service by calling attention to the dangerous character of a nuisance in Cedar Street. An old sewer in the street caved in almost two weeks ago, and although prompt notice was sent to the proper authorities nothing was done about the matter for ten days. Meanwhile Mr. Ehlers took disinfectants from his store and sprinkled them liberally into the hole. This he did daily for the sake of the neighbors and their 160 children living within 100 feet of the nuisance.

——Albert E. Chambers, the druggist on Surf Avenue, at Coney Island, came very near death on Monday morning. Mr. Chambers and his wife live over the store. They retired early in the morning leaving the gas burning a little and the windows open, on account of the sultry weather. When the storm came the light was blown out. When neither the druggist nor his wife appeared in the store at 8 o'clock the clerk went to their room, but could get no answer to his knocking. He then discovered that gas was escaping from the room, so he broke in the door. Both Mr. and Mrs. Chambers were unconscious, and it took two doctors over an hour to bring them around all right.

——There is a druggist at one of the resorts near Asbury Park, N. J., who will make his fortune if he has half a chance. He has a soda fountain which is liberally patronized by wheelmen and others who happen to visit this prohibition neighborhood. But it is a new drink of his which is to bring him fame and fortune. A big sign outside calls it "Jim Fizz," and also announces that it is 5 cents. Now the name has a pleasing and suggestive sound to a thirsty man on a hot day, and nine out of ten try it, thinking they will get something they have had before; druggists have such a way of giving queer names to familiar things, you know. The result is disappointing, although the drink is wet and quenches thirst. But it is soft—very soft. An Era reporter saw twelve people ask for it one Sunday afternoon while he was drinking his.

——Two young men, one a decided blonde and the other quite as decidedly a brunette, stood in front of a fountain in a William Street store. There is only root beer sold there, so the dispenser shoved two glasses under the syrup faucet and drew about an inch of the fluid into one glass and considerably more into the other. After adding the water he gave the blonde the glass with the smaller quantity of syrup, whereupon the dark skinned customer said: "That's all right, I like my root beer sweet, but how did you know?" The dispenser smiled and answered: "It is a well known rule that brunettes like all their drinks very sweet, and I follow it. Once in a great while I may make a mistake, but it's not often." The blonde customer hereupon said that his beer had been made just to his taste, and the brunette's opinion that the dispenser knew his business was confirmed.

Molasses Sidewalks.

Within the last month an exchange published the following:

"Louisiana planters are said to hold 25,000,000 gallons of refuse molasses stored in tanks on the various sugar plantations throughout the State. What to do with it, is the question puzzling the owners. Shall it be burned as fuel, distilled for alcohol, or fed to cattle? To throw it away is to create a nuisance. Here is a chance for some inventive genius to turn a by-product into valuable commercial substances."

As an instance of the promptness which the chemist displays in answering such perplexing questions, we find in another exchange within the same period a report from Los Angeles, Cal., indicating that the chemist of the sugar factory at Chino intends to utilize this refuse product in making sidewalks. It is used by simply mixing with sand and it is said that the hot sun has the effect of making it drier and harder, rather than softening it, as one would suppose.

HERE AND THERE.

——Two more soda ash factories for Detroit are projected.

——Lomas & Kessel have opened a new store at Cresco, Ia.

——Charles Morris, druggist of Carbondale, Pa., is dead, aged 29 years.

——The Curtis Medicine Co. has removed from Hallstead, N. Y., to Binghamton.

——A Princeville, Ill., druggist has been bound over to the grand jury for selling maltine.

——The Hancock Chemical Co. of Houghton, Mich., is to be made defendant in a $30,000 damage suit.

——Dr. Martin's drug store at Pomeroy, Ia., was burglarized to the extent of $250 worth of goods Aug. 1.

——There is a county in Georgia which claims the proud distinction of not having a drug store within its boundaries.

——Burglars entered the drug store of Mann Bros., Ann Arbor, Mich., a few nights ago and broke open the cash register, but secured little booty.

——The folding paper-box factory of Brown & Bailey, 412 Franklin Street, Philadelphia, was entirely destroyed by fire Monday morning.

——Miss Juana Neal, daughter of the late Dr. T. L. Neal, of Dayton, O., and Mr. Alexander Levy, of the Chicago branch of John Lucas & Co., were married at Los Angeles, Cal., on July 18.

——Thomas O'Connor, 15 years old, a clerk in the drug store of Henry Evans, 938 F Street, N. W., Washington, D. C., was painfully burned about the lower limbs on the night of Aug. 7 by an explosion of alcohol.

——Frank Higgins, proprietor of a drug store in Des Moines, Ia., was permanently enjoined in 1892 from the illegal sale of liquors. He is now asked to explain why he should not be fined for contempt of court in having violated the injunction.

——The members of the Board of Directors of the Philadelphia Drug Exchange have about completed all arrangements for the removal of the Exchange to the new Bourse Building. This Exchange will co-operate with the other in the building in regard to giving out news relative to the trade.

——The pharmacy which Prescott B. Loveland has fitted up in the Equitable Building, at Baltimore, was opened on Aug. 7. It is beautifully appointed, with oak shelving and counter and Tennessee marble soda water fountain. The window was adorned with a pretty display of fancy soaps on the occasion of the opening.

——George M. Smythe, who represents John M. Maris & Co., of Philadelphia, has just returned from a successful trip through the West. In speaking of the business outlook he said that there was more of an improvement west of Chicago than there was east. Things are more prosperous in the West, and the druggists are doing a much better business. They are buying in large quantities and there is not much trouble experienced in securing prompt payment.

——About thirty-five years ago several young cork trees were sent to Sanders-

ville, Ga., by the Government, and set out to test their adaptability to the climate. Three or four are yet living, and the largest one is more than 2 feet in diameter. Last week it was stripped of its bark around the trunk, and samples of the cork will be forwarded to the Agricultural Department at Washington and to the Atlanta Exposition. The bark, or cork, is two and a half inches thick, and is good material.

——W. T. Sims, a salesman in the employ of the Daugherty-Crouch Drug Co., St. Louis, in entertaining a heavy customer treated him to some ale and cigars out of the firm's stock. Later, finding that these refreshments had been charged to his personal account, the salesman remonstrated to John Crouch, a member of the firm. A wordy wrangle ensued, terminating in quite severe physical chastisement of the salesman, who has now commenced action against Mr. Crouch on a charge of assault and battery.

——A burglar broke into the drug store of J. N. Pain, at North Capitol and R Streets, Eckington, near Washington, D. C., about 12 o'clock on the night of Aug. 5 and coolly proceeded to pack up goods preparatory to removing them, in spite of the warnings and repeated cries of a frightened woman, the blowing of a police whistle and a general alarm. Only when a pistol was fired did the thief desist and make his escape by jumping through a show window. It was the third attempt within three months to burglarize the place. The second time the police nabbed one man and took him to the station. They did not know that his confederate was inside, and he walked off undisturbed with the contents of the cash drawer. The captured thief got six months in jail. A sub-postal station is located in Mr. Pain's store.

In Memory of Samuel M. Strong.

Messrs. George M. Olcott, Thomas F. Main and S. W. Bowne, who were appointed a special committee to draft resolutions in memory of Samuel M. Strong, of Cleveland, the late treasurer of the N. W. D. A., submitted the following, which was adopted by the Drug Trade Section of the New York Board of Trade, and then engrossed in album form for presentation to the family of the deceased gentleman:

"The tragic death of Samuel M. Strong having shocked and saddened his countless friends throughout the country, the Drug Trade Section of the New York Board of Trade and Transportation has, by resolution, directed the committee to express to his family and partners in Cleveland the sympathy of the New York trade in the sorrow that has come so unexpectedly.

"Through his many years of honorable business dealings, his long and efficient service as treasurer of the National Wholesale Druggists' Association, and his genial presence at its annual meetings, Mr. Strong won and retained the respect and hearty friendship of all who had held companionship with him, and his untimely death has caused a vacancy in the ranks of the drug trade of the United States which cannot be filled.

"We, of New York, shall share with his family and business associates the pleasant inspiring remembrances of his life and character, as we share in the pain and sadness of their bereavement.

"Adopted by the committee.

"New York, June 25, 1895."

ASSOCIATIONS, CLUBS, SOCIETIES.

CONVENTION OF THE N. W. D. A.

Following is a copy of the official notice to be sent out next week to members of the National Wholesale Druggists' Association, by President Thomas F. Main:

"You are hereby notified that the annual meeting of our association will be held in the city of Denver, Col., on Monday, Sept. 2, next. The subjects to be discussed at this meeting are of great importance, and I desire to call special attention to the necessity of your being present, in person, if possible, or by representative, if you cannot yourself attend. As it frequently happens that the member of a firm in attendance is not in posession of statistics in relation to all branches of the business, I call attention to the following partial list of reports which will be acted upon, and the information in regard to each subject which it would be well for members to have, in order that the reports may be intelligently discussed:

"Proprietary Goods—Are there infractions of rebate terms in your section? Are your sales interfered with by proprietors selling quantity lots to retailers? If so, are such quantities legitimately used by purchasers?

"Paints, Oils and Glass—Have your profits from the sale of these goods been satisfactory during past year? If not, can you suggest a plan to make them more profitable?

"Box and Cartage—Percentage of cost of box and cartage on gross sales. Does such percentage include the cost of in as well as out cartage? Cost of free delivery in city and suburbs, expressed as percentage on gross sales.

"Fire Insurance—Rates you are paying on building; on stock; on stock in warehouse.

"Transportation—Unjust classification of any articles.

"Credits and Collections—Time on which goods are sold. Average time taken by customers. Percentage of customers who cash their bills. Cash discount allowed.

"Commercial Travelers—Cost of selling goods through travelers, expressed as percentage on gross sales.

"Transportation to Denver—An excursion rate of one and one-third fares has been secured for our members. Mr. John M. Peters, chairman of the committee, will issue, in a few days, a circular giving full details in regard to the trip, which will be arranged so as to carry our members over first-class roads and secure the greatest amount of comfort obtainable.

"Entertainment—The Committee on Arrangements, of which Mr. William A. Hover is chairman, has adopted a programme which provides not only for the entertainment of our members while in Denver, but for a tour though the Rocky Mountains, after the close of the meeting, which will afford an opportunity of visiting the most famous places of scenic interest in Colorado."

Rates for the N. W. D. A. Meeting.

The Committee on Passenger Rates and Routes for the coming meeting of the N. W. D. A. has secured the one and one-third fare rate from all of the railroad companies, and has selected the Burlington Route as the line over which the Eastern parties will go from Chicago or St. Louis.

The New York delegation will leave on Friday, Aug. 30, at 1 P. M., by the New York Central, and will be joined at Albany by the New England delegation, leaving Boston at 10:30 A. M. that day. The route to Chicago will be via New York Central and Michigan Central Railways, and the parties expect large additions on the way. Parties going from St. Louis will leave that city 8.45 Saturday evening, and at Lincoln will join the parties going via Chicago, who will leave the latter city Saturday evening and spend Sunday at Omaha.

The committee will mail a circular, giving all details, to members, and hopes for a large atendance from points in the East.

FOR THE A. Ph. A.

Baltimore, Aug. 10.—The Eastern delegates to the annual meeting of the Americal Pharmaceutical Association, which commences on the 14th inst. in Denver, left this city over the Baltimore & Ohio Railroad at 10:50 o'clock last night. There were some twelve delegates from Boston and other points in New England, twelve or fourteen from New York, about eight from Philadelphia and Eastern Pennsylvania and four from Baltimore, these being Prof. Wm. Simon, Prof. Charles Caspari and Alfred Dohme, representing the Maryland College of Pharmacy, and Arthur Quandt, of Quandt Bros. Dr. Culbreth expected to go, but at the last moment found it impossible to do so. With the Baltimoreans Mr. John F. Patten, of York, Pa., boarded the train. The party were joined at Washington by several other delegates. The route was by way of Wheeling, W. Va., and Cincinnati, each point augmenting the number to St. Louis, where Sunday was to be spent in sightseeing and where the resident druggists had arranged an entertainment programme.

——The following ladies and gentlemen are among those who departed Sunday evening from Chicago via the Santa Fe Railway to attend the Denver meeting: Professor C. Lewis Diehl, Louisville, Ky.; Geo. C. Voss, wife and daughter, Cleveland, O.; R. C. Hecker, wife and daughter, Cleveland, O.; Louis C. Hopp, Cleveland O.; Prof. Kauffman, Columbus, O.; Geo. H. Sohrbeck, Moline, Ill.; R. C. Hattenhauer, Peru, Ill.; Chas. Zimmerman, Peoria, Ill.; Paul G. Schuh and wife, Cairo, Ill.; W. F. Torbert, wife and daughter, Dubuque, Ia.; R. W. Diller, Springfield, Ill.; Prof Hurty, Indianapolis, Ind.; Leo Eliel and sisters, South Bend, Ind.; Clay W. Holmes and wife, Elmira, N. Y.; Dr. D. N. Cooley and wife, South Bend, Ind.; Geo. McDonald, Kalamazoo, Mich. From Chicago; Thomas V. Wooten, Prof. Oldberg, W. N. Sempill and wife, Henry Goetz and wife, Louis Matthaei and wife, J. F. Brabrook and wife, S. K. Schroeder, Andrew Scherer, Louis Lehman, William Bodemann, Miss Anna Baxter, the Misses Peacock, Albert E. Ebert and wife, Miss Minnie Potter.

[Special to the ERA.]

ANNUAL MEETING OF THE BRITISH PHARMACEUTICAL CONFERENCE.

In British pharmaceutical circles the most important event of the year is the meeting of the Pharmaceutical Conference. This year it opened on Monday, July 29, with a reception by Mr. and Mrs. Martin at the Hotel Mont Doré at Bournemouth. There is probably no town in the British Isles more admirably adapted to the purposes of the annual congress than Bournemouth. It is a fashionable seaport, of great scenic beauty, which has been built during the last fifty years or so, in the midst of country pregnant with historical and artistic interest. Readers of Thomas Hardy's luminous prose are familiar with the quiet English scenery he describes so graphically and so sympathetically, and he has made the history of the manners and customs of this corner of the country essentially his own.

Among those places of historical interest visited by large or small parties of pharmacists may be mentioned Carfe Castle. This fine ruin dates back to Saxon times, and is looked upon as the scene of the murder of Edward the martyr. Here Edward II. and Richard II. were imprisoned and, in later times, the castle made a stout resistance against the soldiers of Oliver Cromwell, by whom, however, it was ultimately captured and reduced to a ruin in 1646. In the immediate vicinity, too, is the New Forest, where there is an old ruin still standing which is said to have been built six hundred years ago. Not many miles from here, at Stony Cross, is a stone marking the scene of the death of William Rufus in 1100.

On Tuesday, Wednesday and Thursday the members of the conference met at the Shaftesbury Hall to hear the reading of papers of the more important of which we append abstracts.

The Quality of Commercial Powder of Ipecacuanha.

By Henry G. Greenish,

Professor of Materia Medica to the Pharmaceutical Society of Great Britain.

Referring to former comparative histological examinations of a number of samples of ipecacuanha, the lecturer said that the powder may be distinguished from similar powders by the shape and size of the starch grains, the absence of vessels and presence of perforated tracheids, the acicular raphides and the emetine reaction with chlorine. Powdered stem may be distinguished from powdered root by the presence of sclerenchymatous cells, of liquefied cells of the pith, and lastly by the presence of spiral vessels. The starch grains of Carthagena ipecacuanha are larger than those of the Brazilian variety, and the powders may generally be distinguished in this way. As most druggists buy ready ground ipecacuanha it is important to have ready means to detect adulterations and substitutions. The mere assay-yield of 2 to 2.5 per cent. of emetine is not by itself sufficient warranty of genuineness, because a good deal of alkaloid is obtained in de-emetinizing ipecacuanha and might be used for illicit purposes. In addition to this, emetine is not the only active principle of the drug.

Microscopical examination is the best test of purity, and it must be preceded by a thorough knowledge of the appearance of commercial varieties of the drug if it is to be of any practical value. The lecturer gave the results of his examination of 32 samples of the drug obtained from various parts of the country. None of the samples examined showed the presence of any adulteration in the shape of foreign starch or foreign drugs. The presence in four of unduly numerous coniferous tracheids indicates possibly only carelessness in cleansing the mill rather than wilful adulteration. Twelve samples out of the 32 proved to be Carthagena ipecacuanha. The admixture of stem was frequent, only one sample proving to be the powder of really good Brazilian root free from stem.

The lecturer concluded by quoting the results of an examination of Belgian commercial ipecacuanha by Ranwez and Campion.

Tabulated the Belgian drug may be classed as:

Good Brazilian	15 per cent.
Woody Brazilian	40 per cent.
Carthagena	15 per cent.

The English results may be summarized:

Good Brazilian	22 per cent.
Medium Brazilian	31 per cent.
Bad Brazilian	10 per cent.
Carthagena	37 per cent.

Sandalwood Oil.

By E. J. Parry, B. Sc.

The lecturer desired to rescue sandalwood oil from the neglect of quantitative estimators. According to Chapoteaut it was principally composed of an alcohol, santalol, $C_{15}H_{26}O$ and $C_{15}H_{24}O$ probably the corresponding aldehyde. In beating about for a reliable quantitative method, attention was first given to the aldehyde. No modification of the usual bisulphite method was devised, however, and attention was transferred to the alcohol which comprises the bulk of the oil. To estimate the amount of santalol, or rather alcoholic bodies if present in terms of santalol, take 10 grams of the oil, digest in a pressure flask for an hour and a half at 150° C. with an equal volume of acetic acid (99.5 per cent.). Well wash away traces of acetic acid from resulting oil in a separator. Dry, and then saponify the oil with alcoholic potash, noting the amount of potash used, and expressing result in terms of potash necessary to saponify the acetylated oil. Now ascertain amount of potash necessary to saponify original oil, and from the difference calculate the percentage of santalol. The considerable portion of acetic acid taken up makes it possible to distinguish between pure sandalwood oil and that adulterated with cedar wood oil, as the latter contains very little of an alcoholic nature.

As the result of the examination of four samples of cedar wood oil it was found that an average of about 2 per cent. of potash was found necessary to saponify the acetylated cedar oils, as against an average of about 19 per cent. for acetylated sandalwood oil, the wide difference in these figures permitting the detection and approximate estimation of the quantity of cedar wood oil used as an adulterant.

Sterilized Surgical Dressings.

By Edmund White, B. Sc., F. I. C., Pharmacist to St. Thomas' Hospital.

In a paper published in September of last year the lecturer described the method of sterilizing surgical dressings employed at St. Thomas' Hospital. The essential parts of this were a cast-iron sterilizer with two removable perforated galvanized iron shelves, a steam inlet pipe at the top and outlet pipe at the bottom, and a safety valve and pressure gauge. The bandages, etc., required for each case were packed in glass jars and placed on the shelves, and the steam carefully turned on. A pressure of 18 to 20 lb to the square inch, maintained for one hour, was sufficient to produce complete sterilization, at the end of which time the excess steam was allowed to escape, the lid was returned, and a layer of sterilized cotton-wool was placed over the mouth of each jar, the lid being then pressed down upon it.

The present lecture was designed to show how far further experience suggested some slight modifications in the method. The introduction of a trap into the steam supply pipe to collect condensed water prevented the water which collects in the pipe from being blown into the sterilizer when the steam is first turned on. The placing of a perforated screen at the inlet orifice breaks up the entering jet of steam, diffuses it through the sterilizer, and prevents the cracking of glass vessels.

The old pressure of 20 lb to the square inch has now been modified to 10 to 15 lb, as the temperature of 125° C. produced by the stronger pressure rotted and even charred the dressing materials. The air is displaced in the first instance by slowly turning on the steam and allowing this specifically lighter body to displace the air, which escapes by the lower tap. The latter is then shut off and the pressure slowly raised to 10 lbs when the opening of the bottom tap causes an outrush of steam and air. The repetition of this process removes the air, all but the merest trace. It was found that when the glass vessels containing the dressings were removed from the sterilizer, they were liable to crack on coming in contact with the outside air, and it was therefore decided to substitute metal. After many experiments copper-tinned vessels were employed; aluminum, the only other satisfactory metal, proving too expensive on a large scale.

Glycerin Tincture of Cinchona.

By Frederick Davies.

This paper was designed to prove that a better tincture of cinchona may be prepared by using glycerin mixed with spirit for the exhaustion of the bark than by employing spirit alone. The results of the research are more eloquent when tabulated than in any other form. Each percentage is the average of three estimations and the superiority of a spirit tincture containing 10 per cent. of glycerin (the proportion employed) is well established.

Comparative Table of Cinchona Tincture and Glycerin Cinchona Tincture.

No of Sample.	Percentage of Alkaloids in Bark.	Percentage of Alkaloids in Spirit Tincture.	Percentage of Alkaloids in Glycerin Spirit Tincture.	Percentage of Extractive from Spirit Tincture.	Percentage of Extractive from Glycerin Spirit Tincture.
I.	5.3	1.17	1.2	7.54	7.62
II.	4.7	0.92	0.96	5.17	5.26
III.	6.2	1.29	1.33	8.02	8.32
IV.	4.9	0.93	0.95	5.18	5.25
V.	5.4	1.15	1.22	7.53	7.38
VI.	5.2	1.20	1.27	6.01	6.28
VII.	5.8	1.19	1.22	5.98	6.07
VIII.	6.9	1.31	1.35	8.09	8.18
IX.	5.8	1.21	1.29	6	6.4
X.	5.6	1.18	1.17	7.32	7.30
XI.	5.9	1.21	1.25	7.52	7.55
XII.	4.8	0.95	0.99	5.12	5.28

Note on a Sample of Spurious Tolu Balsam.

By J. Oldham Braithwaite.

The appearance in the London market of a sample of spurious tolu received from New York some months back suggested the investigation on which this lecture was founded. Spurious balsams are somewhat darker and more tenacious and less fragrant than the genuine drug. When a portion is warmed on a glass slip and pressed down with a cover glass, only a few scattered crystals are discernible. They are much more soluble in carbon bisulphide and the residue left after evaporating off the solvent is bright and resinous, resembling dark Canada balsam instead of being a bright crystalline mass. The percentage of genuine specimens soluble in CS_2 is about 30 as against 65 per cent. of spurious balsam. The "saponification number" of the carbon bisulphide residue is distinctly lower for fir balsams. As the result of his investigations Mr. Braithwaite decided that each 1,000 parts of the residue should require not less than 300 parts of potassium hydrate for its saponification.

Syrup. Hypophos. Co., B. P. C.

By W. A. H. Naylor.

The lecturer contested the statement made by a previous investigator that the sulphureted odor sometimes emitted by compound syrup of hypophosphites resulted from the reduction of sulphates by the free hypophosphorous acid present in this preparation.

Potassium, sodium and calcium sulphates were dissolved separately in a 15 per cent. solution of hypophosphorous acid in the proportion of 20 grains to the ounce. An ingenious arrangement of a glass tube terminating in a tiny glass cup, and containing a few drops of starch iodide, was pendent from the under side of the cork. In another series of experiments lead acetate paper was employed as a test for the presence of sulphureted hydrogen. In neither case was a positive result obtained, but the addition of 0.2 per cent. of sodium sulphite to any one of the solutions soon produced liberation of the objectionable gas.

Mixtures of potassium, calcium and manganese hypophosphite with small percentages of sulphates and hypophosphorous acid in diluted syrup failed to produce the odor of sulphureted hydrogen.

Alkaline sulphates boiled with diluted hypophosphorous acid did not give off sulphureted hydrogen or sulphurous acid gas, or cause the precipitation of sulphur. Syrup. hypophos. co., B. P. C., made from ingredients containing traces of sulphates, but free from sulphites, gave no trace of sulphurous acid or sulphureted hydrogen. Further observation proved that 1 grain of sodium sulphite in 1 pint of Syrup. hypophos. co. suffices for the production of sulphureted hydrogen.

Occasionally the bad smell of this syrup may arise from a phosphoreted gas, and as this would be unrecognizable in the presence of a sulphureted odor its presence would be best indicated by shaking up diluted sulphuric acid with a strong aqueous solution of a hypophosphite. If a bad odor is detected by the nose remove the glass stopper of the shaker and insert a cork with pendent glass cup attached as described above and place a few drops of silver nitrate solution in the cup. Collect the blackened contents of the cup on a filter, wash free from soluble silver salt and treat with dilute nitric acid. If the filtrate responds to the test for silver, phosphoreted hydrogen was present, because silver sulphide is insoluble in dilute nitric acid.

Cod Liver Oil Constants.

By E. J. Parry, B. Sc., and C. E. Sage, Ph. C.

Ten samples of this oil, of undoubted purity, were obtained and tested with a view to seeing whether the great variations allowed by previous authorities were consistent with the employment of reliable oils.

Specific Gravity—As recorded by previous observers runs from 0.922 to 0.931. The samples now investigated were included in the limits of 0.9227 and 0.9291.

Saponification Figures—Quoted in actual percentage of potassium hydroxide necessary to saponify the oil, varies from 17.1 to 21.3. The authors found their results included within the limits 17.9 and 19.34 per cent. of KOH.

Iodine Absorption Figures—Published results run very low and range from 123 to 152.6 per cent. among the older writers, and from 158.7 to 166.6 in the later researches of Thomson and Ballantyne. The present investigators confirmed the last named results, their limits ranging from 153.5 to 168.4 per cent.

Notes of a Research Upon Ipecacuanha.

By R. A. Cripps, F. I. C.

This was a research undertaken on a grant from the Executive Committee of the Conference and has not yet been completed. Eight hundred grams of ipecacuanha were exhausted by successive percolation with ether and rectified spirit and the extracted matter recovered by distillation under pressure.

The ether extract was equal to 0.44 per cent. of the root. This was almost entirely dissolved by petroleum ether, and proved to contain the equivalent of oleic acid 0.15 per 100 parts of root; neutral fat 0.14 per 100 parts of root, smaller proportions of palmitic acid, wax and resin, and a mere trace of an uninvestigated alkaloid.

The alcoholic extract was dissolved in water, filtered, and the filtrate extracted with chloroform in the presence of acid, and by ether and chloroform successively in the presence of ammonia. The alkaloid yielded by the acid chloroform extract has not yet been investigated, but the alkaline ether extract proved to contain an alkaloidal substance, which, after extended investigation of its gold and platinum salts, turned out to be emetine, unaccompanied by cephaëline.

An attempt to find Arndt's volatile alkaloid, stated to be identical with choline, proved abortive, although Arndt's process was carefully followed. Lyons' process for the assay of ipecacuanha alkaloids was found to yield better results than either Arndt's or Keller's.

The Tinctures of the British Pharmacopœia. A Report on the Strength of Commercial Samples.

By E. H. Farr and R. Wright, F. I. C.

This paper was an outcome of an investigation into the strength and quality of commercial tinctures as sold and dispensed by the average retail pharmacist. Although no attempt was made to get up a case against pharmacists, rather strong evidence of the great variation of active principles was nevertheless produced.

The specific gravity of each tincture examined was taken, in order to ascertain how far the official menstruum was used and in this particular it is gratifying to notice no marked deviations have to be recorded.

Next came the calculation of the percentage of extractive matter present, and the results were distinctly jumpy and the average low.

The most tedious and most surprising part of the paper, however, dealt with the estimation of the alkaloidal percentage of twelve samples each of tinctures

of aconite, belladonna, cinchona, colchicum, conium, gelsemium, hyoscyamus, jaborandi, lobelia, nux vomica, opium, stramonium and veratrum. In belladonna tincture the total alkaloids varied from 0.008 to 0.026 per cent., in cinchona tincture from 0.22 to 1.18 per cent., in colchicum from 0.020 to 0.080 per cent., in conium from 0.010 to 0.210 per cent., in opium from 0.308 to 1.12 per cent., and in nux vomica from 0.144 to 0.228 per cent. These results reveal a very lamentable state of things; some tinctures being actually as much as three times the strength of others; the variation in the two standardized tinctures, opium and nux vomica, being as great as in any others.

The Weights and Measures of the British Pharmacopœia Versus the Metric System.

By William Elborne, B. A., F. C. S., Pharmacist University College Hospital.

In a scholarly and philosophical manner the lecturer made out a strong case for the doing of two of three things. Either, he argued, adopt the metric system in its entirety and get the full benefit of its convenience and simplicity, or leave it alone altogether. The introduction of metric weights and measures into the Pharmacopœia in a half-hearted way would only serve to discredit those excellent standards. What good purpose, for instance, he asks, would be served by the insertion of a formula like the following in the forthcoming B. P.?

Extractum Cinchona Liquidum, B. P.

Take of red cinchona bark 20 ozs. (566.99 gm.); hydrochloric acid, 5 fl. dr. (17.75 cc.); glycerin, 2½ fl. oz. (70.9925 cc.); rectified spirit, distilled water, of each a sufficiency; and so on. Yet, in face of the recent recommendations of the Therapeutic Committee of the British Medical Association something of the kind seems imminent. Says the committee's report: "The general employment of the cubic centimeter for liquids, and the gram for solids, as in the American (U. S.) Pharmacopœia, might with advantage be adopted." The primary reason assigned for the adoption of the metric system in this country is that it would help to foster the export trade, and, as this seems to be generally conceded, the lecturer offers no objections.

But he broke with the British Medical Association's committee when it proposed to introduce metric weights and measures into the Pharmacopœia, on the score that such introduction was a scientific advance. For the purpose of scientific work pharmacists have long adopted the metric system as being more simple and scientific, but, he urged, pharmacy is not a science, but an art. The B. P. has long advised the metric system for the preparation of its volumetric solutions, and that is the only part of the B. P. which pretends to guide the scientist. The rest was written neither for scientific purposes nor the promotion of foreign trade, but expressly for the safety of the public.

Nor is the basis of our present pharmacopœial weights grounded in any real defect or fundamental error as is that of the metric system. On the other hand the British system is a convenient, natural growth eminently adapted for efficiently carrying on our busy art in the shop, surgery or dispensary. After going into differences between the standards of France and England he pointed out how much more liable to error were both the physician in writing and the pharmacist in dispensing under the metric system. Again, he urged, it would be difficult to get physicians and pharmacists to grasp the fact that percentage solutions under the new régime would have to be regarded in terms of weight. What a British prescriber wants to know is how many grains of alkaloid or other substance there is in each 100 minims of his solution, and since all medicines are now prescribed by measure, confusion is likely to occur.

Moreover, while medicine should be the last of the arts to adopt any measures not well understood, let us in matters of our art stick to art, and if we can improve our art by the application of science, let it be in the direction of making wonders plain, rather than plain things wonders.

The Volumetric Solutions of the British Pharmacopœia.

By William Elborne, B. A., F. C. S., Pharmacist at University College Hospital.

In this paper is advanced a plea for bringing the nomenclature and preparation of the volumetric test solutions of the B. P. into conformity with the established principles of chemical science and in accordance with the statement in the preface that "on the production of the present edition pains have been taken to bring the whole of the matter up to the existing state of knowledge."

Yet, in the sense adopted throughout the chemical schools of the country, these volumetric solutions, frequently alluded to as "standard solutions," are as a group, not quite entitled to that designation, inasmuch as in their preparation the nomenclature and standard of chemical equivalence generally accepted are not uniformly adopted.

A volumetric normal or standard solution, as understood by chemists, contains in 1,000 cc., the equivalent in grams of the active substance, while a solution of one-tenth is called a decinormal ($\frac{N}{10}$) solution, and so on. The B. P. solutions of soda containing 40 gm. per 1,000 cc., and of oxalic acid containing 63 gm. per 1,000 cc., should therefore be known respectively as "normal volumetric solutions of soda and oxalic acid," while solutions of nitrate of silver, containing 17 gm. per liter, of iodine containing 12.7 gm. per liter, and of hyposulphite of sodium containing 24.8 gm. per liter, should be known as decinormal volumetric solutions of nitrate of silver, iodine and hyposulphite of sodium, respectively.

The use of a decinormal solution of potassium permanganate instead of potassium bichromate for the estimation of iron was strongly recommended, the potassium ferricyanide indicator ceasing to be necessary. All that is necessary is to run in the solution of permanganate until the characteristic red color becomes permanent after agitation.

Oil of Scotch Fir and Other Pure Oils.

By John C. Umney.

The lecturer proved conclusively that but little of the oleum sylvestris of commerce is prepared from the true Scotch fir (Pinus sylvestris, L.), and proposed the addition of some very stringent tests for purity of this oil should it be included in the new B. P. Some three cwt. of the young leaves and cones of the true Scotch fir were collected from wild trees, and yielded after crushing and distillation with water about ½ per cent. of a greenish-yellow oil recalling the flavor of blackberries. This oil proved to be lævo-rotatory (—19), whereas the December-collected and distilled oil of Bertram and Walbaum was dextro-rotatory (+10), the specific gravity of the former at 15° C. being 0.885 and of the latter 0.886.

Fractionated from a glycerin bath 8 per cent. of fifty grams of the oil came over between 157° and 167° C. This consisted principally of pinene. A large proportion—42 per cent.—came over above 197° C., in direct opposition to the results obtained by the fractionation of many of the turpentine adulterated oils of commerce, which distil 60 to 70 per cent. below 167° C. In ester-freed oil 10 per cent. coming over between 157° and 162° C. possessed all the properties of lævo-pinene; 25 per cent. boiling from 165° to 171° C. gave no indication of phellandrene and was almost inactive optically; 13 per cent. boiling between 171° and 175° C. was dextro-rotatory and corresponded in its principal characters with dipentene. Sylvestrene could not be detected in any of the fractions saponified with alcoholic potash to remove esters, but the oil before saponification answered the coloration test in every case.

The results of the research were then summarized as follows: (1) the rotation of Scotch fir oil varies according to the period of year in which the materials are collected. (2) The specific gravity of the oil should not fall below 0.880 at 15° C. (3) A considerable portion should distill above 185° C. (4) Not more than 15 per cent. should distill over below 170° C.

(To be continued.)

—The Registered Drug Clerks' Association of Illinois went on an excursion to Edgewater Aug. 4. Races, tug-of-war contests, and other athletic games were the order of the day. The proceeds will be used for the prosecution of violators of the Pharmacy law.

—The Vermont Pharmaceutical Association will hold a two days' session in Burlington Aug. 21 and 22. A complimentary boat ride will be given on the afternoon of the 22d by the Burlington Drug Company and the Wells & Richardson Company.

—The Indiana Co., Pa., Druggists' Association at its recent meeting elected as officers H. P. Shepley, president, and Milton G. Miller, secretary. Messrs. S. G. Hartman, W. I. Moore and J. M. Daugherty were appointed a committee to draft a constitution and by-laws. This committee is to report at the next meeting to be held at Indiana, Sept. 2.

BOARDS OF PHARMACY.

——The Illinois State Board of Pharmacy has framed a set of resolutions declaratory of the construction to be placed on certain sections of the new Pharmacy law.

——The Iowa Pharmacy Commission announces that it will investigate reported violations of the Pharmacy law in Sioux City. The infractions of the law are said to be the illegal sales of liquors.

——Evan O. Kaye, a druggist of New Richmond, Wis., was fined $50 and costs July 31, amounting to $62, for leaving his store in charge of an unregistered clerk. The case was in justice court at Hudson, Wis.

——The State of Wisconsin has won the first case brought under the Pharmacy law passed by the last Legislature. Michael Purcell, a clerk in the drug store of A. A. Mayers, of Madison, was found guilty by a jury of violating the law. A forfeiture of $50 is imposed for every violation. Purcell, who was an unregistered pharmacist, sold laudanum to a man employed by the State Pharmacy Board.

——The Minnesota Board of Pharmacy at its midsummer examination held at the university, Minneapolis, July 6, examined a class of 60 members, and the following persons were admitted to registration as pharmacists: Walter F. Williams and B. C. Johnson, of Minneapolis; George H. Cameron, Edward J. Fuchs, Herbert M. Straight, Charles E. Young, St. Paul; William F. Anderson, Rush City; Roy R. Bell, Grand Rapids; Edward W. Dorr, Austin; Herbert W. Hosmer, Northfield; Charles H. Hilleman, Arlington; Frank F. James, Ely; Floyd W. Kingsley, Mazeppa; Edward O. Lyders, Sacred Heart; Frank L. Nash, Hudson, Wis.; Lewis T. Olson, Kensington; P. Edward Oliver, Le Sueur; George Lindmark, Rush City. Assistant Pharmacists: Charles A. Bacon, August L. Baeckman, Rudolph H. Heck, Otto Mannerud, Charles H. Quinn, Thomas E. Rafferty, Uno Sodergren, E. A. Smith, Richard Messing, Enoch Haugseth, John B. Christgau, Louis B. Adams, Knute A. Johnson. Next meeting will be held in Minneapolis, October 15.

——The Ohio Board of Pharmacy has granted certificates to the following applicants who passed the required examination held at Toledo, July 16: Pharmacists—W. B. Cousins, Cleveland; George W. McClure, Dyson; E. G. Reese, Bowling Green; E. K. Kraft, Ottawa; J. H. Nicholas, Cincinnati; A. J. Dennen, Detroit; W. S. Van Allen, Oberlin; A. J. Tannehill, Troy; G. H. Nelson, Springfield; C. D. Gorrell, Payne; H. W. Miller, Dayton; A. A. Slusser, Louisville; N. W. Prowant, Dupont; H. E. Katzenmyer, North Baltimore; L. H. Bye, Lisbon; A. J. Cromwell, Detroit; C. B. Miller, Dayton; C. A. Emde, Cleveland; H. V. George, West Point; J. J. Wheeler, Toledo; H. E. Machol, Cleveland; H. N. Young, Columbus; E. E. Sherrard, Detroit; total, 23. Assistant Pharmacists—J. H. Mueller, Cleveland; Charles Asman, Marysville; H. F. Longenecker, Smithville; C. E. Zimmer, Adamsville; J. A. Wallace, Bowerston; F. W. Fritag, Cleveland; H. V. Willey, Toledo; H. B. LeCheverell, Jefferson; W. M. Bowman, Waterville; F. M. Bourne, Vermillion; C. E. Ringer, Byersville; J. E. Gasson, Versailles; C. K. Hug, Canton; C. A. Jones, Old Fort; total, 14.

EXAMINATION QUESTIONS MISSISSIPPI BOARD OF PHARMACY.

PHARMACY.

I. (a) Define the science of pharmacy. (b) Name branches of science included in it. (c) What book is the authority for the manufacture of pharmaceutical compounds in U. S.? (d) By whom compiled? How often revised? (e) What is the National Formulary? (f) What is an official preparation or drug?

II. (a) What is weight? (b) What systems are in use with us? (c) What system is recognized by our present Pharmacopœia? (d) How many grains in one gram? (e) How many pounds in one kilo? (f) How many cubic centimeters in one fluid ounce? (g) How many grains in an avoirdupois ounce? (h) In a troy ounce? (i) How many grains should a commercial ounce package of drug contain?

III. (a) What is specific gravity? (b) What is the standard for solids and liquids? (c) Give specific gravity of three or more official liquids.

IV. Describe fully maceration and percolation. Name classes of preparations made by each process.

V. Describe fully the process of (a) infusion, (b) digestion, (c) filtration, (d) decantation.

VI. (a) What is a tincture? (b) A fluid extract? (c) State difference between the two, and describe processes for their preparation. (d) How many grains of drug should be represented by one fluid ounce of fluid extract?

VII. (a) Define ointments. (b) Name several official ones. (c) Define suppositories. (d) What are they? (e) How prepared?

VIII. (a) Define liniments. (b) Name several official ones. (c) Define cerates. (d) Name several official ones.

IX. (a) What are syrups? (b) Name several official ones, and name two official ones, made by different processes, giving process for each.

X. (a) What are oils? (b) Into what two classes are they divided? (c) Give characteristics of each, and name one of each class. (d) What are medicated waters? (e) How are they prepared? (f) Name two official ones prepared differently, and give process for each.

APPLIED PHARMACY, POSOLOGY AND TOXICOLOGY.

I. Define posology and toxicology.

II. (a) What are prescriptions? (b) Describe your method of receiving, compounding, dispensing and preserving them.

III. (a) What are poisons? (b) What is a chemical antidote? (c) A physiological antidote?

IV. (a) What is meant by doses? (b) State relative doses for children and adults. (c) Relative doses by mouth, by enema and hypodermically.

V. (a) What preparation is known as arsenic? (b) Give chemical formula. (c) What is arsenious acid? (d) State antidote and mode of preparation of same. (e) Give tests for determining the presence of arsenic.

VI. (a) Give average adult dose of morphia sulphate. (b) Of morphia acetate. (c) Of codeine. (d) Of atropine sulphate. (e) Of strychnia. (f) Of quinia. (g) Of pilocarpine. (h) Of pilocarpine hydrochlorate.

VII. (a) Give average adult dose of tr. aconite. (b) Of tr. belladonna. (c) Of tr. opium. (d) Of tr. valerian. (e) Of tr. serpentaria. (f) Of tr. buchu. (g) Of tr. hyoscyamus. (h) Of tr. cannabis Indica. (i) Of tr. nux vomica.

VIII. Name and describe the preparation of the antidote for each of the following: (a) Carbolic acid. (b) Belladonna. (c) Acetanilid. (e) Strychnine. (f) Nitric acid. (g) Concentrated lye. (h) Corrosive sublimate.

IX. (a) What is chemical incompatibility? (b) Physiological incompatibility? (c) Are chemically incompatible mixtures necessarily inactive?

X. Criticise the following and state errors therein:

(a) ℞
Hyg. protoiod. ..... gr. iv
Potass. iod. ..... ʒ ij
Aqua dest. ad. ..... f ʒ ij M

(b) ℞
Hydrarg. bichlorid. ..... gr. ij
Potass. iod. ..... ʒ iv
Tr. cinchona co. q. s. ..... f ʒ viij M

In what form would mercury be presented in this compound?

(c) ℞
Spiritus nitro-glycerini ..... m xl
Tr. strophanthus. ..... f ʒ iv
Tr. digitalis ad. ..... f ʒ i M

S. Teaspoonful every four hours.

(d) ℞
Ferri et ammon. cit. ..... ʒ i
Tr. gentian co. ..... f ʒ iv M

S. Teaspoonful t. i. d.

(e) ℞
Hydrarg. bichlorid. ..... gr. ij
Syr. sarsap. co. q. s. ..... f ʒ iv M

CHEMISTRY.

I. (a) What is chemistry? (b) How is the study usually divided? (c) Give example of each class.

II. (a) How many elements are at present known? (b) Name ten of them, and state their form (solid, liquid or gaseous).

III. (a) What are metals? Name several. (b) Explain the atomic theory. (c) What is meant by the density or atomic weight of an element?

IV. (a) What is a molecule? (b) What is molecular weight?

V. (a) What is an acid? (b) A base? (c) A salt?

VI. What is meant by the terminations (a) ic, (b) ous, (c) ide, (d) ite and (e) ate?

VII. (a) What is a chemical formula? (b) Write several and name them. (c) What is a chemical equation? Give example.

VIII. (a) What is an alkaloid? (b) What other class of substances do they resemble in their actions with acids? (c) What is a glucoside?

IX. (a) How many sugars are known? Name them. (b) What form of sugar is sometimes present in urine? How would you detect it? (c) What is albumen? (d) How does it occur in nature? (e) How would you detect its presence in urine?

X. (a) Is ammonia an element? (b) Give chemical symbol. (c) What is its source? (d) Name several preparations of it, and state their uses and doses.

MATERIA MEDICA.

I. (a) Define term. (b) What sciences does it embrace? (c) Into what two classes may it be divided?

II. Iodine.—(a) State its source, appearance and properties. (b) To what class of elements does it belong? (c) Name others in same class. (d) Give test for free iodine. (e) For combined iodine. (f) State antidote. (g) Name official preparations and their uses and doses.

III. Iron.—(a) Is it an element or a compound? (b) How does it exist in nature? (c) Name several official salts, and describe their properties and doses. (d) How is the official tincture prepared?

IV. Bromine.—(a) State its source, appearance and properties. (b) How would you distinguish between iodide and bromide of potash? (c) Name some official preparations and state properties and uses. (d) Name antidote.

V. Stramonium.—(a) Give common name. (b) Tell parts of plant used, and which is most active. (c) What alkaloid does it contain? (d) Name the official preparations and tell how they are prepared. (e) What are its medical properties? (f) Doses and antidotes?

VI. Hops.—(a) Give botanical name. (b) Name and describe part of plant used. (c) What is the active principle? (d) Describe its appearance. (e) Tell how obtained. (f) Is it soluble in water? (g) Name official preparations and doses of each.

VII. Scammony.—(a) What is it? (b) How obtained? (c) From what country chiefly obtained? (d) With what adulterated? (e) What per cent. is soluble in ether? (f) Is it soluble in water? (g) Name its medical properties? (h) Name official preparations and doses of each.

VIII. Virginia Snakeroot.—(a) Give botanical name. (b) Country indigenous to. (c) Describe it as it appears in the market. (d) What are its medical properties and doses?

IX. Cinchona.—(a) Country indigenous to. (b) Varieties found in market. (c) What per cent. of alkaloids should they contain (U. S. P., 1890)? (d) What per cent. of quinine should they contain (U. S. P., 1890)? (e) An outline of process for assaying cinchona bark. (f) What alkaloids does it contain? (g) Give official preparations and doses of each.

X. Opium.—(a) From what plant obtained? (b) Give process for obtaining it. (c) Outline of process for assaying opium. (d) What per cent. of alkaloids should it contain (U. S. P., 1890)? (e) Name official preparations. (f) Opium strength of each. (g) Medical properties and doses.

——A man at Newburyport, Mass., has found on the beach a substance supposed to be ambergris. It answered the preliminary tests all right, and now he is waiting for an expert's opinion.

——A child at Attleborough, Mass., has died from what the doctors suppose to be opium poisoning, and the interesting point in the case is that the mother says that the medicine which she gave the little one was a patent remedy called "Mothers' Treasure."

——An application for a temporary injunction to restrain the Michigan Alkali Co., of Detroit, from infringing on the Solvay process, was heard recently by Judge Swan and dismissed. The final hearing on the application for an injunction on its merits will come before the court some time in the fall.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ARKANSAS.

Fort Smith.—J. A. Hoffman, sold to M. P. Van Zandt & Co.
Mountain Home.—Don J. Casey, now D. F. Love.

CALIFORNIA.

Red Bluff.—H. C. Brooks, damaged by fire.
San Francisco.—Stauffer Chemical Co., incorporated.

CONNECTICUT.

New Canaan.—J. H. Winters, sold out.

FLORIDA.

Eau Gallie.—A. V. Lansing, removed to West Palm Beach.

GEORGIA.

Atlanta.—Fetter, Anderson & Co., now H. H. Fetter.
Cordele.—Taylor Drug Co., sold out.

ILLINOIS.

Chicago.—N. C. Brorson, Erie and May Sts., sold out.
H. Othmer & Co., 47th and Grand Boulevard, new store.
A. E. Silverthorn, confessed judgment.
The Thomas Drug Co., 47 Wells St., new store.
Decatur.—C. McCrum, sold out.
Joliet.—The Joliet Pharmacal Co., incorporated; capital stock, $25,000.
North Peoria.—E. R. Grimson, Jackson's Corner, new store.
Peoria (Averyville).—L. C. Wheeler, Galena Road, new store.

INDIANA.

Chalmers.—E. R. Price, sold out.
Marion.—C. H. Overman, 38th and Washington, new store.
Richmond.—Ernest Ritchie, 116 Richmond Ave., sold to Dr. E. B. Mitchell (West Side Drug Store).
Summitville.—R. A. Menefee, sold to Markle & Jones.

INDIAN TERRITORY.

Ardmore.—Ardmore Drug Co., assigned.

IOWA.

Boone.—A. A. Anderson, sold to H. M. Curtis; style of firm Curtis Pharmacy.
Tornblom & Fitzgerald, dissolved; Mr. Fitzgerald continues the Opera House Pharmacy.
Clarinda.—W. A. Henderson, sold half interest to Charles Faus.
Clinton.—S. Cozine & Sons, sold out.
Granville.—J. M. Womeldorf & Co., dissolved.
Greenfield.—Culverson & Smith; J. H. Smith sells interest.
New Sharon.—Geo. Carson, sold to Vickers Bros.

KANSAS.

Altou.—H. B. Leach, sold to E. G. Fifield.
Anthony.—Hallman & Wakefield, removed to Coffeyville.

MAINE.

Bangor.—Levi L. Alden & Co., dissolved; J. L. Mountain continues.
Bath.—Bijou Pharmacy, 782 Washington St., new store.
L. B. Swett & Co., 160 Front St., cor. Elm, new store.
Portland.—E. E. Cross, Fore and Exchange Sts., moves to Green and Park Sts.
H. P. S. Goold, Rine's Bldg., new store.

MARYLAND.

Baltimore.—Charshee's Pharmacy, Druid Hill and Dolphin, sold to J. V. Sclasors.
A. W. McGlannan, Madison Ave. and Wilson, sold to J. H. Beckley.
Arthur L. Tumbleson, cor. Broadway and Lombard St., deed of trust given.
Berlin.—Dr. T. A. Franklin's drug store damaged by fire.

MASSACHUSETTS.

Brockton.—Thos. Harnett, new store.
Cottage City.—Wm. Leach, sold to W. O. Dunham.
Newton Centre.—G. W. Cobb, sold to B. B. Buck.
Springfield.—Henry Adams, 429 Main St., new store.

MICHIGAN.

Detroit.—L. Jay Carrel, 18th St. and McGraw, new store.
Henry Heffelbower, removed to Lapeer, Mich.
D. L. Livingston, cor. Greenwood and Canfield, new store.
Dr. D. McLeod, St. Aubin and Maple Sts., sold to Berthold Bertram.
Escanaba.—The Mead Chemical Co., incorporated.
Grand Rapids.—Geo. W. Nichols, 251 Jefferson Ave., sold to Dolph Wilson.
Michigamme.—H. J. Atkinson, removed to Harbor Springs.
Munith.—Leece & Co., dissolved, F. W. Reeves retiring.
Northville.—Chas. R. Stevens, sold out.
Port Huron.—The stock of Harvey & Devereaux sold to Jos. Lohrstorfer.
St. Johns.—Tygert, Mathias & Hicks, dissolved.
Union City.—Burnett & Strohm, sold to Burnett & Wilder.
Vandalia.—Mix & Townsend, burned out.

MINNESOTA.

Belview.—Mrs. M. R. Douglas, moved to Echo.
Grey Eagle.—John W. Young, damaged by fire.
Lake Crystal.—M. W. Kelly, sold out.
Madison.—Albert Lano, sold out.
Minneapolis.—Holmes Bros., 1126 7th St. So., damged by fire.
Kelly & Thompson, dissolved.
Morris.—Krueger & Slawson, now J. R. Krueger.
St. Cloud.—The Bright Drug Co., new store.
St. Paul.—Brackett & Son, now Robert A. Brackett.

MISSOURI.

Kansas City.—Samuel A. Howard, cor. 12th and Tracy, failed.
Liberal.—P. J. Umbrite, now Umbrite & Son.
Mound City.—Pierson & McKee, now C. C. McKee.
St. Louis.—Palestine Drug Co., incorporated; capital, $12,000.

MONTANA.

Missoula.—Hickman & Lindsay, R. O. Hickman, deceased.

NEW HAMPSHIRE.

Charlestown.—Dr. M. N. Root, deceased.
Manchester.—Jos. F. Dignan & Co., dissolved.

NEW JERSEY.

Columbus.—A. N. Dobbins, sold to Wells & Son.
Jersey City.—Louis R. Wright, discontinued.

NEW YORK.

Albany.—Lyman-Jeffrey Co., incorporated; capital, $30,000.
N. Y. City.—Geo. A. Cassebeer, deceased.

OHIO.

Jamestown.—G. W. Racer & Bro., new store.
Mt. Sterling.—C. A. Clark, assigned.
Toledo.—R. C. Spohn & Co., sold out.
R. C. Spohn Drug Co., incorporated; capital, $5,000.
Vermillion.—F. E. Englebry, sold to R. B. Quigley.

OREGON.

Oregon City.—Charman & Co., E. R. Charman, deceased.
Salem.—Hamilton Drug Co., incorporated; capital, $5,000.

PENNSYLVANIA.

Allegheny.—Hixenbaugh's Drug Store, Rebecca and Manhattan Sts., damaged by fire.
Lock Haven.—C. C. Schaeffle, assigned.
Mercer.—A. E. Bligh & Co., assigned to Dr. J. M. Martin.
Orangeville.—Dr. McFarland, sold to J. A. Canon.
Philadelphia.—A. La Dow & Co., 15th and Jackson, sold out.
H. B. Turner, 5th and Pierce Sts., new store.
Scranton.—T. H. Jones, sold to Dr. Fineberg.
Clarence R. Shryer, sold out.

TENNESSEE.

Chattanooga.—Chattanooga Drug Co., C. H. Gleun, retired.

Georgetown.—W. J. Flanagan & Co., W. J. Flanagan sold his interest to C. N. Flanagan.
Knoxville.—T. J. Matthews, sold out.

TEXAS.

Dallas.—C. V. Waller, sold out.
Honey Grove.—L. B. Ryan, assigned.

VIRGINIA.

Roanoke.—The Christian-Barbee Drug Co., deed of trust given.

WASHINGTON.

Kent.—W. H. Ewing, deceased.
Tacoma.—W. H. Dammeier & Co., receiver appointed.

WEST VIRGINIA.

Wheeling.—E. Bocking, deceased.

WISCONSIN.

Berlin.—J. K. Stephany, assigned.
Manston.—Edwards & Co., sold to Comer & Hess.

ONTARIO.

Toronto.—H. A. Knowles, deceased.

A Woman's Pharmacy School.

Women have hitherto not invaded to any extent the drug business, but the near future may see a decided change, if the intentions of Mrs. Emily Edson Briggs, a newspaper writer of some note under the nom de plume of "Olivia," are faithfully carried out. And there is no good reason why they should not be, as she is still in the flesh and amply able to shape the course of events. She has long been desirous of doing something for her own sex, and as she possesses an ample fortune she has planned the establishment of a technical college for girls, without, however, excluding boys, in which the fair sex will have special opportunities for learning trades and professions. The school is to be known as the Olivia Institute, and will be located on Maple Square, Capitol Hill, Washington, D. C. One of the departments will be devoted to pharmacy. The design is to make this a practical school for the student who will compound drugs and put up prescriptions under the direction of an experienced pharmacist. The expectation is that the department will be self sustaining from the start, having two sources of revenue—the public and the students. Five rooms in one of Mrs. Briggs' houses are to be devoted to the business, while the upper floor will be fitted up as a chemical laboratory. The institute does not contemplate becoming a feeder to any college or university. Hence the curriculum will provide for scientific, literary and technical courses.

——They say at the office of the Low Art Tile Co., in Boston, that business continues to be good this summer. New fountains have been ordered within a few days by Cameron, the Springfield (Mass.) druggist, and by J. H. Carpenter, of Grafton, Mass., both of whom are to have new stores, as well as by the Bristol Drug Co. of Ansonia, Conn.

——Dr. Orlando E. Bradford, who figures in the recent great counterfeiting case, was formerly a druggist in Randolph, Mass., having a store on North Main Street. Residents remember him unpleasantly.

——The three West Philadelphia druggists arrested July 9 for selling poisons in violation of the law were discharged Aug. 5 with a warning from the magistrate.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS
Issued July 30.

543,579—Leonhard Lederer, Munich, Germany.—Producing phenoxacetic anilids, etc.
543,599—Louis Graf, Cincinnati, O.—Machine for making medicinal tablets.
543,601—Thos. Kerfoot, Manchester, England.—Preparing granular effervescent compounds.
543,643—Hamilton Y. Castner, London, England.—Process of and apparatus for making alkali cyanids.
543,813—John H. Robinson, Holly Springs, Miss.—Prescription file for pharmacists.
543,826—Wilhelm Dieterle, Fenerbach, Germany.—Apparatus for purifying citric acid.
543,829—Isaac Q. Gurnee, Butler, N. J., assignor to Butler Hard Rubber Co., New York, N. Y.—Syringe.

Issued August 6, 1895.

544,014—Frank Terramorse, San Francisco, Cal.—Continuous-flow syringe.
544,104—Fritz Lüdy, assignor to Hoffmann, Traub & Co., Basle, Switzerland.—Bismuth oxyiodidgallate and preparing same.
544,119—James J. Powers, Cortlandt, N. Y.—Apparatus for making chlorin.
544,143—Charles Wagner, New York, N. Y.—Atomizer.
544,233—Henry R. S. Maitland, Bath, England.—Alarm or bronchitis kettle.

TRADE-MARKS
Registered July 30.

26,884.—Medicinal Plaster, Lotion, Ointment, Tooth Preparation and a Toilet Soap. George M. Tourtellotte, Worcester, Mass. The word "Hamaline."
26,885.—Liniment. Theodore J. Vogelgesang, Buffalo, N. Y. The representation of a sitting squirrel.

Registered August 6, 1895.

26,898.—Soda Water Sirups. John P. Mayo, Columbus, Miss. The word "Kolaphate."
26,899.—Cream of Tartar Substitute. The Nichols Chemical Co., New York, N. Y. The representation of a woman wearing a hood, cape and slippers, and having her skirts closely drawn about her.
26,900.—Gelatine, Baking Powder and Flavoring Extracts. Paul W. Thayer, Philadelphia, Pa. The word "Minute."
26,901.—Ozonized Cod Liver Oil. The Ozone Co., New York and Brooklyn, N. Y. The word "Kodozonol."
26,902.—Certain Named Remedies. John J. Ketchum, Rutherford, N. J. The words "Blue Label."
26,903.—Certained Named Medical Compound. Afta Pharmacy Co., St. Louis, Mo. The word "Afta."
26,904.—Remedy for Headache. Norman B. Lichty, Des Moines, Ia. The words "Krause's Headache Fizz."
26,905.—Certain Named Chemical and Pharmaceutical and Toilet Preparations. Collier Drug Co., Birmingham, Ala. The representation of a crescent and a pair of scales hanging from the top horn of the crescent.
26,906.—Antiseptics. Speyer & Grund, Frankfort-on-the-Main, Germany. The word "Thioform."
26,908.—Potash and Lye. A. Mendelson & Sons, Albany, N. Y. The word "Giant."
26,909.—Chemicals and Colors. G. Siegle & Co., Stuttgart, Germany. The representation of a heraldic horse rampant.
26,910.—Toilet Combs. The Butler Hard Rubber Co., New York, N. Y. The word "Maltese," in connection with the figure of a Maltese cross.
26,911.—Brushes. J. J. Adams & Co., New York, N. Y. The word "Invincible."

——Ten thousand dollars' damage was caused by a fire on the premises of Holmes Bros., druggists of Minneapolis, on Aug. 4.

——The Insurance Department of South Dakota has granted authority to act to the Druggists' Mutual Insurance Co., with headquarters at Lake Preston.

——The druggists and doctors of Pittsburg, Pa., had a game of baseball a few days ago, the result being a victory for the druggists of 21 to 16.

BOOK REVIEWS.

FORMULAIRE DES SPECIALITES PHARMACEUTIQUES. By Dr. M. Gautier and E. Renault. 297 pp. 3 francs. Paris: J. B. Baillière et Fils.

This little book has been compiled to meet the tendency among physicians to prescribe pharmaceutical specialties. It is divided into three parts, in the first of which is considered each preparation under the names of the chief drugs entering into its composition. For instance, under "antipyrine" are given elixir d'antipyrine Laroze à l'ecorce d'oranges ameres; antipyrine Reynal, antipyrine du Dr. Knorr; antipyrine effervescente Le Perdriel; migrainine (J. Paquignon); solution d'antipyrine de Trouette; solution et capsules d'antipyrine du Dr. Clin, etc. So far as known, the composition of each preparation is given, as is the therapeutic uses, methods of administration, doses, etc. Part II. consists of an enumeration of specialties which may be used for the various ailments. Part III. is a list of the specialties and preparations with the manufacturers' names and addresses. The information contained in this book will be appreciated by the pharmacist who is called upon to cater to the wants of a clientele who prescribe specialties and remedies of a semi-proprietary character.

The latest instance of Vol. 1., No 1, in the drug journal line is The Pharmacal Digest, which made its appearance at Portland, Ore., on July 25. H. D. Dietrich is to furnish the editorial ferment for this new digestive function, and we hope to welcome his efforts once a month for an indefinite period. It is the intention to furnish a sort of peptone composed of the choicest portions of material published in the pharmaceutical journals, which is to be boiled down and concentrated. The annual subscription price is $1.

Catalogues, Price Lists, etc., Received.

Larkin & Scheffer, St. Louis.
Mallinckrodt Chem. Wks., St. Louis.
Powers & Wightman, Philadelphia.
Dodge & Olcott, New York.
Rosengarten & Sons, Philadelphia,
Sanford Mfg. Co., Chicago.
Galvano-Faradic Mfg. Co., New York.
Jerome Kidder Mfg. Co., New York.
E. C. Rich, New York.
E. T. Baruum, Detroit, Mich.
F. E. McAllister, New York.
J. H. Doxsee & Son, Islip, L. I.
Thurston Chemical Co., Grand Rapids, O.
Cleveland Varnish Co., Cleveland, O.
S. S. White Dental Mfg. Co., Philadelphia.
Burgin & Sons, Philadelphia.
Harrison Bros. & Co., Philadelphia.
W. H. Armstrong & Co., Indianapolis.
Oldberg-Wall Laboratory, St. Louis.
Arlington Mfg. Co., New York.

The use of disinfectants as preventives of disease is rapidly becoming general throughout the country. Of the proprietary disinfectants now on the market, the West Disinfecting Co.'s Chloro-Naptholeum is one of the most widely used. This preparation lately received the highest approval of the convention of the National Chiefs of Police Union at Washington, and the company has been awarded the contract to disinfect the Cotton States Exposition at Atlanta during its continuance.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

At this season of the year there is quite a demand for antiseptics for both internal and external use, and if you have the very complete lot of literature issued by the Lambert Pharmacal Co., St. Louis, Mo., describing Listerine, you will know what to recommend.

There is no better plan for selling wines, and getting the reputation for selling the right quality, than that offered by Duroy & Haines, Sandusky, O. A few samples of Duroy Wines distributed among physicians and your best customers will bring results every time. See offer made by this firm.

The greatest amount and variety of work with the least power is what the manufacturer is always after, and if it is a question of drug mills, he can do no better than to investigate those made by Mead & Co., Detroit, Mich. First get their catalogue and study their plan for demonstrating at their own expense the superiority of their machinery.

The buying will come later on, but the thinking about hot water bottles should be done now. The catalogue of the Davol Rubber Co., Providence, R. I., is an excellent publication for stimulating thought in the right direction. It will also remind you of those old favorites, the Household Syringes and Magic Atomizers.

Making Seidlitz powders by machinery and buying pure chemicals in large quantities allows Charles R. Doane, 22 Mesecrole Street, Brooklyn, to quote prices which are as low as the usual cost of making them by hand in the retail pharmacy. Besides this Mr. Doane's goods are handsomely put up and are very attractive.

By making a specialty of Beef, Wine and Iron, and buying and manufacturing in large quantities, H. K. Wampole & Co., Philadelphia, can make special prices on their product. These prices range from $1.30 per gallon by the barrel to $42 per gross in bottles. Sample showing quality will be sent upon application.

The "Silent Salesman" show case made by John Phillips & Co., Detroit, Mich., is the success which its name implies, and is also ahead of the crowd as a show case. It brings business by showing goods to the best advantage, and it makes room for more business by economizing in space. Circulars telling all about it will be sent upon application.

If there is any doubt as to the practicability of the manufacture of fluid extracts,tinctures, elixirs, etc., by the retail pharmacist, Gilpin, Langdon & Co., of Baltimore, Md., should be consulted. They have facts and figures on the subject. They have them printed especially for the doubting pharmacist, and send them to every druggist who wants to improve his business.

Chemists who need quartz and flint for laboratory use should write to the F. E. Belden Mica Mining Co., 12 Broad Street, Boston, for prices. They prepare it especially for such purposes.

The twenty-eighth announcement of the School of Pharmacy of the University of Michigan for 1895--96 has just been issued. Every prospective student of pharamcy should send to Professor A. B. Stevens, secretary, Ann Arbor, Mich., for a copy.

The "Londres Grande" size of Tansill's famous "Punch" 5-cent cigar is a liberal amount of good tobacco for the price. It is a 4⅞-inch straight shape, hand made cigar, and tastes just as sweet at the end as it does at the beginning. Send a 2-cent stamp for a sample smoke to R. W. Tansill & Co., First Avenue and Thirty-eighth Street, New York.

The words "Liquid Bread" will strike many people more favorably than "malt extract." It is merely a matter of names, however, as "liquid bread" is simply the fanciful name for one of the best malt extracts in the country made by David Nicholson, St. Louis, Mo. Lots of people need just such a preparation, and the name or the goods on a drug store shelf catches their attention.

The Jacrose toilet articles made by Charles Gordon Buck include a quadruple extract, sachet powder, toilet cream, toilet powder, smelling salts, eau de quinine, benzoin paste, shaving cream, dentifrice, and lotion. The name and quality will interest your customers, and the prices will interest you. Send to W. H. Schieffelin & Co., New York, for list.

The difference between washing soda tumblers thoroughly and half washing them, and in doing the operation easily or with a great deal of exertion, is a matter which can be figured up in dollars and cents. L. L. Rowe, 16 Howard Street, Boston, has it all estimated, and the amount is the price of one of his automatic tumbler washers with a good balance in your favor. Write to him for his figures.

The surgeon is now using adhesive plaster to hold splints setting fractures, etc., in addititon to its usual employment in dressing wounds. But he requires an article of great strength and one that will stick. Wood's Adhesive Plaster, made by Johnson & Johnson, New York, has all these qualities in the highest degree. The surgeon can depend upon it, as it will sustain a weight of 70 pounds without breaking.

When it comes to a choice between the collapsible-tube and the tin-box druggist people will go to the former for their ointments, cosmetic creams, tooth pastes, etc. And it doesn't cost so much to be the favored one, if the collapsible tubes are bought of the right parties. Try the Hero Fruit Jar Co., Gaul and Adams Streets, Philadelphia, in this matter. Their samples and prices will convince you.

Runkel Brothers' Essence of Chocolate will make a syrup at a cost of 50 cents per gallon, the cost of the essence being 45 cents per pound in 5-pound tins. To give you an idea of the quality of this syrup, the manufacturers will send free a sample sufficient to make one pint. Address them at 445 West Thirtieth Street, New York.

The druggist who buys a gross of Dr. Williams' Pink Pills is sure to have the fact widely advertised, because a Welcome Harp is loaned with every gross order. This harp is fastened on the door of the drug store, and the swinging of the door causes the music. Nobody was ever known to enter a door upon which one of these harps was hung without examining the instrument and reading about Pink Pills.

There are two essentials in the conduct of a truss business. The first is to keep a good truss, and the second is to let people know it. I. B. Seeley & Co., of Philadelphia, furnish that kind of a truss, and their advertising matter will interest every one afflicted with hernia. Send for samples of their truss business aids, and see if it does not interest you as a prospective dealer in trusses or a seller of more and better trusses than you ever sold before.

In the absence of any available test for vaccine virus, the test which the pharmacist must apply is the reliability of the producer. Dr. Francis C Martin, of Roxbury Station, Boston, the only surviving son of the late Dr. Henry A. Martin (who introduced animal vaccination into America in 1870), continues uninterruptedly the propagation of pure animal vaccine lymph commenced by his father. Every package bears the facsimile of the signature of Henry A. Martin.

Some time ago Whitall, Tatum & Co. called the attention of the drug trade to their compressed tablet machine No. 20. In this issue they call attention to another, their No. 25. It has a number of improvements which give it a more direct application of power than No. 20, and will make a harder tablet with less force. By reference to the description it will be found that this little machine will give as effective service as many of the more complicated ones, and its price is not beyond the reach of the retail druggist.

The exact value of a neat and attractive box or other container in adding to the selling qualities of goods has never been accurately determined, but no one doubts that the increase in this value greatly exceeds the cost of attaining it. An object lesson upon this point showing the difference between ordinary print and tasteful design in color is afforded by the "insert" of the R. E. Hitchcock Co. of Waterbury, Conn., in this issue. The difference thus shown is illustrative of the difference between ordinary boxes and the boxes made by this firm. Their illustrated catalogue gives further illustrations upon this point.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Cacao Butter, Camphor Oil, Jalap, Sodium Hyposulphite.
Declined: Caraway Seed, Citronella Oil, Gum Chicle, Laurel Leaves, Salicylic Acid, Sodium Salicylate, Senega.

New York, Aug. 13, 1895.

While the general merchandise markets are reported as maintaining a steady tone, with business showing signs of improvement as the season advances, there is no lack of substantial evidence that the volume of trade in drugs and medicinal chemicals is steadily increasing. The expected active demand is not yet fully developed, but that none of the leading articles are dormant is best indicated by the fluctuations in prices which prove that more or less interest is manifest on the part of dealers. Orders continue to come in freely from out-of-town consumers and distributers and the outlook is decidedly favorable to continued improvement. Traveling salesmen are busy arranging their samples and routes, some have already started out, and it is expected that early next month their orders will be coming in in sufficient numbers to fairly inaugurate the active autumn campaign. The financial end of affairs continues on a sound and healthy basis, collections are being made without much difficulty and there is no doubt that in all legitimate operations the question as to whether the obligations incurred can be met promptly is given careful consideration.

OPIUM.—The position of this article has undergone no essential change during the interval covered by this review, and prices are practically the same as on the date of our last report. Consumers' wants have been light and the sales correspondingly small, while any disposition to operate in a large way has been held in check by the paucity of reliable information from primary markets regarding the statistical position of the new crop. Some are of opinion that stocks are accumulating in Smyrna and Constantinople and that a break in prices is inevitable, while others think that there is some basis for the rumor that speculators are endeavoring to control the current year's output.

MORPHINE—Is moving wholly in accordance with current wants of consumers, which are not particularly urgent. The result is a comparatively quiet market with quotations unchanged, although somewhat unsettled owing to continued keen competition between sellers.

QUININE.—Continued activity is the characteristic feature of the market with the undertone strong, but there is nothing to indicate that an early change in prices is contemplated, as the agents of foreign manufacturers are apparently willing to accept all orders from regular consumers. They refuse, however, to treat with speculative dealers, and the latter are finding it more and more difficult to meet the wants of their customers.

ALCOHOL.—Lack of demand has influenced a return to the unsettled condition existing previous to last week, and values are again irregular and slightly lower, but there is no perceptible increase of competition.

BALSAMS.—No quotable changes have occurred in values of any description, and while the general demand has been fair transactions are entirely of the jobbing order and no new features have developed.

SALICYLIC ACID—Is weak and tending lower under the influences previously noted, and for round lots the former inside price is shaded about 1 cent per lb.

SODA SALICYLATE.—As anticipated in our last report manufacturers have reduced their quotations 5 cents per lb on all quantities.

CACAO BUTTER.—The market is stronger in sympathy with a higher range of prices at the last regular auction sale in Amsterdam, and prices have been advanced ½@1 cent per lb. There has also been a decidedly better demand and over 10,000 lb have been taken by large consumers at the improved figures.

COD LIVER OIL—Has been seasonably quiet; there is no pressure to sell, and the majority of holders are confident that the coming consuming season will develop an active demand and that extreme prices will be reached owing to probable scarcity at all distributing points. Cable advices from Norway already indicate a hardening tendency there.

CASCARA SAGRADA.—Notwithstanding the low prices which have been current for nearly a year the tone of the market is weaker, owing to reports from Oregon that the new crop will be very heavy, as the number of gatherers was materially increased from the large army of unemployed people in the various growing districts.

COCAINE.—Values are unchanged, but the tone of the market is firmer and an improved demand is reported. The London market has also developed increased firmness.

CASSIA OIL.—The advance noted last week is fully maintained and a fair business is reported.

ANISE OIL—Is generally held at the recently improved figures, but there is more inclination to sell and in one or two instances quotations can be shaded.

CAMPHOR OIL—Is scarce and firmer at a slight advance in prices.

CITRONELLA OIL.—A falling off in demand has influenced an easier feeling among holders and the quotation for round lots has been reduced 1@2 cents per lb, but there is no change in values of jobbing quantities.

CAMPHOR.—Manufacturers' prices are unchanged, but the situation abroad is decidedly stronger, both crude and refined showing important advances, and the outlook is favorable to holders.

CHICLE.—Arrivals have been quite heavy and with new crop already on the way the tone of the market is weak, with values about 3 cents per lb lower. New crop is coming in nearly a month earlier than usual.

LAUREL LEAVES—Are fractionally lower owing to reports from producing sections in Europe that the crop is not so seriously damaged as at first estimated.

JALAP—Is tending upward, and the better grades in second hands are 1@2 cents per lb higher.

IPECACUANHA.—Continues to advance in the London market and holders here are firm in their views, but there is no further improvement in prices, probably owing to the seasonably slow demand.

SENEGA ROOT.—Shows increased activity but at lower prices, the decline being about 2 cents per lb.

CARAWAY SEED.—New crop Dutch is beginning to arrive and values are fractionally lower.

SODA, HYPOSULPHITE—Is in good demand and scarce, with prices slightly higher.

The "Prescription" brand of corks is made by Truslow & Co., 4 and 6 Platt Street, New York, especially for the critical pharmacist. They will gladly send samples, and will further guarantee that the samples represent the goods which they send out.

An article which all your barbers and a great many of your customers want is Witch Hazel Jelly, made by the Mayell-Hopp Co., Cleveland, O. It is an excellent article for use after shaving, and the only effort necessary to sell it is to let people know that you have it.

Soda water customers are waiting for a celery drink that is "just right." If you give them a taste of Celeryade made by the Dunkley Celery Co., Kalamazoo, Mich., the soda water jury will decide in your favor. A half dozen in elegant half-pound decanters (not ordinary bottles) costs $3.50, freight prepaid.

Strictly pure sandal oil, distilled from Mysore sandal wood, is employed in making Gedney's Sandal Pearls. They are put up in bottles of 40 pearls each and cost $5 per dozen bottles. Send for sample and list of 300 formulas to L. H. Gedney, 203 E. Eighty-eighth Street, New York.

Very few glass labels last as long as the bottles to which they are attached. By making a label of celluloid, which has all the appearance of glass, Dr. R. R. Lansing obviates this difficulty. He will send samples and sheet of designs if you are contemplating an improvement in your shelf ware.

Many druggists can do a good business selling Japanese paper napkins, if they buy of the right people at the right prices and put them before their customers in the right way. The C. C. White Toilet Paper M'f'g Co., 164 Duane Street, New York, import these napkins and will be glad to quote prices.

THE PHARMACEUTICAL ERA.

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ALCOHOL BLANKS.

Section 61, Act of Congress, dated Aug. 28, 1894, provides for the refunding of the Internal Revenue tax on all alcohol used in manufacturing in the arts and in medicinal or other like compounds. Retail druggists to secure this rebate should be prepared to present accurate record and proof of such use. We have prepared for druggists' use some special ALCOHOL BLANKS for keeping a proper record of alcohol used for manufacturing purposes, with full directions for keeping the record and for preparing your claims to secure the rebates. If you are not keeping such records, *these blanks may save you a lot of money.*

If you are a subscriber to the Era, we will send you a package of these Alcohol Blanks on receipt of 16 cents to cover the expense. *To non-subscribers the Alcohol Blanks are strictly net 50 cents per package*, postpaid.

Address
THE PHARMACEUTICAL ERA,
New York.

THE DENVER MEETING.

We are able to present in this issue a report of the proceedings of the American Pharmaceutical Association at the earlier sessions of its annual convention at Denver last week, and, as well, the portrait of the newly elected president. The opening exercises were of the usual general character, but were especially pleasing from the fact that the addresses of welcome showed on the part of the Denver residents and Colorado and Western druggists a sincere hospitality and earnest wish to make the stay of the visitors as pleasant and noteworthy in every respect as open-handed generosity and munificence of entertainment can afford. From all along the route, from the East to the Couvention State, come reports of hospitality to the travelers en route. The druggists of Nebraska, Kansas, Missouri and Colorado watched the railroad time-table with eagerness, and at every point possible where a stop was permitted committees were at the trains to tender their good offices to the travelers and supply various tempting refreshments in hospitable abundance. A very significant foretaste of the pleasures to be enjoyed during convention week was all this, and it is expected that the returning delegates will long chant the praises of their entertainers for a unique and characteristic entertainment.

The president in his address dwelt at length upon the question of pharmaceutical education, and his remarks printed in full, should receive the study and thought of every reader. While he finds much of good cheer in present conditions, he finds it necessary to point out channels in which progress must be instituted in order to bring pharmaceutical education up to the standard which it should attain to adequately care for and represent the members of the profession, to this end advocating preliminary education for apprentices, to be regulated by the law.

The newly-elected president is a Western man, from that great city upon the Mississippi in which we all take such pride. He is a thorough pharmacist, cautious and accurate in every professional duty, but at the same time is a combination of business and professional man which is sure to attain, and has attained in his case, an honored position in the drug trade. He is a typical exponent of the West, progressive, energetic and businesslike, and the affairs of the association will be in safe hands under his charge. He is by no means a tyro in the management of the affairs of this association, either. For many years he has acted in one or another official capacity, exercising executive functions which have had much to do in shaping its course and its policy. His election to the presidency is not only an honor to him, but a credit to the association.

Of the business transacted at the meeting not sufficient reports have yet been received to permit a statement of what were the most significant transactions and to allow of comment thereon.

As was anticipated, the free alcohol question, concerning the rebate of tax on alcohol used by druggists for manufacturing purposes, received a great share of attention in the commercial section. Those who discussed it evidenced a little more familiarity with the points and principles involved than they did when at Asheville last year was passed the memorable resolution in regard to the matter.

After many years, and for the second time in the history of the association, Canada was successful in securing the meeting for next year, Montreal being selected as the place, and Aug. 12, 1896, the time. Our Montreal friends made a good fight at the meeting last year, were not discouraged by their failure then, and went to Denver backed with all manner of arguments and inducements to attain their purpose, and we are heartily glad of their success. It is very fitting that the association should meet in Canada, for though not a portion of the United States (as yet), it is a part of America (what does A. Ph. A. signify?), and its pharmacists have many interests in common with those on this side of the border. We congratulate the association and the Montreal brethren upon the selection.

Completion of the report will appear in next week's Era, and will offer opportunity for comment upon the more important transactions of our national and representative body of pharmacists.

THE DRUGGIST'S CLAIM AND THE COLLECTOR.

A subscriber acting upon the Era's advice sent to the Collector of Internal Revenue for his district notification that he proposed to use alcohol in his business for manufacturing purposes, and would make a claim for rebate of tax thereon. In reply to this notification he has received from the collector a letter received by the latter from the authorities at Washington, and which reads as follows:

Washington, D. C., Aug. 10.

—— ——, Collector —— District.

Referring to your letter of the 7th inst., and to the notice sent you by ——, as to the use of alcohol on which a rebate of tax could be claimed under Section 61 of the act of Aug. 28, 1894, you are informed that the Department has been unable to formulate effective regulations for carrying out the provisions of said section, and that in the absence of such regulations no claim for such rebate will be entertained. You will please so notify Mr. —— and all other parties claiming such rebate.

G. W. WILSON,

Acting Commissioner.

Our correspondent asks: "After receiving this would you consider it advisable to proceed in keeping a record of alcohol used in manufacturing purposes?"

The position outlined by the Commissioner's letter, quoted above, is that which has been held by the Treasury Department since the passage of the act in question, and has been liberally discussed in these pages. Whether or not the rebate of tax is to be allowed is as yet a question which is to be decided by the Court of Claims in test cases now before it. If in these cases the claims are allowed, then all others of similar nature must be similarly treated, in accordance with the law of precedents. In view of the probability of a decision being rendered against the Government, the Era has advised its readers to keep a record of all the alcohol used in manufacturing, taking all necessary precautions to have their records and evidence complete in every particular, so that in the event of a favorable decision their claims will be in shape, and result in rebate of the tax on the alcohol used. As has been said somewhere in these pages, collectors of internal revenue throughout the country will doubtless pay but little attention to the notifications from druggists, in fact they can give no more, in the absence of the required regulations, but if the druggist has proof that he has sent a notification to the collector, even though it be denied or refused by the latter, he has a strong link in the chain of evidence. The failure of the Treasury Department to enact the regulations called for by the law does not nullify the latter, and the action of the Court of Claims, if favorable to the users of alcohol, will result in a very large amount of "back work" which the Secretary of the Treasury and the Commissioner of Internal Revenue will have to get off their hands.

We continue to advise druggists who desire to act upon the chance that rebates will be allowed to take all proper steps on their part, and never mind what the other parties to the transaction do in regard thereto.

DRUG STORE FOR SALE.

Many druggists have found customers for their stores by putting a "Want Ad." in the Era. These ads have a large circulation among the best druggists in the country, and give advertisers good returns. The price for each insertion is 50 cents for 25 words or less; additional words 2 cents each.

SOUTH CAROLINA DISPENSARY LAW VS. ALCOHOL REBATE.

A subscriber at Charleston, S. C., who desires to put in a claim for rebate of the internal revenue tax on the alcohol used by him in manufacturing, calls attention to the Dispensary law of that State which prevents him from taking advantage of this provision made by the U. S. Government. He can order 10 gallons at a time, but his alcohol is sent to him in two 5-gallon cans without the internal revenue stamp. The point raised is a novel one, and it is barely possible that a legal fight may be precipitated should the matter be brought to the attention of the proper judicial authorities.

The Dispensary law of South Carolina places the sale of all intoxicating liquors within the State in the hands of certain officers called county dispensers, of which there may be one or more in each county. The sale of such articles by any other person is prohibited. These county dispensers procure all the liquors sold by them from a State Commissioner, who is required by law to put all liquors except lager beer "into packages of not less than one-half pint nor more than five gallons, and securely seal the same, and it shall be unlawful for the dispenser to break any such package or open the same for any reason whatever. He shall sell by the package only, and no person shall open the same on the premises." To obtain liquors from the dispenser the applicant must make a "request," written or printed in ink, dated of the true date, stating that purchaser is of age, giving residence, quantity and kind of liquor desired, and signed by purchaser. Requests can be refused by dispenser if applicant is known to use intoxicating liquors to an excess, and identification may be demanded where parties are personally unknown to the dispenser.

Licensed druggists conducting drug stores and manufacturers of proprietary medicines are authorized to purchase intoxicating liquors of dispensers to be used in compounding medicines, tinctures and extracts that cannot be used as a beverage, and dispensers are not allowed to charge more than ten per cent. net profit on liquors so sold. The druggist is required to keep a record of the uses to which the liquors are devoted, giving the kind and quantity so used, and quarterly must make and file with the County Auditor and County Board of Control sworn reports giving a full and true statement of the quantity and kinds of such liquors purchased and used, the uses to which the same has been devoted, and giving the name of the dispenser from whom purchased, with dates and quantities, together with an invoice of each kind still in stock and kept for compounding medicines. In addition, the State Commissioner is authorized to sell to manufacturing chemists and wholesale druggists alcohol by the barrel at cost.

The difficulty under which our correspondent suffers is that the dispensers regard his requests for alcohol as coming from a "licensed druggist," in which case the 5-gallon package limit apparently applies, and not from a manufacturing chemist, but it would seem that an order for a barrel should establish his standing as a manufacturer, and as there are enough penalties levied against the improper use of alcohol, it is hard to understand why the authorities should object to such a purchase, or to furnishing stamped packages. Much may depend upon what is understood by the term "manufacturing chemist," and in this dilemma the government authorities at Washington may be of assistance. They have declared, not officially, of course, for they have been careful to be non-official in this alcohol matter, that the "manufacturer" referred to in clause 61 of the Tariff act of August 28, 1894, means anybody who finds it necessary to use alcohol in the arts or in any medicinal or other like compound. Their positiveness of this being the correct definition is their excuse for not framing regulations for payment of the rebate. Under this view of the matter it ought to be easy for every druggist in South Carolina to maintain his claim of being a manufacturing chemist and purchase a stamped package (barrel) of alcohol.

Now that the authorities of the national Government have shown the druggists of South Carolina how to get a stamped package of alcohol, it is but fair that the druggists of that State should show Messrs. Carlisle and Miller how to frame regulations to protect the Government in the free alcohol matter. If a law can be framed to protect the State monopoly in South Carolina, one which satisfies the wildest prohibitionist of that commonwealth, why, in the name of all that's good, can't a similar law protect our easy-going and liberal-minded Uncle Samuel?

Down in South Carolina the druggist simply has to keep a record of the uses of the alcohol and swear to it. If such a procedure satisfies a State government, why can it not satisfy the national?

Our correspondent complains that his 5-gallon container is always short a pint or two. If there be a shortage (denied by the officials) it may be intentional to avoid placing a stamp upon the package, as the U. S. Internal Revenue regulations require a stamp upon every package of five gallons or more. The law of South Carolina allows the dispensers to sell packages of not more than five gallons. That is to say, they can sell exactly five gallons, and the U. S. Government requires a stamp on every five gallons. This is a close margin, but both laws seem plain, and it is difficult to see why the South Carolina druggist cannot demand a full 5-gallon package, as his State law allows him to do, and receive it with the stamp thereon as required by his national Government.

Incidentally, our correspondent mentions the fact that the State compels him to pay $2.50 per gallon for his alcohol, furnish his own containers and pay transportation, and he considers himself aggrieved. Upon this point we must simply call his attention to present market quotations of $2.60 and $2.65 per gallon, and the fact that druggists as a rule have to furnish containers and

pay freight, and outside of South Carolina there is no State chemist to certify to the purity of the product which they buy.

PRACTICAL HINTS.

——Twin brothers—the old-fogy druggist and the new "Christian science" doctor; the one doesn't believe in advertising and the other doesn't believe in the use of medicines; one is a second-hand fossil and the other an addle-pated visionary. The kind of customers you are after do not patronize either of them. Don't be a fossil.

——The art of penmanship should be carefully cultivated by the drug clerk. To be read easily, writing should be compact and free from flourishes. Good writing can afford to do without any superfluous embellishment, while no amount of adornment will hide the defects of bad writing. In writing labels for prescriptions endeavor to balance the matter to form a symmetrical arrangement and adjust the writing so that it may fill the label pretty well.

——What is the best composition for a laboratory floor? is a question often asked by the druggist who does a little manufacturing, as well as by the large manufacturer. A firm of wholesale druggists in a Western city have long been trying to solve the problem, and have experimented with all conceivable combinations and materials. Their conclusion is that the best floor consists of a two-inch solid body of cement, surmounted by a layer formed of two-inch slabs of cement tiling.

——There has never yet been a perfect remedy devised against errors, nor will there be one found; but it behooves the druggist to use every practicable means to prevent mistakes that may happen through himself or others. For this reason he should allow no original packages to go into stock without verifying their identity and quality. To this end all receptacles for store use should be filled by or under the immediate oversight of a fully qualified person. Poisons described by law should be kept apart from other stock and surrounded by proper safeguards. Dispensing or selling poisons is best done under the supervision of two persons, the transaction being recorded or noted at the time.

——Do you enjoy good health? The public naturally expects the druggist, who knows all about medicines and more or less of the laws of health and the treatment of disease, to take pretty good care of his own physical self. But are you careful? Don't you tie yourself up in the store too much? Take exercise regularly, and don't forget a vacation now and then, if you can possibly manage. Druggists have gained the reputation of being sallow, weak recluses, and there's much to warrant this belief, for the average drug store is open at least two-thirds of every twenty-four hours, and the druggist is on duty all the time; a night bell is even connected with his sleeping chamber. You cannot be healthy under these conditions. Give your clerks and yourself a chance to be as other men are. The world will wag just as merrily if you are away from business a few days annually.

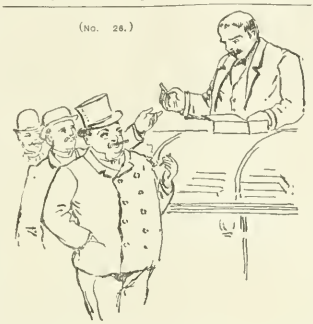
ADVERTISEMENTS FOR RETAIL DRUGGISTS.

Nearly all druggists sell cigars, and, if properly conducted, this branch of the business can be made very profitable. It is the popular belief that in small towns you can always get a better cigar at the drug store than at any other place, and druggists should cater for such trade. Don't make the mistake of keeping too many brands in stock, and don't let every good salesman that comes along overstock you with goods that you cannot sell. If you have customers who want such, keep some nice, clear Havana goods to supply that trade. You will also have to keep some brands which are best known in your locality to satisfy the demand, but you can just as well make a specialty of some good brands of your own. There are any number of manufacturers who furnish cigars under the dealer's brand, and if you push your own brands the results will be more satisfactory to you than if you push stock brands which every dealer in town can get if he wants.

In selecting a name for your brands of cigars don't forget that it is well to include a little dignity, as well as a name which is easily pronounced, and, if possible, so harmonious that it is easy to remember. For instance, "Aunt Betsy's Favorite" would not appeal to a man who is a judge of tobacco as would "Vesuvius."

We give here a couple of suggestions for advertisements of cigars.

(No. 26.)



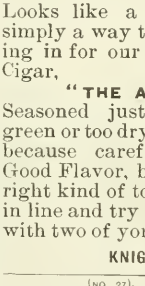
Looks like a procession. It's simply a way they have of coming in for our Famous 10 cent Cigar,

"THE ALLIANCA"

Seasoned just right—not too green or too dry. Smokes easily, because carefully hand made. Good Flavor, because it has the right kind of tobacco in it. Get in line and try a quarters' worth with two of your friends.

KNIGHT & DAY Druggists.

(No. 27).



We have to be careful in buying Drugs, and this habit makes us just as careful in buying Cigars. This makes the manufacturer careful to keep up the quality of

"VESUVIUS,"

our leading 5c. cigar. It is a "close margin" cigar. It costs us enough to tempt us to sell it for 10 cents, but it is'nt as good, and we do not pay as much for it as for our 10 cent goods. We can draw a big trade by selling it for 5 cents straight. We are after a big trade.

KNIGHT & DAY, Druggists.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cuts at 50 cents each, post paid. Order by number.

POTATO STARCH is found by Rouvier (Comp. rend.) to behave differently in the presence of iodine, from the starches of wheat and rice, which act alike. The maximum of iodine fixed by potato starch, when the former was in excess, was 18.6 per cent., wheat and rice starch fixing 19.6 per cent. The exact quantity of iodine necessary to transform into iodide all the starch contained in a solution of definite strength, was 13.5 per cent. in the case of potato starch, and only about 8.9 per cent. in that of wheat and rice.

ALCOHOL TESTIMONIALS.

Martin & Huguely, Winchester, Ky.—Think your method quite a good one.

McLain & Sanborn, Clinton, Ia.—You people are "right in the path." Please accept our thanks for blanks.

R. S. Ellifrit, Webster Groves, Mo.—Think your action should meet with the support of the entire drug trade.

Newburn & Co., Bethany, Mo.—We are subscribers to the Era. We appreciate your action in this matter very much.

S. R. Cooke, Wall Lake, Ia.—Inclosed find stamps for alcohol blanks as per your special offer to subscribers. "You are all right."

Kremis Bros., Springer, N. M.—Inclosed find stamps to defray expenses on alcohol blanks. We take the Era—could not get along without it.

Larkin's Pharmacy, Chicago, Ill.—Being a subscriber to the Era (the best paper of its kind published) I inclose stamps for a package of alcohol blanks.

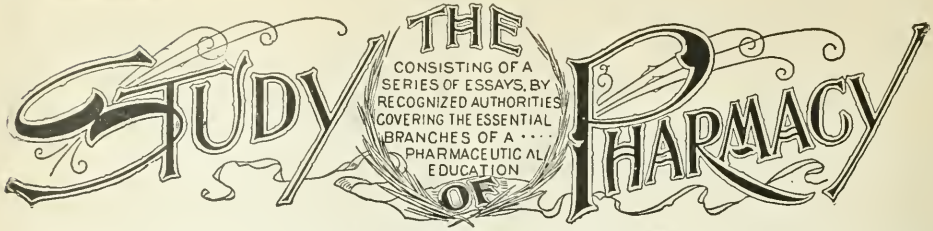
Frank M. Towne, San Bernardino, Cal.—Your efforts in this matter, whether successful or otherwise, should make every druggist in the country your friend and give you thousands of new subscribers.

G. W. Silcher, Reuville, Minn.—I am highly pleased with the Era. I received your card and thank you very much for the kindness and interest you show in your subscribers. I for one would not have put much thought to it had I not received your card.

Alexander Bros., Cameron, Mo.—Agreeably to your card dated Aug. 2, we, as subscribers to the Era, inclose herewith 16 cents in stamps, for which please send us a package of alcohol blanks. May the Era keep up the good work, is the wish of your friends.

J. H. Peckham & Co., Seneca, Kan.—As subscribers to your most valuable drug journal, the Pharmaceutical Era, we wish to avail ourselves of your offer in regard to the alcohol blanks. We thank you very kindly for the interest you are taking in behalf of the druggists of the United States.

Duluth Drug Co., Duluth, Minn.—We are glad to see you taking an interest in the retail druggists. We feel that if the manufacturer is entitled to a rebate, the retail druggist in his manufacturing should be also, but do not believe that it can be brought about in either case. It is so hard to draw a line without discriminating in some one's favor, and those wielding the most power are apt to receive benefit where another will be helpless owing to insufficient legal advice, which is apt to cost him more than the benefit he would receive. Your interest is truly appreciated, and we hope the druggists of the country will stand by you.



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[*Continued from page 201, August 15.*]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XX. ORGANIC PHARMACY.

(Continued.)

By Virgil Coblentz, Ph. G., A. M., Phil. D.

ALKALOIDS.

The term "alkaloid" is now applied to a class of bases of vegetable origin, characterized by their more or less toxic properties. They all contain nitrogen. In a general sense, alkaloids may be divided into three classes: 1. The Amines and Quarternary Ammonium Derivatives, among which are methylamine, propylamine, choline, neurine, muscarine, and the class of "ptomaines" or "cadaver-alkaloids."* 2. The Uric Acid Group, from which caffeine and theobromine are derived. 3. The Pyridine Derivatives and Plant Alkaloids.†

Classification.

The Plant Alkaloids may be considered in some instances as tertiary bases, in others as derivatives of pyridine (C_5H_5N) and quinoline (C_9H_7N). The constitution of but few of the alkaloids is known to a certainty; such, for example, are coniin, cocaine, piperin and hydrastine. The alkaloids may for convenience be divided into two classes; those which are liquid and volatile, and those which are solid and non-volatile (comparatively). The termination "ine" has been adopted for all alkaloids, thus distinguishing them from the glucosides and neutral principles which terminate in "in."

Extraction.

All alkaloids exist in the plant in combination with some organic acid, which in many instances is peculiar to the plant, such as meconic, quinic and aconitic acids. While some of these acids may be removed from the plant by extraction with water alone, others require that the water be acidulated, and still others require that the powdered drug be moistened with slaked lime and dried, in order to break up the combination of the alkaloid with its acid, then exhausting with alcohol or ether. In the former instances the alkaloid is precipitated from its acid solution by the addition of an alkali; in the latter case the alcohol or ether on evaporation yields the alkaloid. Thus obtained it is in a very impure condition, purification being accomplished by recrystallization or treatment with animal charcoal.

In the isolation of alkaloids, heat in the presence of acids and alkalies should be avoided as much as possible, owing to the fact that they are readily split up into various decomposition products. For example, atropine, aconitine, pilocarpine, are particularly sensitive.

These latter and also some other alkaloids are obtained by exhausting the drug with water slightly acidulated, then shaking with chloroform and rendering slightly alkaline; the chloroform takes up the alkaloid and leaves it on evaporation.

Solubility.

The alkaloids (not salts) are, as a rule, insoluble in water, soluble in alcohol, ether, chloroform and dilute acids, exception being morphine, which is not soluble in ether. The salts of the alkaloids are soluble in water and alcohol, insoluble in ether and chloroform.

Alkaloid Reagents.

Precipitating Agents.—These are employed for detecting the presence of alkaloids by producing insoluble compounds in aqueous solutions. Some of these reagents are produced quite frequently in compounding prescriptions, hence it is important to note them, as below. When such a precipitant is to be added to a mixture containing an alkaloid, it should be added last and in small portions at a time, so that the precipitate formed may be as diffused as possible. Should the mixture contain a powerful alkaloid, such as strychnine, aconitine, etc., it would be incurring too great a risk, hence it should not be dispensed. The presence of alcohol in any quantity prevents the precipitation in most instances.

Tannic acid forms insoluble precipitates with the alkaloids; these precipitates are soluble in acids and alcohol.

Corrosive sublimate, or haloid salts of mercury, form difficultly soluble double salts with alkaloids.

Iodine, or Lugol's Solution.—The iodine may be liberated from an alkali iodide by some free acid (nitrous, nitric, etc.) in a mixture and give rise to the same difficulty.

Potassium Iodohydrargyrate, or Mayer's Reagent.—This reagent is produced by dissolving corrosive sublimate in potassium iodide. It frequently occurs in prescriptions.

Picric Acid, or Hager's Reagent.

Potassium Cadmium Iodide, or Marme's Reagent.

Potassium Bismuth Iodide, or Dragendorff's Reagent.

Platinic and Auric Chlorides.

Alkalies, or Salts Having an Alkaline Reaction.

Color Reagents.—These are oxidizing, dehydrating and reducing agents, which give various characteristic color reactions with different alkaloids. Among these are sulphuric, nitric and chromic acids, chlorine, bromine, potassium chlorate and permanganate, iodic, molybdic and tungstic acids, etc.

For a list of these various reagents the reader is referred to "List of Tests" by Hans Wilder.

Volatile Alkaloids.

CONINE, $C_8H_{16}(C_3H_7)N$.—An oily liquid alkaloid obtained from the unripe fruit of Conium maculatum. The alkaloid is very volatile, hence acetic acid is directed by the U. S. P. to be used in making preparations of the drug in order to "fix" it, forming thereby a salt, which is not so apt to be volatilized in the process of concentration. This is the first alkaloid produced synthetically, it being an α-propyl-piperidine. The properties of conium are narcotic and sedative; the hydrochlorate is used in cardiac asthma in doses of 0.016 to 0.008 gm.

NICOTINE, $C_{10}H_{14}N_2$.—This alkaloid is a hexa-hydro-dipyridyl, a colorless, poisonous, oily liquid, which is found in tobacco to the extent of from 1 to 7 per cent. The oil of tobacco obtained by dry distillation is used in various skin diseases.

LOBELINE, the active principle of Lobelia inflata. The plant contains also a resinous principle called lobelin by the eclectics. Properties are expectorant and emetic.

SPARTEINÆ SULPHAS, U. S. P., $C_{15}H_{26}N_2H_2SO_4 + 4H_2O$.—The alkaloid is liquid and salts crystallizable. Obtained from Scoparius. Properties diuretic; dose 0.13 gm.

Non-Volatile Alkaloids.

THE MYDRIATIC ALKALOIDS.—The leaves and stems of Atropa belladonna, Datura stramonium, Hyoscyamus niger, Scopolia japonica, and Duboisia myoporoides, contain alkaloids which

*For further study the reader is referred to "Ptomaines and Leucomaines," by Vaughan and Novy.

†For study of these derivatives and their constitution see Pictet's "Alcaloides Végétaux."

are closely related to one another chemically and physiologically. These alkaloids may be divided into classes, thus:

$$\left.\begin{array}{l}\text{Atropine}\\ \text{Hyoscyamine}\\ \text{Hyoscine}\\ \text{(scopolene)}\end{array}\right\} C_{17}H_{23}NO_3$$

$$\left.\begin{array}{l}\text{Belladonnine}\\ \text{Daturine}\\ \text{Atropamine}\end{array}\right\} C_{17}H_{21}NO_2$$

Belladonnine is an amorphous side alkaloid obtained from Atropa belladonna, irritating in properties. Daturin is a mixture of hyoscyamine and atropine.

Atropine is not found in very young solanaceous plants, but occurs in increasing quantities as the plants become older. It appears to be the stabler form of the molecule, as the presence of acids or mere heating converts hyoscyamin into atropin.

ATROPINE is obtained chiefly from the leaves and root of Atropa belladonna.

HYOSCYAMINE is obtained from the leaves and seeds of Hyoscyamus niger, the seeds of Datura stramonium (it was formerly called Daturine), from Duboisia myoporoides (Duboisine) and from the root of Scopolia atropoides and japonica. The alkaloids from these latter two are called Scopolamine or Scopoleine, but are, according to E. Schmitt, identical to hyoscine, which is found in all the solanaceous plants.

All these alkaloids give practically the same test (color) reactions.

Warmed with sulphuric acid they develop an orange-flower odor, which on the addition of potassium permanganate changes to that of bitter almond.

When moistened with nitric acid and evaporated to dryness, the cold residue gives an intense violet color when moistened with alcoholic solution of potassa (Vitali's test). Strychnine and veratrine produce this same reaction. All these alkaloids cause dilatation of the pupil when applied to the eye. Physiologically, they are antagonistic to morphine, hence are used as antidotes in opium or morphine poisoning.

ATROPINA, U. S. P. ($C_{17}H_{23}NO_3$).—This alkaloid is usually obtained from the roots of Atropa belladonna. It is always accompanied by a small proportion of hyoscyamine. When heated with dilute acids it is decomposed into tropine and tropic acid.

$$\underset{\text{Atropin}}{C_{17}H_{23}NO_3} + H_2O = \underset{\text{Tropine}}{C_8H_{15}NO} + \underset{\text{Tropic Acid}}{C_9H_{10}O_3}$$

It is usually employed in the form of the more soluble

SULPHATE, which is official. Chiefly employed in ophthalmogy in 1 per cent. solutions, the hypodermic dose being 0.00065 gm.

HYOSCYAMINÆ HYDROBROMAS and SULPHAS, U. S. P.—This alkaloid is obtained chiefly from the seed of Hyoscyamus niger. The plant contains, besides the crystalline hyoscyamine, an amorphous alkaloid called hyoscine. It is quickly altered by contact with alkalies. The alkaloid is very poisonous. It is used chiefly as a sedative and hypnotic in acute mania; the dose varies greatly according to its purity, usually beginning with 0.0008 gm.

HYOSCINÆ HYDROBROMAS, U. S. P.—The alkaloid is usually known as amorphous hyoscyamine, and is more rapid and powerful in its mydriatic effects than either atropine or the crystalline hyoscyamine. For hypodermic injections 0.004 gm. is usually administered.

ARTIFICIAL TROPEINES.—Various artificial tropeines have been built up by substituting organic acids, as cinnamic, benzoic, salicylic and mandelic, in place of tropic acid; these being combined with tropin, are known as cinnamyl, benzoyl and salicyl tropeine. The latter compound is Homatropine. This alkaloid is employed as a substitute for atropine by ophthalmologists, who use it in 1 per cent. solutions. The effect passes off more rapidly than that of atropine.

The Cinchona Alkaloids.

The sources of quinine and its associated alkaloids are, according to the U. S. P., the barks of the cinchona, calisaya officinalis and hybrids of these, which should contain not less than 5 per cent. of total alkaloids, of which 2.5 per cent. is quinine. A very large number of alkaloids have been obtained from these various barks; they seem, however, to be derivatives of the four main principles, namely:

$$\left.\begin{array}{l}\text{Quinine}\\ \text{Quinidine}\end{array}\right\} C_{20}H_{24}N_2O_2$$

$$\left.\begin{array}{l}\text{Cinchonine}\\ \text{Cinchonidine}\end{array}\right\} C_{19}H_{22}N_2N$$

These four alkaloids show differences as to their solubilities and reactions, thus:

Quinina.	Quinidina.
Soluble 1 in 23 ether.	Soluble 1 in 30 ether.
Sulphate soluble 1 in 740 water.	Sulphate soluble 1 in 100 water.
Alkaloid soluble in excess of NH_4OH.	Alkaloid soluble in excess of NH_4OH.
	KI precipitates.

Oxy acid solutions of both are fluorescent.

Both give herapathite reaction.

Both give thalleioquin test.

Cinchonidina.	Cinchonina.
Soluble 1 in 188 ether.	Soluble 1 in 370 ether.
Sulphate soluble 1 in 70 water.	Sulphate soluble 1 in 100 water.
Insoluble in NH_4OH.	Insoluble in NH_4OH.

Acid solutions of both are not fluorescent.

No thalleioquin or herapathite reaction.

Thalleioquin Test.—To a solution of the salt (about 1 in 1,300) is added a few drops of bromine T. S., followed with an excess of ammonia water, the liquid will acquire an emerald-green color. When bromine water is not at hand, freshly prepared chlorine water may be substituted. In concentrated solutions a precipitate forms.

Herapathite Test.—This depends on the property possessed by quinine and quinidine of forming crystals of iodosulphate of quinine. Of the salt 0.01 gm. is dissolved by heat in 20 drops of a mixture of acetic acid (30 gtt.), alcohol (20 gtt.), and dilute sulphuric acid (1 gtt.). Upon cooling, handsome green colored crystals, of a metallic-like appearance, crystallize out ($4C_{20}H_{24}N_2O_2$, $3H_2SO_4$, $2HI$, $I_4 + 3H_2O$).

To determine whether or not quinine or its salts are contaminated with the other alkaloids, the U. S. P. employs a modified Kerner's test, which depends upon the greater solubility of the sulphate in aqua ammonia as compared to the insolubility of the sulphates of the other alkaloids. (See U. S. P.)

The alkaloids are extracted by first moistening the powdered bark with slaked lime, which breaks up the combination of the alkaloids with the quinic, quinovic and cincho-tannic acids. This alkaline mixture is then exhausted (by shaking or percolating) with warm kerosene, which takes up the liberated alkaloids. From this they are removed by shaking with acidulated water, which takes up the alkaloids completely. The hot acid solution of the alkaloids is neutralized with soda, whereby the quinine crystallizes out as impure sulphate. The other alkaloids are removed by fractional precipitation and crystallization.

All the quinine salts effloresce to a greater or less degree, hence they should be kept in tightly closed containers in not too dry a place. The salts are usually administered in the form of pills (coated), cachets, or capsules. For the pill mass the best excipient is glucose, using, however, a few drops of dilute or aromatic sulphuric acid, which reduces their size very much. When dispensed in capsules they, like all other medicinal substances, should be used in powder form, and not made up into a mass. Where a salt of quinine is prescribed in a mixture, it should be suspended and not dissolved by aid of a dilute acid unless so ordered by the physician, for this greatly intensifies its bitterness.

When dispensed the bisulphate is preferred because of its ready solubility. The various cinchona alkaloids official are quinina, quininæ sulphas, bisulphas, hydrochloras, hydrobromas, valerianas, quinidinæ sulphas, cinchonina, cinchoninæ sulphas and cinchonidinæ sulphas.

The alkaloid quinina enters into Ferri et quininæ citras and the Ferri et quininæ citras solubilis, which should contain at least 11.5 per cent. of quinine.

The Coca Alkaloids.

The leaves of erythroxylon coca and other species contain a number of alkaloids, most of which are derivatives of ecgonine ($C_9H_{15}NO_3$). The chief alkaloid, cocaine, is a methyl-ester of benzoyl ecgonine, and may, on boiling with dilute acids, be split up into methyl alcohol, benzoic acid and ecgonine. The side alkaloids, as isatropyl cocaine, cinnamyl cocaine, etc., when thus treated, also split up, yielding ecgonine; since these side products do not possess any medicinal value, they are converted into cocaine by first treating the ecgonine obtained from them with benzoyl chloride and then methylating the product.

The alkaloids are obtained by first extracting the powdered leaves, which have been thoroughly moistened with a solution of sodium carbonate (20 per cent.), with benzene or kerosene. The alkaloids which have been taken up by the oil are then removed by shaking with dilute sulphuric acid, and from this acid solution the alkaloids are precipitated by a solution of sodium carbonate.

The U. S. P. recognizes the hydrochlorate of cocaine, which may be made by dissolving the neutral alkaloid in alcohol and then passing hydrochloric acid gas through, until of acid reaction; if sufficiently concentrated, the solution will crystallize on standing. The test of identity, obtained by rubbing the salt with calomel and breathing on the powder, which should turn a dark color from reduction of the calomel, is very unsatisfactory. It would be better to moisten with nitric acid, evaporate and then boil with alcoholic potassa, the odor of benzoic ethyl ester being manifest. This alkaloid is used as a local anæsthetic, in solutions of from 1 to 10 per cent. strength, both the solvent and salt being weighed.

Opium Alkaloids.

Thus far, about 19 alkaloids have been found in opium; however, of these the only important ones are official, namely, morphine and codeine. These exist for the most part combined with meconic acid. About 60 per cent. of opium is soluble in water. We find besides these alkaloids, caoutchouc, resin, fat, wax, gum, albumen, moisture and color. The amount of morphine present varies considerably (usually 6 to 14 per cent.). The amount of narcotine present varies from 3 to 8 per cent., that of codeine from 0.2 to 0.8 per cent. The Pharmacopœia directs that opium in its normal moist condition should contain not less than 9 per cent. of morphine.

MORPHINA, U. S. P. ($C_{17}H_{19}NO_3 + H_2O$).—Various processes for the preparation of morphine are employed; in some the opium is extracted with water, the solution concentrated and then precipitated with aqua ammoniæ or sodium carbonate. The impure alkaloids are washed with cold water and alcohol to remove the side alkaloids and soluble impurities, then taken up with dilute acetic acid (avoiding the narcotine), and precipitating again and recrystallizing.

Morphine gives a number of color reactions, among the more important of which are the following:

The addition of a few drops of ferric chloride T. S. produces a blue color, destroyed by acids, alcohol and heating. With sulphuric acid it should not acquire more than a faintly yellowish tinge (absence of narcotine, etc.), and upon the addition of a small crystal of potassium permanganate it should not give a purple color (difference from strychnine).

It also liberates iodine from iodic acid, imparting a violet color to chloroform.

With Froehde's reagent (1 per cent. solution of sodium molybdate in sulphuric acid) it produces a display of colors ranging from violet into blue, then from green into yellow, finally into into pink.

A mixture of morphine and cane sugar (1 to 4) added to concentrated H_2SO_4 gives a purple color, changing to blood-red.

The various salts of morphine official are: Morphinæ acetas, hydrochloras and sulphas, the acetate being the most soluble in water, followed by the sulphate and hydrochlorate. The acetate loses acetic acid on standing, hence generally requires the addition of a few drops of the acid when dissolving.

Morphine is given in doses of from 0.005 to 0.04 gm.; subcutaneously the dose is one-half or less. A former official solution contained 1 grain to the fluid ounce of water; this should not be confused with Magendie's solution, which contains 1 grain to the fluid dram. Morphine sulphate enters into Pulv. morphinæ compositus and Trochisci morphinæ et ipecacuanhæ.

When morphine is heated in a sealed tube with hydrochloric acid or zinc chloride at 150° C., it loses one molecule of water and is converted into

APOMORPHINÆ HYDROCHLORAS, U. S. P. ($C_{17}H_{17}NO_2.HCl$).—The resulting liquid is diluted with water and precipitated with sodium bicarbonate, shaking with chloroform, which takes up the apomorphine, leaving any unaltered morphine behind. On adding concentrated hydrochloric acid to its ethereal solution, the hydrochlorate of apomorphine precipitates. Apomorphine is distinguished by its greater solubility in water, ether and chloroform; in the latter two, morphine is practically insoluble. It turns a greenish tint when exposed to light and air and reduces solution of silver nitrate. This salt does not possess narcotic properties, but is an expectorant and emetic.

CODEINA, U. S. P. ($C_{18}H_{21}NO_3.H_2O$).—After the precipitation of the morphine from the opium liquor by ammonia, the codeine which remains in solution is obtained by evaporation and crystallization. Being a methyl ester of morphine, it may be made synthetically by the action of caustic alkalies and methyl iodide on morphine.

$$C_{17}H_{19}NO_3 + NaOH + CH_3I = NaI + H_2O + C_{17}H_{18}(CH_3)NO_3.$$

For tests of identity see U. S. P. This is a mild narcotic given in double the dose of morphine.

For assay of opium preparations see "Pharmaceutical Assaying."

The Strychnos Alkaloids.

The various species of strychnos contain intensely poisonous alkaloids. Strychnos nux vomica and ignatia contain the alkaloids strychnine and brucine, in combination with igasuric acid. These alkaloids are extracted by first exhausting the powdered drug with acidulated water, evaporating, mixing with slaked lime (which liberates the alkaloids), then drying and exhausting with dilute alcohol, which removes the brucine; the residue is then extracted with boiling alcohol, which on evaporation leaves the strychnine in impure condition. This is purified by dissolving in acidulated water, boiling with animal charcoal and after filtration it is precipitated with aqua ammoniæ.

STRYCHNINÆ, U. S. P. ($C_{21}H_{22}N_2O_2$).—This is almost insoluble in water (1 to 6,700). but is yet so bitter that one part imparts a decided bitter taste to 700,000 of water. If to its solution in sulphuric acid a few fragments of potassium bichromate are added, it will yield a blue, changing to a purplish color. It may be separated from brucine by means of its ferrocyanide salt, the corresponding brucine compound being very soluble.

Strychninæ sulphas (U. S. P.) is usually employed in medicine because of its greater solubility. Dose 0.002 to 0.005 gm.

BRUCINE is also poisonous, but less so than strychnine. It is also more soluble than the latter. It does not give any color reactions with sulphuric acid, but with nitric acid a blood-red color.

For assay of preparations of nux vomica see "Pharmaceutical Assaying."

Aconite Alkaloids.

The alkaloids of the various aconite species are esters of benzoic acid or a derivative of it. Simple heating with water alone is generally sufficient to decompose these crystalline alkaloids into benzoic acid (or derivative) and amorphous products of lesser activity. The alkaloid

ACONITIA (crystalline and amorphous) as sold in the market varies greatly in activity; of some samples as much as 2½ grains have been taken with impunity, while others in doses of 1-125th of a grain have nearly proven fatal. It therefore should not be administered internally. Aconitia is recognized by the benumbing sensation produced when a drop of a weak solution is taken on the tongue.

Miscellaneous Alkaloids.

PHYSOSTIGMINE ($C_{15}H_{21}N_3O_2$).—An alkaloid obtained from the calabar bean; is official as sulphate and salicylate. It is sometimes known under the name of Eserine. Solutions rapidly turn red, owing to the presence of traces of alkali from the glass. The presence of a trace of an acid prevents this. Solutions of its salts contract the pupil of the eye.

PILOCARPINÆ HYDROCHLORAS, U. S. P. ($C_{11}H_{16}N_2O_2.HCl$).—An alkaloid obtained from the several varieties of pilocarpus. It has also been obtained synthetically. It is used as a diaphoretic and sialagogue (dose 0.008 to 0.016 gm.).

PIPERINUM, U. S. P. ($C_{17}H_{19}NO_3$).—This weak base is obtained from the alcoholic extract of the white pepper by washing with potassa to remove the resin, and then crystallizing from alcohol. When heated with caustic alkalies it is split up into piperic acid and piperidine. It may be made synthetically. The medicinal properties of this base are largely influenced by the presence of oil and resin as impurities.

VOLATILE OILS.

This group embraces a large number of volatile odorous substances, which are widely scattered throughout the vegetable kingdom and to which, as a rule, the odor of the plant is due. Many plants contain volatile oil in certain parts only, while there are others which contain oil in every part. In the latter case it will be found that the several oils will differ physically and chemically, as for instance the oils of orange (from peel), neroli (from flowers), and Petit grain (from unripe berries and also twigs). In other plants the oils do not pre-exist at all, but are formed by the decomposition of complex principles caused by the action of ferments, as for instance the oils of mustard and bitter almond. The oils are found secreted in cells in various parts of the plant tissue, as in the rinds of fruits, bark, seed, etc.

Odor.

Not all volatile oils are odorous. We have oils of the same composition, yet of a far different odor. Oxidation plays a very important part, for a fresh recently distilled oil usually possesses but a very faint odor, but on standing a short time in the air its full characteristic odor is developed. Freshly rectified oil of turpentine is devoid of unpleasant odor, which, however, is acquired on exposure to air.

Color.

Pure and rectified oils are usually colorless; however, on standing they become colored, varying in intensity according to age. Among the colorless oils we have oils of rosemary, fennel, turpentine, etc.; yellow are the oils of clove, sassafras, etc.; blue are the chamomile oils, also those obtained by the dry distillation of various umbelliferous resins, etc.; green are oils of cajeput and wormwood.

Density.

The density of the non-oxygenated oils averages between 0.850 and 0.980, while that of the oxygenated is usually greater than that of water, for instance, oils of clove, cinnamon, wintergreen, bitter almond, mustard, sassafras, bay, pimenta, etc.

Solubility.

The volatile oils are soluble in alcohol, ether, chloroform, glacial acetic acid, fatty oils, etc. Their degree of solubility in alcohol is variable, from less than their own volume to ten times and more. Those oils which consist mainly of terpenes are less soluble than the oxygenated.

General Characters.

The boiling point of a volatile oil is constant so long as its composition is constant, that is, when it consists of but one chemical body, as for example oils of bitter almond, mustard, birch, etc. But in the majority of cases the oils consist of a mixture of several bodies of different characters and boiling points. Many oils when exposed to a low temperature deposit a solid crystalline substance which has been called "stearoptene" or "camphor," the liquid portion being called "elæoptene."

The Stearoptenes are in all instances oxygenated bodies to which the odor of the oil is mainly due, while the Elæoptenes consist of terpenes, possessing in most instances little or no odor. The ottar of rose presents the reverse, in which the stearoptene is entirely inodorous and the elæoptene is oxygenated and is the odorous portion.

When dropped on paper, the volatile oils impart a stain, resembling that produced by the fixed oils, but distinguished by being dissipated on heating; the stain produced by old or partly resinified volatile oils is frequently difficult to remove, however, but is readily distinguished from that left by fixed oils.

When exposed to the air they rapidly absorb oxygen and resinify, developing a very rank odor; hence they should be kept in small quantities in well-stoppered bottles in a dark place. Never place a fresh oil in a container which has already been used even for the same oil, for the presence of but a trace of an old, partly oxidized oil is sufficient to ruin the very best grade of an oil. The addition of deodorized alcohol (5 per cent.) to such oils as those of lemon and orange will aid materially in retaining their fresh odor.

Resinified oils can rarely be restored by washing and distillation as often suggested.

Adulterations.

The adulterations most frequently practiced are the addition of alcohol, fixed oils, oil of turpentine, rectified petroleum, and inferior grades of oils. Fixed oils are easily detected by the permanent greasy stain imparted to paper, or by distillation of the sample in a current of steam, whereby the fixed oil remains behind. Alcohol may be detected by shaking in a graduated tube with an equal volume of glycerin, noting the increase in volume of the latter; or by careful distillation, whereby the alcohol is collected in the first fraction, to which various tests of identity may be applied. Calcium chloride when added will become more or less liquid if alcohol be present. The presence of petroleum is usually told by the lesser solubility in alcohol and by fractional distillation. In many instances, the quality of an oil may be judged by its odor when a few drops are dropped on a sheet of filter paper or rubbed on the hand. Many of these tests fail, leaving one in doubt, hence recourse is had to the polariscope and refractometer; even then it requires experience to be able to place a proper judgment upon a specimen.

Methods of Preparation.

The method of extraction is varied according to the nature of the oil and its location in the plant.

1. Method of Distillation.—Although the boiling points of the volatile oils are considerably higher than that of water, they pass over readily with its vapors. The plant parts (barks, seeds, etc.), in coarsely comminuted condition (leaves being employed entire), are placed in a copper still provided with a perforated diaphragm or false bottom; through this steam is passed under pressure; the oil-cells are readily ruptured and the oil is carried over with the steam, which is condensed and collected. The oil in most cases collects upon the surface of the distillate, from which it is afterward removed by separators. The distillate is a saturated solution of the oil in water, which is in some instances used as an aromatic water (orange flower and rose water). In some instances, the amount of oil present in the plant part (flowers) is so small that it is necessary to return the distillate to the retort with fresh portions, distilling again until a distillate is obtained sufficiently saturated with oil; this is called the process of "Cohobation."

2. By Expression.—For such oils as are contained in the epidermal cells of the fruit, as in the natural odor of Aurantiaceæ, this method of extraction is best suited. The oils usually extracted after this method are those of the lemon, orange and bergamot. The rind of the fruit, cut into strips, is twisted in the hand, whereby the cells are ruptured, and the ejected oil collected by means of a sponge.

3. By extraction with volatile solvents, such as petroleum ether, ether, acetone, etc., the solvent being afterward recovered by distillation. This method is not employed to any extent because these solvents extract resins, fats, etc., which render subsequent purification difficult.

4. Extraction with Fats and Oils (Maceration).—This process is resorted to for the extraction of the sensitive odorous principles of flowers, these being present in such minute quantities as to render their extraction by distillation impossible. This extraction by fats is carried on extensively in France, being known as enfleurage. Either the flowers are immersed in some bland inodorous oil, as olive, cottonseed or benne oil, until saturated and then strained, or an inodorous purified fat, as lard or tallow, is spread on glass plates, and covered with flowers which are removed from time to time, until the fat is saturated with the odorous principle. This pomade is then washed with alcohol whereby the odorous principles are extracted, resulting in the "extract" of the perfumes.

Composition.

According to their composition the volatile oils may be divided into several classes.

1. THE TERPENES AND THEIR DERIVATIVES.—These are hydrocarbons of the formula $(C_5H_8)_x$, and may be divided into hemiterpenes (C_5H_8), terpenes ($C_{10}H_{16}$), sesquiterpenes ($C_{15}H_{24}$), diterpenes ($C_{20}H_{24}$) and polyterpenes ($C_{10}H_{16}$)$_x$.

The terpenes proper ($C_{10}H_{16}$), of which oil of turpentine is the type, may be divided into its different isomers, such as pinene (the main constituent of oil of turpentine), dipentene (found in camphor and cajeput oils), limonene (citrene or carvene in oils of orange-peel, dill,

caraway, etc.), sylvestrene (dextro-rotatory constituent of Russian turpentine oil), and phellandrene (found in lævo-rotatory oil of Eucalyptus amygdalina). The oils have a density of from 0.850 to 0.900; when exposed they resinify and also react violently with nitric and sulphuric acids. Under this class belong the official oils of turpentine, copaiba, cubeb, erigeron, juniper, savine, rosemary, eucalyptus and bay. To this class may be added the oils of lemon, bergamot, orange peel and flowers, which consist largely of limonene with a small percentage of oxygenated bodies.

2. OXYGENATED OILS. — Those oils which contain oxygen consist of variable mixtures of terpenes (eleoptenes) with organic oxygenated compounds (stearoptenes), such as ethers, esters, alcohols, aldehydes, ketones, phenols, etc. These so-called stearoptenes may be separated from the terpenes by fractional distillation, or exposing the oil to a low temperature whereby they crystallize out. As official examples of such stearoptenes, we have menthol and thymol.

The oxygenated portion of the volatile oils constitutes in most instances the odorous principle. Most of these oils are far more soluble than the terpenes in water, alcohol or glacial acetic acid. Some of the oils of this class are heavier than water, ranging in density from 0.900 to 1.175. The oxygenated oils official are anise, birch, cajeput, caraway, clove, chenopodium, cinnamon, coriander, fennel, wintergreen, pennyroyal, peppermint, spearmint, rose, sandalwood, sassafras and thyme.

3. NITROGENATED OILS.—These oils are very few, and constitute the odor of the Rosaceæ, sub-order Amygdalæ. They do not contain nitrogen, but in their process of formation a nitrogenated product, hydrocyanic acid, is formed; this is found in variable proportions, the oils being considered poisonous. These oils do not pre-exist in the plant, but are formed by reaction between certain principles in the presence of water; this occurs in the bitter almond, peach and cherry seeds, wild cherry bark, etc. The only one official under this class is Oleum amygdalæ Amaræ (see Benzaldehyde).

4. THE SULPHURATED OILS.—These oils are produced by interaction between certain principles found chiefly in the order of the Cruciferæ. However, we find sulphurated oils in asafœtida (Umbelliferæ) and garlic (Liliaceæ). In the first instance, the official volatile oil of mustard is an ester of isothiocyanic acid (vide), while those of the latter two are classed as disulphides.

5. THE CAMPHORS.—These are oxygenated derivatives of the volatile oils, being largely secondary and tertiary alcohols except carvol ($C_{10}H_{14}O$) and camphor ($C_{10}H_{16}O$), which are ketones.

CAMPHORA, U. S. P., $C_{10}H_{16}O$.—A stearoptene (or ketone) obtained from the Cinnamomum camphora. May be made synthetically from borneol ($C_{10}H_{18}O$) and camphene by oxidation. When triturated with menthol, thymol, phenol, chloral hydrate, etc., liquefaction ensues. When pulverized it should first be moistened with ether or alcohol. It enters into Aqua camphoræ, Ceratum camphoræ, Ceratum plumbi subacetatis, Linimentum belladonnæ, Saponis, Sinapis comp., Spiritus camphoræ, Tinctura opii camphorata.

For further study of this subject the reader is referred to "The Essential Oils," by Dr. F. B. Power.

RESINS.

The resins are a class of amorphous vegetable products which evidently are products of the oxidation of the terpenes. They exist in most all plants, though in different proportions; while some contain but traces, others secrete large quantities. We find them sometimes diffused through all parts of the plant, again secreted only in certain ducts or in intercellular spaces, or in other instances they collect in the heart wood (guaiac). Many of these resins present the characters of acids, acid anhydrides and alcohols. They may be divided into the groups Hard Resins, Oleo-resins, and Gum Resins.

1. HARD RESINS.—These are solid amorphous bodies, break with a conchoidal fracture, become soft and sticky by heat, are electrified by rubbing, and are soluble in alcohol, ether, chloroform, carbon-disulphide, fixed and volatile oils, alkalies, etc. When soluble in alkalies they combine to form soaps, demonstrating their acid nature. Because of the large percentage of carbon present they burn with a sooty flame. Many of these resins are of very complex composition, consisting of a mixture of several different resins; for example, shellac consists of a mixture of five different resins and a coloring substance. As examples of resins we have colophonium, or common rosin, amber, guaiac, resin, lac resin, dragon's blood, benzoin, etc.

2. THE OLEO-RESINS OR BALSAMS.—The oleo-resins consist of a mixture of resins and volatile oils. For example, the official Terebinthina, Terebinthina Canadensis, Pix Burgundica, Copaiba, etc. The name "balsam" is applied to those semi-liquid products which contain cinnamic or benzoic acids in addition to a resin alcohol called "resinol." For example, the balsams of Peru, tolu and storax.

Pharmaceutical oleo-resins are a class of preparations made by extracting oleo-resinous drugs in ether and evaporating to an oleaginous mass. For example, the official oleo-resins of male fern, capsicum, cubeb, lupulin, pepper and ginger.

3. GUM RESINS.—These are milky exudations from plants which contain a gum soluble in water and a resin soluble in alcohol. Some of the gum-resins, such as asafœtida, ammoniacum, myrrha, galibanum, olibanum, etc., contain volatile oil. These when triturated with water yield milky emulsions, of which the emulsum ammoniaci and asafœtidæ are official. These gum-resins when powdered lose their volatile oil and emulsifying properties, hence only select tears should be employed.

The gum-resins which do not contain volatile oil are gamboge and scammony (U. S. P.).

GLUCOSIDES.

The name is applied to a class of plant principles which by the action of dilute acids or ferments are split up into other substances, one of which is always glucose or a related carbohydrate. Besides dilute acids and baryta water, such ferments as emulsin, synaptase, yeast or ptyalin will accomplish the decomposition.

For example, the following are reactions of some of the more important glucosides:

1) $C_{20}H_{27}NO_{11} + 2H_2O =$
Amygdalin
$C_6H_5COH + HCN + 2C_6H_{12}O_6$
Benzoic Aldehyde — Hydrocyanic Acid — Glucose

2) $C_{13}H_{18}O_7 + H_2O =$
Salicin
$C_7H_6O_2 + C_6H_{12}O_6$
Saligenin — Glucose

3) $C_{12}H_{18}N_2O_{10}K = C_6H_{12}O_6 +$
Myronate of Potassium — Glucose
$C_6H_5NCS + KHSO_4$
Allyl Sulphocyanide — Acid Potassium Sulphate

4) $C_{16}H_{22}O_8 + H_2O =$
Coniferin
$C_{10}H_{12}O_3 + C_6H_{12}O_6$
Coniferyl Alcohol — Glucose

In addition to these we have digitalin, a very poisonous principle, elaterin, glycyrrhizin, saponin, solanin, etc.

Bitter Principles and Neutral Bodies.

These are amorphous and crystalline bodies concerning the chemical nature of which we do not know sufficient to enable us to classify them. Among them are aloin, cantharidin, cubebin, curcumin, picrotoxin, quassin, santonin, etc.

(To be continued.)

AN INCOMPATIBILITY. — Walter G. Smith states in the Pharm. Jour. that the solution made from the subjoined prescription turned a dark red color, which proved permanent:

Hydrargyri perchlor ...4 grains
Resorcin .....1 dram
Spir. chloroformi,
Spir. æth. nitr. ..of each 2 ounces

This produced severe irritation upon the skin of the patient for whom it was ordered.

The cause of the coloration is probably the formation of a red nitro-compound, analogous to the green nitroso-compound formed by the interaction of antipyrine and nitrous ether.

Professor Emerson Reynolds states that mono-nitro-resorcinol, $C_6H_3(NO_2)(OH)_2$, is easily produced when an ethereal or alcoholic solution of resorcinol, $C_6H_4(OH)_2$, is treated with dilute nitric acid containing some nitrous acid. It is volatile, and crystallizes from dilute ethylic alcohol in orange-red prisms, which melt at 85°. There is an isomer, but it is pale yellow and non-volatile.

DRUG CLERK WANTED.

Proprietors often desire to make a change in their clerks, and a good drug clerk is the best investment. More of these drug clerks read the "Want Ads" in the Era than any other similar ads. When you want a clerk, try one. Answers can be sent in our care if desired.

TRADE-MARK REGISTRATION.*

There is probably no department of commercial practice in which greater obscurity prevails than in that of trade-marks. The causes of this state of affairs are not far to seek—so little is generally known of the law governing the matter, and as little regarding the practice of the Department at Washington.

The subject has unfortunately been involved in legal technicalities, and the practice at Washington has not tended to make the matter clearer to the general mind.

Registration at Washington confers no right whatsoever, but is simply a record of those trade-marks which have been sent there for registration. One must have the right to the trade-mark, otherwise registration at Washington or elsewhere is futile.

That which is of vital importance is to be able to establish priority of usage, and registration is simply an aid in the establishment of the claim. The misconception regarding trade-marks is partially due to confounding them with patents or copyrights. The fact is that a trade-mark stands upon an altogether different footing from these. A patent or copyright certificate is proof positive that the owner is entitled to it, and has in itself a monetary value. It can, moreover, be laid aside for an indefinite period, and no steps need be taken to manufacture the article patented or to print the book copyrighted. On the other hand, a mark must be actually used in commerce before it is a trade-mark and can be registered, and it is the usage and not the registration that constitutes its validity. It cannot be transferred excepting by a transference of the business with which it is connected as a mark, and is only good as long as it is continued in actual use.

The issuance of a certificate of registration at Washington does not carry with it the undisputed right of the holder to the trade-mark registered. The Department does not act in a judicial capacity regarding trade-marks sent for registration, and it does not inquire whether the applicant has the right to use the trade-mark in question, or if a certificate has already been issued for a similar trade-mark. Such being the case, certificates have undoubtedly been issued to those not entitled to them, and who, if they were called on to support their claim in a court of law, would find their certificates so much waste paper.

This is no supposititious case, as such contests have appeared in the courts, and holders of certificates have found to their chagrin and confusion that the documents were worthless, excepting as evidence of money foolishly invested.

The point we wish to make and emphasize is this: There has sprung up in the mind of the people a belief that registration at Washington settles at once and forever the question of right and title to a trade-mark, when the opposite is the case. The registration certificate settles nothing beyond the fact that the applicant has paid twenty-five dollars into the coffers of the Government, and does not at all pass on the question of his right to the use of the mark registered, as against another individual using the same mark, even though he may not have availed himself of the privilege (?) of governmental registration.

The real fact is that by establishing priority of usage, and by this means alone, can an individual or firm claim the exclusive right to use a trade-mark.

Registration and publication in the trade journals are aids, and very important and material ones too, in establishing the claim of priority of usage. We will concede that in case of a contest regarding a certain trade-mark this end could be accomplished by the individual testimony of the witnesses; but this is at best a cumbersome and very frequently an expensive kind of evidence. Besides, it has been known that even when the witnesses were on the side of right and had carefully gone over the evidence intended to be given, the other fellow has had counsel experienced and expert in the art of bulldozing and the witnesses have, under the spell of his magnetic wiles, destroyed the very case they intended to support. This result is impossible with documentary evidence, such as publication in the journals. What the pages of an issue state to-day they will state fifty years hence, and the production of this issue wherein the publication of a trade-mark is contained is, in itself, better than the oral testimony of fifty witnesses, because its story cannot be tortured into meaning anything but what its pages plainly state, be the opposing counsel ever so able and experienced.

Fortunately, the greatest danger regarding infringement of trade-marks does not arise from those who willfully and with malice aforethought intentionally appropriate what they know is another's property, but from those who do not know and have no means of ascertaining if a certain form of word or words, or a certain design, has already been appropriated and is being used. If they write to Washington for information their request is ignored, for, under No. 14 of Rules of Practice of the Patent Office, it is provided that "the office cannot respond to inquiries as to novelty in advance of an application, nor to inquiries founded upon brief and imperfect descriptions, propounded with a view of ascertaining whether the same claim has been passed on, and if so, in whose favor."

Being unable to obtain any light on the subject, they go ahead advertising and popularizing their brand, and one day become acquainted with the fact that the brand in question has been used by another dealer for years past. Result—after the expenditure of perhaps thousands of dollars, the poor, unfortunate dealer is as far from the desired result as ever.

Now just here registration and publication in the journals are especially valuable. In this respect its advantages over registration at Washington cannot be exaggerated, and must be self-evident. In the former case the records are filed away in the archives of the Government vaults at Washington, carefully guarded from the public gaze; in the other, notice is given to the world and he who runs may read.

*Adapted from an article in Mida's Criterion.

TWO STRIKES.

A writer in the San Francisco Druggist has been interested by the series of questions put by Mr. George Seabury, and to which he expected answers by members of the profession to be presented at the Denver meeting of the A. Ph. A. Says this writer: "As I shall not be present at such meeting, and as I have the solution of the whole problem flowing from the point of my pen, I cannot restrain myself from writing the following, the questions with the answers according to my lights:

"1. Where is the practice of pharmacy drifting?

"Why, to the seventh and last inner chamber of the thirty-third section of h——.

"2. To what cause is failure due in attempting to protect our mutual trade interests?

"To the mental strabismus which seems to be characteristic of some pharmacists in matters of trade and business, and to the want of harmony, union and energy among them.

"3. Why do a large number of wholesale druggists supply department stores with drugs and medicine, and violate contract agreements on rebate goods with manufacturers of proprietary medicines?

"Oh, sweet innocence! Don't you know that wholesale drug dealers are simply men, neither better nor worse? That among them are those of the cloven hoof, in the same proportion that they are found in other walks of life? That when in the distant horizon their avaricious eyes behold a shining North American dollar—well, they must have it, that's all?

"4. Under what circumstances is substitution admissible?

"If this query refers to where a druggist persuades customers to buy preparations on which he makes some profit in preference to those where he does not, thereby assisting him to keep the wolf of hunger from the dear ones at home, then it not only is justifiable, but the fellow who doesn't do it lacks nothing of being a fully developed john-horse except to get on all fours and bray.

"5. Is the protection of the trade interests of the druggists and chemists by the manufacturer of proprietary goods a possibility?

"So long as druggists continue to suffer from paresis this possibility will remain as remote as the possibility of a mosquito producing an itch upon a bull's tail by pricking his left horn.

"6. Is general substitution justifiable?

"Answered above.

"7. Is it justifiable to purchase unreliable materials for the purpose of increasing profits, thereby injuring the reputation of the physician and endangering the patient's chance of recovery?

"No. That is as criminal as it is dishonest, and he who is guilty of it ought

to be made acquainted with the intricacies of jute picking and a zebra suit.

"8. Are non-secret preparations, in imitation of well-known domestic medicines, legitimate products; and is it honest for a dealer to allow his name to be printed on the label so as to give an unknown compound currency, when he is ignorant of the contents of such preparation?

"Why not? They have a right to 'stand on parade' and show the beauties of their dress so long as they are not such as to actually deceive purchasers. I think it is not honest for a dealer to allow his name to appear on labels under the above-mentioned circumstances. But it is just as dishonest to say that Brayer's sarsaparilla or Sorrow's emulsion is 'very good, very fine,' when as a matter of fact, he knows nothing of their component parts.

"9. Does not the pharmacist jeopardize his reputation and standing by dealing in non-secrets, when he possesses the knowledge of compounding as good or better formulas?

"Again, callow youth, I must say no. The average member of the public belongs to the genus equus asinus and doesn't care a fig who puts up the preparation so long as he is satisfied that it is not the product of the druggist who sells it. In fact, the dealer jeopardizes his reputation when he recommends anything with his own name and indorsement thereon, because Mr. Buyer comes to the conclusion that behind the recommendation there is a 'little joker' in the shape of bigger profits.

"10. Does it pay pharmacists to substitute?

"Yes, poor unsophisticated laborer in the Lord's vineyard, it does pay to sell goods made by your own drug-saturated fingers in lieu of Dr. Rattlebrain's Syrup Juice. However, if you refer to the substitution of ingredients called for by a prescription, I say 'No,' in stentorian tones. A man's honor is more precious than gold, pearls or diamonds in car load lots.

"11. Is the claim true that physicians dispense their own medicines on the ground that pharmacists use inferior materials in their preparations?

"Why, no, my unfortunate lad. It is simply the pill of greed sugared with the 'claim' you refer to. If this hybrid breed of the syringe fraternity could concoct a plausible excuse they would have an undertaking parlor in connection with their office, and, egad! methinks they even would issue passes to any point between their own future abode and the highest celestial region, according to the heft of the purchaser's pocket-book.

"12. Where reputable pharmacists discover goods falsely labeled and below pharmaceutical standards, is it not their duty to expose such dishonesty?

"Come, come, now. Any sap-head galoot knows that things falsely labeled and things 'below standard' should be exposed in tones louder than those of a fog horn.

"13. Has excessive competition introduced a 'cheap era' into the drug trade?

"I should smile. But do you sincerely believe that anything short of competition would cause tradesmen to voluntarily prune off their profits?

"14. Why are physicians' supply establishments making inroads on the business of the pharmacists?

"Simply because the physician makes money, and the supply houses find their health improving right along.

"15. What are the chief arguments employed to induce physicians to supply ready-made medicines to their patients?

"The main argument is that they have all the necessary apparatus and facilities, as well as an eminently skilled pharmacist specially imported from Germany; whereas Old Spiritus round the corner—well, they don't like to say anything against druggists, but they don't mind telling, sub rosa, that they are not 'in it.' And forthwith the man of science and credulity nods his ponderous head as a token of appreciation for the valuable information received.

"16. Whither is the practice of medicine drifting?

"It is fast drifting into the clutches of proprietary and specialty makers. M. D.s are rapidly becoming nothing but traveling salesmen for these devil-fish whose tentacles are grabbing all in every direction.

"17. If the future facilitates the art of dispensing by physicians, what is our remedy?

"It is hoped that the day will surely come when druggists will throw from themselves the fetter of lethargy; will band together and cause legislation to be had that will place physicians in the proper sphere—practicing medicine and not pharmacy. If that day does not arrive the pill roller will go, and he ought, for, verily, it would then seem that the tuft of hair on his head draws too much sustenance from the layers below to allow a solid idea to take root therein.

"18. Is it not our duty to demand protection from the physicians and make an effort to fuse our natural relationship by a just compromise?

"Oh, bosh. We have demanded that so often that physicians have come to look down upon us as if we drew the breath of life by their grace, and theirs only, instead of God's. As to 'fusing,' no, no, my simple boy. They look upon themselves as standing toward us in about the relative position that gold does to brass.

"19. What argument have we against those who advocate that the day has arrived when any person, with open store for the sale of merchandise, will have a right to sell his goods to any other person who comes, with money in hand, and demands same, irrespective of his calling or profession?

"The following recipe would be very effective:

"Strych. sulph., grs. xx.
"Make two powders.
"Sig. Give one immediately. If pain has not ceased in six hours, give the other."

"GELSOLINE" is a new textile produced in Italy from the fiber of mulberry tree bark. The fiber is obtained by chemical retting of the bark of young twigs, and is purified by treatment with soap and soda. It is said to have ten times the strength of American cotton, costs about one-tenth as much as Italian flax, and owing to its perfectly cylindrical shape, yields very close fabrics, requiring no filling. It absorbs liquids with facility, and is easily dyed.

WANTED, A SALESMAN.

Manufacturers and jobbers when in need of good salesmen will find that a "Want Ad." in the Era will bring them many good replies. There are plenty of bright, active and capable drug clerks seeking such positions, and thousands of drug clerks are constant readers of the Era "Want Ads."

A PATENT MEDICINE EVIL.

By R. N. Girling, New Orleans.

For the last ten or fifteen years the different pharmaceutical associations of the country have devoted their time and attention to devising means for preventing cutting of prices on so-called patent medicines. It is safe to assert that if these same associations had expended one-half of the time and talent they have employed in devising means to regulate prices in seeking to regulate the traffic in patent medicines, or to suppress it altogether, they would have accomplished something for the permanent advancement of pharmacy, both in a professional and a pecuniary sense, and at the same time would have conferred an inestimable boon on the public. It is not, however, too late to commence the crusade against the proprietary nostrum, and no more righteous war could possibly be inaugurated.

Doubtless the whole of the pharmaceutical profession has been thoroughly convinced by this time of the impracticability of regulating prices on this undesirable and dangerous class of preparations; and also that the time and patience they exert in trying to do so serve only to advertise these nostrums, which, as they are fully aware, work much injury to their profession but still more to the public. Many plans have been tried to prevent cutting, but all have failed, owing to the fact that the proprietors of these nostrums have as a rule been prompted by the greed of gain and have allowed cutters to obtain their goods, to the detriment of the business of the pharmacist, for whose interests they cared nothing, since they, the proprietors, obtained their regular wholesale price for their goods and used the pharmacist as the cat's-paw to draw from the public their rich harvest of dollars, without securing to him any adequate remuneration for such service. This deplorable state of affairs has continued long enough, and it is high time that the pharmacists of the country call a halt and begin retaliating.

We are well aware that the patent medicine proprietors have made and are making occasional shows of attempting to keep up prices, but these all result in failure, simply because the proprietors are not pecuniarily interested in the success of their efforts; since they know full well that they can lose no part of their profits, no matter at what price the retailer sells the article to the consumer. The existence of such a state of affairs tends to diminish, to a very great degree, what is looked upon as the legitimate profits of the retail pharmacist, while the legislative barriers which he, in his zeal for the protection of the public from incompetency on the part of those who dispense medicines, has thrown about the practice of his profession by the enactment of pharmacy laws which hamper him and prove of no protection to the public against the patent medicine manufacturer, prevent him from selling substances which are harmless in comparison with these nostrums that are sold

with impunity by every storekeeper and peddler in the country. That the retail pharmacist should be placed at such a disadvantage is evidently unjust and is a matter which merits the attention of every pharmaceutical association in the land.

It is suggested that each and every association petition the legislative bodies of their State to pass such laws as will render the sale of patent medicines impossible by any person who is not a registered pharmacist, and also that each local pharmaceutical association appoint delegates to the American Pharmaceutical Association, with instructions to induce that body to petition Congress to enact laws for the same purpose. In order that the efforts of the different pharmaceutical associations may meet with success, it is desirable that some uniform resolution be adopted by each and every one of them, so that there may be no unnecessary delay owing to difference in wording of the petitions. The following is suggested as embodying some of the most necessary features of the proposed laws:

Whereas a certain class of preparations, usually known as proprietary or patent medicines, are constantly advertised for sale for the cure or alleviation of pain or disease and of which the composition is kept secret; and

Whereas such preparations frequently contain poisonous substances or substances which are detrimental to the public health:

Sec. 1. Be it enacted that all proprietary medicines, preparations or compounds, or medicinal substances which are advertised or recommended, either on the labels, by circulars or in the public prints, for the cure or alleviation of pain or disease in the human subject or in animals, shall bear, securely pasted or affixed to each package or container in which such articles are exposed or offered for sale, a label, distinctly printed, of such a size as to occupy not less than one-fourth part of the surface of the container or package, with the working formula in the English language of the preparation therein contained. Said formula to be expressed in metric or usual weights or measures and in such quantities as to fill the container in which it is offered for sale. All such proprietary articles or preparations containing poisonous substances shall, in addition to the formula as aforesaid, have affixed securely on the most conspicuous part of the container or package a label of such a size as to cover not less than one-tenth part of the surface of the container, having printed thereon the word "Poison" in large heavy-faced letters, with skull and cross-bones, which together shall occupy not less than three-fifths of the face of the poison label, and that all proprietary medicines shall have the date of their preparation or compounding printed or written in distinct, legible characters on the label on which the formula is printed.

Sec. 2. No proprietary or patent medicine, preparation or compound which is intended to be used in the cure or alleviation of pain or disease in human beings or animals shall be sold, offered or exposed for sale by any other person or persons than duly registered pharmacists, except in localities situated at a distance of over four miles from a pharmacy. In such cases, only standard preparations made according to the United States Pharmacopœia, generally known as family medicines, may be sold in original packages which must bear the name and address of a registered pharmacist.

Sec. 3. Nothing in the foregoing sections shall be so construed as to include the official preparations of the United States Pharmacopœia or of the Pharmacopœias of other countries, or of those of the National Formulary, provided that when preparations made in accordance with any of the above-cited authorized works are sold in packages bearing printed labels or circulars recommending the contents of the package, for the cure or alleviation of pain or disease, the label shall state according to what Pharmacopœia or if according to the National Formulary the preparation is made.

Sec. 4. Penalties. For each and every violation of the foregoing sections and for each and every package of patent or proprietary medicine or compound which shall be offered or exposed for sale, and not labeled in accordance with the provisions of the foregoing sections, the manufacturer or proprietor shall pay a fine of not less than $50 nor more than $500, or shall be imprisoned for not more than sixty days, or both, at the discretion of the court. One-third of all fines collected shall go to the informer, one-third to the Board of Health or the Board of Pharmacy, whichever body may have secured the conviction of the offender, and one-third to the State.

The plea has been raised that the proprietors of patent or proprietary medicines or compounds have vested rights which should be respected, and that they have spent immense sums of money in creating a demand for their wares. There can be but one answer to this assertion, and that is that no person or corporation of persons should be allowed to carry on any business that is liable to be prejudicial to the public health. The very essence of government is to place such restrictions on those governed as to prevent them doing anything which may in any way injure public or individual health or morals. Is it right that because a certain person or corporation possesses sufficient capital, it should be allowed to manufacture some compound of a secret nature, and by means of advertising foist the same on the public, at the risk of injury to the health of those who are deluded into using the preparation? Decidedly not. As well might the Government permit infected shipping to enter our ports, under the plea that shippers had vested rights that should be respected, or that immoral literature should be openly sold because the publishers claimed the same rights or privileges.

The patent medicine evil is one which calls for vigorous action on the part of local and national legislatures to crush it out, or at least to so regulate it as to remove the element of secrecy and the dangers attendant thereon.

DRUG STORE FOR SALE.

Many druggists have found customers for their stores by putting a "Want Ad." in the Era. These ads have a large circulation among the best druggists in the country, and give advertisers good returns. The price for each insertion is 50 cents for 25 words or less; additional words 2 cents each.

The Manufacture of Violin Strings in Saxony.

In the June Consular Reports, U. S. Consular Agent Gottschalk contributes an interesting report upon the gut string industry as carried on at Markneukirchen, Saxony. From 1618 up to 1878 a union of string makers enjoyed a monopoly of the business, the manufacture being forbidden to any outsider by royal decree. Although this ancient privilege was rescinded in 1878, the favorable influence which had fostered the trade for over two hundred years kept it pretty well localized, and the town is to-day the principal center of the industry, and in 1894 exported musical instruments and strings to the amount of $459,244. As the demand for Italian strings is about ten times as great as the amount Italy can produce, Markneukirchen derives considerable revenue by making genuine Italian strings. The string maker as a rule has his cleaning establishment closely annexed to the building where the sheep are slaughtered, and in person supervises the cleaning process, because where this is done carelessly the product, though originally of good quality, can only be used for middle or low quality goods. Immediately after the killing of the sheep the cleaner places the intestine on an inclined plane, and, by aid of a knife blade, removes all foreign substances, grease, etc. This brooks no delay and must be performed while the carcass yet largely retains the body heat, for, while cooling, the foreign matter discolors the intestine. After cleaning it is wound on a frame, left to dry in the open air, and when dry is ready for shipment. The dried intestines are placed in earthen vats containing a potassa lye, where they are left twenty-four hours. The composition of this lye was a matter of considerable moment in the palmy days of the old union. All master workmen were obliged to give a good recipe to their apprentices upon the latter's attainment of a degree of skill which admitted them to the union. This was always done, but as a matter of fact none of the masters parted with their individual secrets, only leaving them after death to their sons or next of kin as a valuable pledge. All inquiries made upon the subject lead one to suppose that at present potassa lye is generally used, yet it is not so long ago that the apothecary of the town (who must have been an individual of tremendous importance) had a book of recipes, consisting of the secrets given to his sacred charge by the several string makers. Every likely drug and chemical was tried to improve the strings, a satisfactory string resulting in the issue of another recipe.

After this bath of twenty-four hours the intestines are sufficiently soaked to permit unraveling. They are then put into a fresh potassa lye. For eight days in succession the bath is daily renewed without varying the strength of the lye. Beginning with the second day, the intestines undergo at various times of each day the most thorough cleaning by girls armed with the "sliming" or cleaning iron to remove the external and mucous membrane. After the third day the in-

testine is split into two parts by being drawn across a blade exceeding that of a razor in sharpness, and the sliming process is then continued for four days, when the parts are sorted as to quality, thickness and length. Two qualities result from the splitting of the intestine, the inner portion being used only for inferior qualities. At least three parts are taken to make an E string. A violin A string is double the size of an E string, therefore the same number of parts, but of double thickness, are required to make it. The bass strings are made from unsplit fibrous membrane—thirty to fifty parts are taken for a G, forty-five to seventy-five parts for a D, and sixty to ninety for an A string. The parts selected to make one string are attached at both ends to hempen loops; one of these is fastened to one of two hooks in the center of a little wheel, fixed at one end of the inner part of a frame, the parts are twisted round a fixed peg at the other end of the frame opposite the wheel, and the second loop brought back to the wheel to be attached to the second hook in the center of the wheel. The latter is then rapidly revolved and the parts are twisted into a string. The moisture brought to the surface by the twisting is removed, and the strings placed in an airtight sulphuring receptacle, where they are left over night. On the following morning they are exposed to the air, which furthers the bleaching process, till nearly dry, when they are again moistened and replaced in the sulphuring chamber. This operation lasts from four to eight days, depending upon the weather. If it is clear and sunshiny less sulphuring is required. The best and whitest strings are those which have had, aside from the sulphuring, the greatest exposure to favorable weather. Excessive bleaching with sulphur heightens the whiteness at the expense of the quality. After oleaching, the string is rubbed with pumice stone to bring it down to the correct size and remove any existing inequalities. The polish is given by frequent wipings with olive oil. Following this, they are again left to dry in the air, and then cut, rolled and assorted according to color; thirty strings of the same size and whiteness being made up into a bundle. Eighteen to twenty days elapse from the time that the dried intestines are first placed in the lye to the time when they are assorted for market. During this period not a day passes during which the intestines or the partly finished string is not subjected to manipulation of some sort.

It is generally supposed that a musical string loses both in color and quality if kept in stock for a comparatively short period, but while the color is impaired in the course of time, the quality does not deteriorate provided the strings are stored in hermetically closed cases in an even and dry atmosphere.

—Wright & Brayton, druggists, Ripon, Wis., were fined $50 and costs, amounting to $62, for violation of the Pharmacy law, for leaving their store in charge of unregistered men. The case was in justice court at Fond du Lac.

PHARMACY.

SALIGENINE is a product obtained from phenol and formaldehyde, and it is claimed to have been used successfully in cases of articular rheumatism. It is given in doses of 50 centigrams to 1 gram every two hours, either in powder or in solution.

ANTISTREPTOCOCCIN is a newly vaunted erysipelas cure, claimed to be a serum obtained from animals which have been inoculated and rendered immune with a toxin from cultures of erysipelas baccilli. Dr. Marmorek, of the Pasteur Institute, Paris, is its exploiter.

ARTIFICIAL LEATHER. — The Revue Industrielle gives the following recipe: Take vegetable parchment, i. e., paper of cellulose treated by sulphuric acid, roll it while still damp with paraffin wax and stearin, and add a little glycerin and chloride of calcium to insure suppleness; dry, size and varnish.

LOCALIZATION OF STRYCHNOS ALKALOIDS.—Sauvan states (Jour. de Pharm., Pharm. Jour.) as the result of some preliminary micro-chemical tests on the seeds of Strychnos nux vomica and S. gaultheriana, that these alkaloids of nux vomica are found solely in the cells of the albumin and of the embryo, and not in the seed coats.

TEST FOR MERCURIC CHLORIDE IN CALOMEL.—The calomel (2 to 3 grains) is mixed with a drop of 10 per cent. alcoholic soap solution and a drop of freshly-prepared alcoholic solution of guaiacum resin, and the mixture well stirred with 2 cc. ether. On evaporating the ether solution the presence of mercuric chloride is indicated by an intense green coloration. (Moniteur, Pharm. Jour.)

LANICHOL.—This is the name applied to a purified wool fat, prepared under the patents taken out by Hutchinson. The crude wool fat is treated with and alkaline resinous solution, to which a quantity of salt is added, so that the fat remains entirely undissolved. After heating for a time the liquid is run off and the remaining impurities are washed away, and the fat, now free from its disagreeable odor, is again repeatedly washed with salt water, and finally with pure water. (Sudd. Ap. Zeit., Pharm. Jour.)

EMULSION OF CASTOR OIL.—M. Klein, a physician of Kharfa, Syria, reports the following method in use by the Arabs for disguising the disagreeable taste of the oil: 15 or 20 grams of castor oil are poured into a glass of milk; the mixture is heated, being stirred with a spoon, and in a few minutes there is a perfect emulsion of the oil which can be sweetened with syrup of orange. The oil administered in this manner requires less quantity to produce its effects; thus 15 to 20 grams are sufficient to purge an adult.

THE GUINEA-PIG SUPPLY.—For the manufacture of antitoxin guinea-pigs are needed. Fanciers who dealt in pigs have supplied the market, but the supply is not equal to the demand, says Med. Record. Fame and fortune, the health authorities say, await the boy who will raise guinea-pigs for use in the laboratory. Seventy-five cents is paid for a healthy pig two months old. A pair for breeding purposes costs $1.50. The female litters four times a year, with four in a litter, but one of the number dies shortly after birth. It is almost impossible to get a guinea-pig for use in the laboratory at present. In a few months, however, the market will be overstocked, and we advise the small boy to proceed with caution.

ALCOHOL, says R. Zdarck, Vienna (Mfg. Chem.) may be produced from cellulose alone, or from cellulose, lignin and cell juice, by first mashing up the said substances in water with 1.10 to 2 parts per thousand of the mash water of nitric or sulphuric acid or both acids, then boiling the mass under pressure, decanting and again boiling under pressure, then neutralizing the acids contained in the resultant liquid and converting the same into alcohol by fermentation with yeast or ferments of vegetable juices. Or by first mashing up the said substances with water having 1.10 to 2 parts per thousand of sulphuric acid and 1.10 to 2 grams per liter of superphosphate of lime, or 1.50 to 1 gram per liter of phosphorous salt, then boiling under pressure, neutralizing the acids, fermenting with yeast or ferments of vegetable juices and distilling.

ANALYSIS OF OPIUM FOR SMOKING.—Moissan publishes in Jour. de Pharm. et de Chim. the results of the examination of three samples of "chandoo," or smoking opium. The first sample represented the Indian product, being derived from the Patna factory. This had a somewhat syrupy consistence and a delicate odor. It had been preserved for ten years, which gave it a very high value. It contained 27.2 per cent. of water and 72.8 per cent. of dry extractive, and yielded 8.97 per cent of morphine and was rich in narcotine; it contained no glucose. The total acidity in terms of sulphuric acid was 1.73 per cent. The second sample was manufactured at Shanghai from opium produced from poppies grown at Wenchow. It was more fluid than the Indian specimen, its odor was less agreeable, and its monetary value about one-half of that of the Patna brand. It contained 22.71 per cent. of moisture and 77.29 per cent. of extractive. It gave 6.2 per cent. of morphine and 22.5 per cent. of glucose. The acidity was equivalent to 4.1 per cent. of sulphuric acid. The third sample, obtained from Saigon, was of more recent manufacture, and gave 32.12 per cent. of water and 67.88 per cent. of dry extractive. It contained 7.3 per cent. of morphine and 1.2 per cent. of glucose; the acidity in terms of sulphuric acid was 4.87 per cent. (Pharm. Jour.)

SYNTHETIC PRODUCTION OF ALCOHOL.—The possibility of preparing acetylene on a manufacturing scale from calcium carbide has given additional importance to the production of alcohol from acetylene. Kruger (Phar. Cent.) has tested several of the methods which have been proposed with that object, and found that most of them gave negative results. Caro has since confirmed his observations, and has, at the same time, devised a method of producing alcohol from acetylene, which may perhaps eventually lead to the desired result. By passing acetylene through concentrated hydriodic acid he obtained the compound CH_3CHI_2 to the extent of from 55 to 58 per cent. By boiling this product with concentrated potash solution it is partly converted into acetylene and partly into alcohol and potassium acetate, according to the following equations:

$$\left.\begin{matrix} CH_3CHI_2 \\ 2KOH \end{matrix}\right\} = \left\{\begin{matrix} 2KI + 2H_2O \\ CH = CH \end{matrix}\right.$$

$$\left.\begin{matrix} CH_3CHI_2 \\ 2KOH \end{matrix}\right\} = \left\{\begin{matrix} 2KI \\ CH_3CH < \begin{matrix} OH \\ OH \end{matrix} \end{matrix}\right.$$

$$CH_3CH < \begin{matrix} OH \\ OH \end{matrix} = CH_3COH + H_2O$$

$$\left.\begin{matrix} 2CH_3COH \\ KOH \end{matrix}\right\} = \left\{\begin{matrix} CH_3COOK \\ CH_3CH_2OH \end{matrix}\right.$$

By saponifying the di-iodide with moist argentic oxide the reproduction of acetylene is very small, and on boiling with caustic potash the alcohol and potassium acetate formed amount together to nearly 90 per cent.

The di-iodide is also saponified when heated with water to 140° of 150° C., a mixture of aldehyde, ethyl iodide, hydriodic acid, and unaltered di-iodide being formed. The formation of aldehyde takes place according to the equation

$$\left.\begin{matrix} CH_3CHI_2 \\ H_2O \end{matrix}\right\} = \left\{\begin{matrix} 2HI \\ CH_3CHO \end{matrix}\right.$$

By reduction of the aldehyde, alcohol would be obtained. In Caro's experiments 40 per cent. of aldehyde was obtained, and if the hydriodic acid formed were continuously removed the yield of aldehyde would probably be increased, as the reproduction of di-iodide according to the following equation would then be prevented:

$$\left.\begin{matrix} CH_3CHI_2 \\ 2HI \end{matrix}\right\} = \left\{\begin{matrix} CH_3CHI_2 \\ H_2O \end{matrix}\right.$$

On a small scale that has been effected by heating the di-iodide with an equivalent quantity of zinc oxide, twice as much zinc dust and water. After this mixture had been heated to 130° or 150°C. there was not much pressure in the tube, and after twice distilling the contents alcohol was obtained almost pure. (Pharm. Jour.)

Traveling salesmen are busy arranging their samples and routes, some have already started out, and it is expected that early next month their orders will be coming in in sufficient numbers to fairly inaugurate the active autumn campaign. The financial end of affairs continues on a sound and healthy basis, collections are being made without much difficulty and there is no doubt that in all legitimate operations the question as to whether the obligations incurred can be met promptly, is given careful consideration.

REPORT ON TINCTURE OF OPIUM.*—Tabular statement of results of assay of twenty samples, purchased in open market:

No.	Source.	Sp. Gr.	Morphine in 100 cc.
1	Standard	0.952	1.3 to 1.5
2	Kansas City	0.960	0.8
3	Kansas City	0.952	1*
4	Kansas City	0.960	1
5	Kansas City	0.952	1
6	Kansas City	0.940	0.8
7	Kansas City	0.942	1
8	St. Louis	0.980	0.75
9	St. Louis	0.952	1.25
10	St. Louis	0.952	0.9
11	St. Louis	0.968	1
12	St. Louis	0.956	1
13	Jefferson City	0.964	1.04
14	Boonville	0.948	1.10
15	Jefferson City	0.960	0.8
16	Boonville	0.952	0.84†
17	St. Louis	0.950	1.10
18	St. Louis	0.928	1.04
19	St. Louis	0.960	1.3
20	St. Louis	0.964	1.15

*Labeled 1 in 16. †Commercial.

Deductions and Suggestions.

The author was astonished at the fact that only one sample came up to the mark. He determined to investigate more closely the possible cause.

An assayed powdered opium of "P. & W." was reassayed by pharmacopœial process, and found to contain 13 per cent. of morphine.

Next, 100 cc. of tincture were prepared from 10 grams of this powder, following strictly the directions of the formula of the Pharmacopœia until 100 cc. of percolate were obtained. This was now assayed by the process under "Tincture of Opium," and yielded exactly 1 gram of morphine.

The marc in the percolator was further exhausted with diluted alcohol, until again 100 cc. of percolate were collected, and the drug was, to all appearances, completely exhausted.

This second tincture, assayed in like manner as the first, yielded 0.02 gm. of morphine.

This would indicate, in the first place, incomplete exhaustion of the drug if the official instructions are followed, and in the next place a loss of 0.280 gm. of morphine in the process of assay. The tincture which yielded upon assay 1.3 gm. of morphine (the minimum requirement) was made from a powdered opium containing a little over 15 per cent. of morphine.

I, therefore, am not ready to pass unjust sentence (to my mind) upon those tinctures which assayed 1 per cent. and over, but would confine my censure to those showing less. I also would recommend that in order to secure the official tincture a high-grade powdered opium be used, say one of 15 per cent. or over, and the tincture, when finished, be assayed and standardized; or if a lower grade of opium be used, take a proportionately larger quantity.

*By Prof. Francis Hemm, chairman of Committee on Adulterations, Missouri Pharmaceutical Association, and a part of the committee's report, made at the meeting of 1895, abstracted by Nat. Drug.

DRUG CLERK WANTED.

Proprietors often desire to make a change in their clerks, and a good drug clerk is the best investment. More of these drug clerks read the "Want Ads" in the Era than any other similar ads. When you want a clerk, try one. Answers can be sent in our care if desired.

FROM ERA READERS.

Alcohol Rebates.

W. F. Gilman, Rio, Wis.—Please inform me if such articles as shellac come under the head of manufactures, as contemplated by Section 61.

Yes.

H. F. R. Drake, Patricksburg, Ind.—1. My wife and daughter are my clerks; can they be witnesses on the blanks to what is drawn from the cask? 2. Do I have to take the marks off the package of alcohol when I file my claim? I approve of the plan very much, and will try to secure the rebate. Send the blanks at once, as I am now keeping the account on plain paper, and have been so doing for about two weeks.

1. Yes. 2. The middle portion of the stamp bearing the numbers necessary to substantiate your record is to be removed, as fully explained heretofore by the Era.

Frank W. Buckman, Yarmouth, Me.—Shall I have to notify the collector in my district of my intention as soon as the packages are bought, and of each one as I buy them, or can I keep the record and then give my notice afterward?

Simply notify the collector of your intention to use alcohol for manufacturing, but it is not necessary to do this for each package purchased. This notification is simply for your own protection, to show that you have neglected no precaution necessary to the establishment of a full and complete claim.

H. J. G. Koobs, Alvord, Ia.—Send me a lot of alcohol blanks at your earliest convenience. If these rebates were allowed it would be quite a saving during the year on alcoholic preparations, if only it does not create a tendency to demoralize prices on finished preparations. I thank you for the interest you are taking in the general welfare of the small druggist, I being one of them.

Eagle Drug Co., Youngstown, O.—Please send us a package of blanks. We appreciate your interest in your patrons' welfare.

R. L. Simpson, Amity, Ore.—Your action in this alcohol matter is surely a commendable one, and should be appreciated by every druggist in the country.

Subscriber, South Carolina.—If you think it is any use for a pharmacist in South Carolina, who has been compelled by law to buy his alcohol for the last 18 months from the State, and will have to continue to do so until the Dispensary law is revoked, send me some blanks. Have bought by the barrel, and during this year buy 10 gallons at a time from the chief dispenser at Columbia, in five-gallon cans, which do not contain a revenue stamp. Money has to be sent with the order. Sometimes measurement is correct, but generally the State beats its citizens out of two pints on every five gallons, and all complaints are of no avail. The State never returns one cent.; furnishes alcohol as a special favor at $2.50 per gallon, if purchaser sends cans to Columbia and pays return express charges.

[This letter is commented upon editorially. Subscriber sends us letters conveying the officials' denial of shortage.]

A Good Tinclure of Vanilla.

E. R. Barnes, Gillespie, Ill.—I don't know what may be the experience of my brother pharmacists, but I have not been able to find a formula for tincture of vanilla that did not have some objections. In my opinion the formula of the U. S. P. is the best, bnt the working formula is unsatisfactory, or at least I have found it so, and in hopes of helping some one out of a difficulty or of obtaining a better suggestion, I will state the method I use.

Vanilla, cnt into small pieces and bruised..100 grams
Sngar, in coarse powder..... .....200 grams
Alcohol,
Water, each, q. s. ad.1,000 cc.

Mix alcohol and water in the proportion of 650 cc. of alcohol to 350 cc. of water. Macerate the vanilla in 500 cc. of this mixture for twelve hours, then drain off the liquid and set it aside. Transfer the vanilla to a mortar, beat it with 50 grams of sugar into a uniform powder. Then pack in a percolator in the following manner: First a layer of sugar, then uniform powder of vanilla and sugar, then a layer of sugar, etc. Pour upon it the reserved portion. When this has disappeared from the snrface, gradually pour on menstruum, and continue the percolation until 100 cc. of tincture are obtained.

In my opinion this method facilitates percolation and insnres complete exhanstion of the vanilla. The product obtained is very clear and dark in color, where my experience with the U. S. P. formula has been a cloudy preparation which cannot be easily clarified and is very slow in percolation. Think there is no need of adding such a large quantity of sugar in reducing to a powder as prescribed by the U. S. P.

"OLD COGNAC" BOUQUET.—The Academy of Medicine, says Ch. and Dr. in its Paris correspondence, at its last session resumed the discussion of the alcohol question, and M. Laborde gave an analysis of the artificial essence known as "bouquet de Cognac." M. Ch. Girard had discovered, said the speaker, that this liquid is composed of castor oil, cocoanut oil, and similar fatty sub stances treated with nitric acid. As to its deadly effects, 1 or 2 centigrams injected into a large dog of the Newfoundland breed caused death in less than a quarter of an hour. Alcohol (malt or molasses) is flavored with this attractive mixture and labeled and sold as "old cognac." M. Laborde also cited the "pure Jamaica rum" sold by an English house, of which a careful analysis, made by the late Professor Georges Pouchet, gave similar results. He pleaded that the army should be supplied with pure alcohol and carefully guarded from such deleterious spirits as were too often sold.

DRUG STORE FOR SALE.

Many druggists have found customers for their stores by putting a "Want Ad." in the Era. These ads have a large circulation among the best druggists in the country, and give advertisers good returns. The price for each insertion is 50 cents for 25 words or less; additional words 2 cents each.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Correction.

In reply to C. H. B.'s qnery, "An Effervescent Mixture," Aug. 15, 1895, Era, page 207, and after the words "deodorized tincture of opium, 5 drams," insert the following: "syrup of orange peel, enough to make 4 ounces." In making up the "forms" this line was omitted.

Formula Wanted.

(G. F. M.) wants a formnla for "antifermentine" tablets.

Hair Curling Preparation.

(Subscriber.) See formulas in April 18, 1895, Era, page 495.

Beard Killer.

(D. J. G.) See reply to a similar query, page 430, April 4, 1895, Era.

To Keep Mucilage from Freezing.

(Subscriber.) Keep it in a warm place. Nothing can be added to keep it from freezing without interfering with its adhesive qnalities.

Flavoring Extract Vanilla.

(S. S.) We know of no better preparation than that made by the U. S. P. process (see Tinctura vanillæ). Three formulas for extract of vanilla were given in the July 18, 1895, Era, page 77. See communication from a subscriber elsewhere.

Glazed Paper.

(J. J. F.) Please repeat your query and state specifically what you mean by "glazed" paper, its uses and all the information you can give us about it. You furnish us with nothing definite upon which to work.

Ethereal Soap.

(C. D. M.) In the May 2, 1895, Era, page 560, is given a general process for the preparation of antiseptic liquid soaps and soaps of a similar character. We cannot give you the formula for the proprietary article.

Coloring an Elixir Red.

(J. P.) The National Formulary offers the choice of several agents for coloring elixirs. Tincture of cudbear, compound tincture of cudbear, solution carmine and cochineal color, all impart various shades of red, the first named being used for acid mixtures. Another shade of red may be imparted to alcoholic solutions and elixirs by the addition of tinctnre of red saunders. A good formula for the latter preparation is the following: Red saunders, 3 ounces; alcohol, 95 per cent., 16 ounces. Pack firmly and evenly in a percolator; pour on the alcohol until 16 ounces have passed through. These coloring substances are non-poisonous. We cannot give you the name of the substance used to color the proprietary elixir.

Lessons in Pharmacy,

(H. E. H.) If yon are a careful reader of the series of papers which have been presented in the Era since the first of the year, and paid attention to their hints and suggestions, following out the courses of study laid down by the various writers, yon will not need to take lessons in pharmacy by mail. However, if this does not quite suit you, you can get a correspondence course by communicating with the National Institute of Pharmacy, Chicago, Ill.

Chewing Gum.

(G. W. M.) finds that the formulas given on page 144 of the Jan. 31, 1895, Era, produce chewing gums which are too soft when chewed. Not being practical chewing gnm manufacturers we are unable to give our correspondent very much instruction in the art. However, we are inclined to think that by varying the quantities of the ingredients and the introduction into the mass of sufficient paraffin wax, this difficulty may be overcome. Of course, the manipulation necessary must be determined by experiment. We are unable to give a formula for the proprietary article.

Filling Gelatine Capsules with Liquids.

(C. D. M.) Remove the top and moisten the neck of the capsule with water. With a small pipette or medicine dropper carefully drop the liquid into the capsule, and then take a small steel spatula, heat it over a flame, carefully touch the edges of the top of the capsule and cover at once. The moisture and heat seal the capsule. In this connection there are on the market capsules purposely made for dispensing liquids, the manufacturers of the various kinds furnishing a device for filling them. The Merz Capsule Co., Detroit, Mich., and H. Planten & Son, 224 William Street, this city, may be addressed upon the subject.

A Sore Cyclist.

(R. L. N.) feels sore and "all broke up" after a good ride on his wheel, and is anxious to know if there be not something to use as a preventive of this result. If your exercise be well proportioned and you do not overdo and strain yourself, there is no reason for feeling sore. But if you overdo and tire your muscles you cannot expect to feel no effect from the excessive exertion. There is an improper as well as a proper method of bicycle exercise. However, the general methods followed by athletes after special exertion would doubtless be of service to you. Various firms advertise "anti-stiff" preparations, designed to meet just these cases, and you can find the address of such firms in any popular or sporting magazine. A thorough rubdown after your ride, with the after-application of alcohol, witch hazel or some good liniment, would be very effective. Treat yourself just about as you would treat a horse and you will not be far wrong. There is nothing, so far as we know, which can be done beforehand to prevent fatigue and lameness, but you can limber up considerably afterward by the proper use of the remedies and methods mentioned.

Strychnine, Arsenious Acid and Iodine.

(C. H.) asks criticism upon the following:

Strychnine .. ..1 grain
Caffeine ....2 grains
Arsenious acid.....1 grain
Iodoform .. ..8 grains
Syrup hydriodic acid....2 ounces
Syrup hypophosphites...6 ounces

There are several incompatibilities, the principal ones being those between the strychnine and the iodine of the iodoform and syrup of hydriodic acid, the strychnine being precipitated. Syrup of hypophosphites is also incompatible with iodoform and syrup of hydriodic acid, and also arsenious acid. The combination is a dangerous one and the prescription should not be dispensed.

Composition for Cleaning Wall Paper.

(G. D.) asks for particulars regardiug the heat of the oven, time required in baking the dough, etc., used in the preparation of the above compound, a formula for which appeared in Aug. 8, 1895, Era, page 174.

These questions can be only answered in a general way. A temperature of about 380° F. is necessary for the thorough baking of bread. In baking, the gluten of the dough becomes solidified and the starch grains become swollen and hydrated or fixed with a certain proportion of water. The dough used in this preparation should be but partially cooked, or enough to transpose it into an easily molded and tenacious mass. The length of time necessary to complete the baking process can be best determined by experiment. And then it will depend upon the degree of heat maintained during the operation. Try it.

Dentifrice.

(Subscriber.) The followiug is said to produce a satisfactory preparation:

Powdered castile soap . 6 drams
Precipitated chalk....15 ounces
Carmine No. 40..3 or 4 grains
Sassafras flavoring ..100 minims
(See below.)
Glycerin....a sufficient quantity

Rub the solids well together, add the flavoring in small portions during constant trituration and then glycerin enough to form a thin paste. The flavoring above noticed is made as follows:

Oil of sassafras.....5½ drams
Oil of cinnamon.....2 drams
Oil of wintergreen.... ½ dram
Extract of vanilla ...4 drams
Alcohol ....4 drams

Shake before using.

Other formulas for tooth pastes, dentifrices, etc., may be found in previous volumes of the Era. Consult the indexes.

Cement for Repairing Cisterns.

(J. L.) (1) Take equal parts of quicklime, pulverized baked bricks, and wood ashes. Thoroughly mix the above substances, and dilute with sufficient olive oil to form a manageable paste. This cement is said to immediately harden in the air, and never cracks beneath the water.

(2) Well-burned brick, 63 parts; litharge, 7 parts; pulverized and moistened with linseed oil. Moisten the surfaces to which it is to be applied.

(3) Hydraulic Mortar.—Burned lime is changed into dry calcium hydrate as fine as dust by moistening it with water and allowing it to decompose. It is then mixed with infusorial earth, which has also been reduced to an impalpable powder by washing, drying, gentle heating and pulverizing the lumps which may have been formed. For mortar to be used for work under water, equal parts by weight of the two powders are mixed together. For work not so much exposed to the action of water, 1 part by weight of infusorial earth to 2 parts by weight of calcium hydrate is sufficient.

The substances used in these cements can be procured from any dealer in lime and mason's materials.

Hair Tonic.

(J. G. P.) The following are typical preparations:

1.) Fluid extract cinchona, pale ..... 1 dram
Tincture cantharides... 2 drams
Glycerin ..... 1 ounce
Bay rum.....½ ounce
Rose water, enough to make .....20 ounces

2.) Chloral hydrate..... 2 drams
Vinegar of cantharides. 4 drams
Tincture of cinchona.. 2 drams
Glycerin .....½ ounce
Orange flower water.
Rose water, each equal parts, to..... 8 ounces

Brush into the roots of the hair every morning, and rub in a little lanolin at night.

3.) Quinine sulphate.....20 grains
Tincture cantharides. 2 fl. drams
Fluid extract jaborandi ..... 2 fl. drams
Alcohol ..... 2 fl. drams
Glycerin ..... 2 fl. ounces
Bay rum..... 6 fl. ounces
Rose water, q. s. to make .....15 fl. ounces

The quinine is dissolved in the alcoholic liquids by warming slightly, then the other ingredients are added.

Zinc Chloride as a Corn Cure.

(J. G. P.) says the following is a sure corn and wart cure. When applied it acts in about three hours, but it causes great pain. He wants something to combine with it to alleviate the pain.

Zinc chloride, blood root, galangal root, of each, equal parts.

Zinc chloride mixed with blood root and made into a paste with flour and water has been used as a local remedy in cancer, but this is the first time we have ever seen it combined with galangal root, and it is a question whether such a combination is a judicious one. Zinc chloride is an escharotic, and its indiscriminate use is not advisable, in view of the fact that there are other remedies which will remove corns equally well, if not better, and those not nearly so dangerous—as, for instance, the well-known and much-used corn collodion of the National Formulary. If chloride of zinc is used at all, it may be applied in the form of a paste made with flour and water, first taking care to protect the surrounding skin with a dressing of simple cerate. Or the corn may be cauterized from time to time with a pencil or strong solution of salt until the skin becomes slightly discolored. Cocaine oleate may be combined with the above mixture to deaden the pain, but, as we have intimated, zinc chloride, either singly or in combination, should not be indiscriminately used for this purpose.

Some Questions on Opium.

(Subscriber.) Extract of opium is supposed to contain all of the morphine present in sample of opium from which it is made. The extract is then standardized to 18 per cent., so that it contains twice as much morphine as opium of minimum official strength (9 per cent.). If the maceration of opium in preparing the extract was conducted at a higher temperature than, say, 60° F., a larger amount of extract would be obtained, which would be largely contaminated with narcotine and other principles. For this reason cold water is used in preparing the extract. Benzoic acid does not precipitate morphine. If it did, it would not enter into the official formula for camphorated tincture of opium. In regard to the effects of heat upon opium and morphine Hager states that morphine in aqueous solution, warmed over 40° C., gradually absorbs oxygen from the air, and is converted in part into the milder or very feebly narcotic oxymorphine. At boiling heat, absorption of oxygen goes on much more rapidly. He further says that this change is of special significance in its bearing upon the preparation of sterilized solutions of alkaloids and that of the extract of opium. Evidently the higher the temperature at which the evaporation is carried on, the milder will be the physiological action of the product. For further information upon this subject consult last editions of the National and United States Dispensatories, also Flückiger's "Pharmacographia," article "Opium."

Remedy for Worms.

(J. G. P.)

1.) Worm Powder.
Santonin .....10 grains
Calomel ..... 3 grains
Resin jalap..... 1 grain
For 3 or 6 powders.

2.) Worm Syrup.
Fluid extract of spigelia 5 ounces
Fluid extract of senna. 3 ounces
Oil anise.....10 minims
Oil caraway.....10 minims
Syrup ..... 8 ounces
Dose: One or more teaspoonsfuls at intervals until purging commences.

3.) Worm Tea.
Spigelia .....240 grains
Manna .....240 grains
Senna .....120 grains
Fennel ..... 60 grains
Cut the spigelia and mix with the other ingredients; infuse in 16 fluid ounces of boiling water. Give a child, 2 years old or upward, half a teacupful, warm, morning, noon and night, before eating.

4.) Vermifuge Lozenges.
Santonin, 60 grains; pulverized sugar, 5 ounces; mucilage of gum tragacanth,

sufficient to make into a thick paste, worked carefully together, that the santonin shall be evenly mixed throughout the whole mass; then cover up the mortar and let stand from 12 to 24 hours; divide into 120 lozenges. Dose for a child 1 year old, 1 lozenge night and morning; of 2 years, 2 lozenges; of 4 years, 3; of 8 years, 4; of 10 years or more, 5 to 7 lozenges; in all cases to be taken twice daily, and continuing until the worms start.

Flavoring Extracts.

(K. & A.) Several formulas for extract of strawberry are given in the June 20, 1895, Era, page 781. Here is another one made from the fruit: Bruise 4½ pounds of strawberries; pour 3 quarts of alcohol over the mass; let it stand for some time and filter. The product will make about a gallon of the extract.

Here are two formulas for extract of pineapple, the first producing an "artificial" extract:

1.) Deodorized alcohol ....500 parts
Diluted alcohol .....200 parts
Pure pineapple juice...190 parts
Pineapple ether .....100 parts
Tincture vanilla ..... 10 parts
Color with tincture curcuma.

(The pineapple ether in the above is thus made: Alcohol, 400 parts; concentrated essence of pineapple peel, 400 parts; butyric ether, 120 parts; sebacic ether, 40 parts; acetate of amyl, 10 parts; butyrate of amyl, 10 parts; acetic ether, 10 parts; extract of vanilla, 10 parts.)

2.) Grated pineapple .....16 ounces
Alcohol .... 6 ounces

Macerate 48 hours in a covered vessel, and strain, adding enough water through the strainer to make the liquid measure 1 pint.

Extract raspberry:

1.) Deodorized alcohol ....500 parts
Diluted alcohol .....200 parts
Pure raspberry juice...170 parts
Raspberry ether .....100 parts
Tincture of orris..... 20 parts
Triple extract of rose.. 10 parts
Color with tincture of alkanet.

(Raspberry ether is made of alcohol, 400; concentrated essence of raspberry, 400; tincture of orris, 80; acetate of amyl, 75; chloroform, 15; triple extract of rose, 10; œnanthic ether, 10; acetic ether, 10.)

2.) Upon 50 pounds of the fresh and cleaned berries pour 14 gallons of 85 per cent. alcohol. Let it stand for 24 hours; then add about 6 gallons of water and distill off 13 gallons.

Tinctures from Fluid Extracts.

(D. J. G.) This question has been much discussed during the past few years, and many of the best-posted pharmacists of the country have arrayed themselves for or against the method. Manufacturers too have published formulas for making tinctures from fluid extracts by some diluent. If the fluid extract be known to have been accurately made and of standard strength, there is not, perhaps, very great objection to forming a tincture from it, but any inaccuracy or deficiency in the stronger preparation will produce when diluted to a tincture even greater discrepancy. The fluid extract if properly made should represent the full value of the drug, but it is often a question whether this is achieved in the actual article. One advantage stated to attach to the use of fluid extracts is that all the crude drug can at once be made up into the fluid extract. In making tinctures often the druggist is obliged to purchase more of the crude material than he needs, and it either becomes totally spoiled in keeping or more or less deteriorated in quality. If you make your own fluid extracts and your own tinctures therefrom, you can, of course, vouch for their integrity, but if you depend upon the manufactured products you will find a great variety of formulas made with different strengths of menstrua, some with the use of glycerin and others without, some with tartaric acid, etc. Not knowing what you have to begin with, of course you cannot know what you have after dilution into a tincture. Often, too, in diluting, a diluent of different strength is used than the menstruum originally employed and, as a result, precipitation or some other change takes place. This, no doubt, was the cause of the precipitation you noticed in the tincture of cinchona you made from your fluid extract. We do not believe in making tinctures by diluting fluid extracts. The only way to get representative tinctures is to make them in the usual way—by percolation direct from the drug.

Red Indelible Ink.

(S. E. R.) The Era Formulary gives the following:

1.) Make three solutions thus:

(a) Dissolve 3 drams of sodium carbonate and gum arabic in 12 drams of water.

(b) Dissolve 1 dram platinic chloride in 2 ounces of water.

(c) Dissolve 1 dram stannous chloride in 4 drams distilled water.

Moisten the place to be written upon with solution (a) and dry with a warm iron. Then write with (b), and when dry, moisten with solution (c).

2.) Italian marking ink is made by dissolving 1 part of chloride of gold (or better, chloride of gold and sodium) in 10 parts of water, and when the solution is to be used a small portion of it is mixed with an equal quantity of mucilage. The fabric is to be previously treated with a solution of 1 part stannous chloride and 10 parts gum arabic in 100 parts water, dried and ironed. After writing with the ink, expose the fabric to gentle heat, and when the writing has become of a handsome red, wash the place repeatedly with water. Always use clean pens, preferably of gold or quill.

3.) Red Indelible Ink for Paper.

Lehner in "Manufacture of Ink" gives this formula under the title "Indelible Silica Carmine Ink:" This ink is prepared by triturating carmine in a porcelain mortar with solution of water-glass until a homogeneous thick paste is formed. To this paste water-glass solution is added, with constant trituration until the ink has required the requisite color and fluidity. The ink is to be immediately filled in bottles, to be closed with well-fitting corks, and for use only a few drops—as much as required for writing—should be poured out. This precaution is necessary, since water-glass possesses the property of being converted, on exposure to the air, first into a jelly-like, and later on into a glassy mass, the silica being separated. Independent of its beautiful, permanent luster, this ink is distinguished by its power of resistance. By using the water-glass solution as little concentrated as possible, the ink penetrates deeply into the paper, and can only be removed by caustic alkalies, though even then the characters will not be entirely destroyed.

Some More Examination Questions.

(W. S. A.) asks the following questions, the answers to which he has been unable to find in works of reference:

Name two liquid elements. Answer.—Bromine (Br) and mercury (Hg).

Name three solid compounds. Answer.—Potassium bromide (KBr), mercuric chloride ($HgCl_2$) and zinc sulphate ($ZnSO_4$).

Name three liquid compounds. Answer.—Water (H_2O), alcohol (C_2H_6O) and glycerin ($C_3H_5(OH)_3$).

Name two gaseous compounds. Answer.—Ammonia (NH_3) and carbon dioxide (CO_2).

Why do zinc sulphate and lead acetate when triturated together become liquid, and how can these salts be mixed to prevent liquidation? Answer.—In the crystalline state each of the salts contains a large quantity of water of crystallization. Thus, lead acetate $Pb(C_2H_3O_2)_2,3H_2O$, has a molecular weight of 378, 14.25 per cent. of which is water. Zinc sulphate, $ZnSO_4.7H_2O = 286.64$, contains nearly 44 per cent. of water, which, as with lead acetate, is a part of the compound but not visible as water. Now when a substance like lead acetate, the base of which has a great affinity for sulphuric acid, is brought in contact with zinc sulphate an interchange of elements takes place; the acetic acid radical of the lead salt unites with the base (Zn) of the zinc sulphate, and the sulphuric acid radical of the latter salt unites with the lead (Pb). The reaction is represented by the following equation:

$$ZnSO_4 + Pb(C_2H_3O_2)_2 = Zn(C_2H_3O_2)_2 + PbSO_4.$$

The salts formed in this reaction are zinc acetate and lead sulphate, which are not capable of taking up the amount of water originally present, lead sulphate being a comparatively insoluble salt, while zinc acetate is a very hygroscopic one. In other words, there is more water present than is required to enable the new compounds to crystallize. Hence the mixture becomes liquid. Liquefaction may be considerably retarded by using the anhydrous salts, but even then the mixture will become moist in a very short time on exposure to air.

What action has nitric acid upon volatile oils? Answer.—It rapidly decomposes them with the formation of various oxidation and decomposition products. Nitric acid is used to some extent as a reagent in testing and determining the identity and purity of official oils.

The answers to all of the above questions may be found in almost any work on chemistry, a dispensatory and the Pharmacopœia. All of the chemical substances mentioned in this article are official in the Pharmacopœia, with the exceptions of carbonic acid gas and lead sulphate, and if our correspondent had had the distinction between an element and a compound clearly fixed in his mind we think he would have experienced no difficulty. He should remember that an element is a distinct substance whose molecules are composed of atoms of the same kind. On the other hand, molecules which contain dissimilar elements are called compound molecules, and substances whose molecules are thus composed are distinguished as compounds.

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ALCOHOL CLAIMS.

A druggist out in Wisconsin writes the Era as follows: "I have written my notice to the Internal Revenue Collector, but when I refer to the stamp on my keg for the number to insert in the notice, I find two numbers. One is in red figures just underneath the printed words, 'wholesale liquor dealer's stamp,' and the other is written with a pen near the bottom in black ink. Can you tell me which is the number of the original package, and what is the other one? also which one concerns me most and which I am to insert in my notice?

The figures in red are the only ones with which the druggist needs to bother. They show the original package, and from them the alcohol the retailer has bought can be traced back through the wholesale dealer to the manufacturer. What the other number is for, only the wholesale dealer can tell. He has put them on the stamp for some purpose, but they have nothing whatever to do with the original package.

The Food Commission.

Cincinnati, Aug. 19 (Special).—During the trial in Magistrate Winkler's court of Dairyman William Cordes, arrested two weeks ago charged with selling impure milk, Tuesday, ex-Judge Wallace Burch, counsel for the defendant, broadly insinuated that the State Food Commission attachés were guilty of official irregularities. In the course of the hearing Judge Dye, State's Attorney, introduced a witness named George Brown to testify that Cordes had admitted that the milk sample taken from his wagon was skimmed and otherwise impure. Upon cross-examination by Mr. Burch, Brown said that he had visited Cordes several times after the samples had been obtained by the State officers, but denied Mr. Burch's allegation that there was anything irregular connected with his calls. While examining the witness Mr. Burch repeatedly insinuated that Brown called on Cordes for the purpose of compromising matters in an improper manner, but Brown reiterated his story that he called on Cordes with the view of obtaining new admissions that might tend to strengthen the State's case.

In requesting the court to dismiss the case on the ground that the evidence for the prosecution was incompetent, Attorney Burch said: "There is something wrong with the people conducting these pure food prosecutions in this State. I appreciate that it is difficult to prove charges of blackmail and bribery, but after the evidence adduced in this case is reviewed, I leave your honor to draw your own conclusion of the methods pursued by these officials. This man Brown has been visiting an arrested dairyman. What was his purpose?"

Judge Hinkler declined to discharge the defendant, but adjudged him guilty and fined Cordes $100 and costs. Cordes has appealed the case to the Circuit Court. Brown, who admits being an intimate acquaintance of one of the assistant commissioners, was a member of the Druggist Ford jury and voted for conviction.

The State Food Commissioner has turned into the State Treasury $6,305.82, representing fines imposed and collected since April 20.

Mr. Hughes in a Fix.

Among the prisoners in the Jefferson Market Court in this city last Thursday was Thomas B. Hughes, who for the last 25 years has kept a drug store at No. 281 Tenth Avenue. There were two complaints against Mr. Hughes. The Carter Medicine Co. charged him with counterfeiting its trade-mark, while Joseph Siebenborn, who owns a pharmacy opposite the Hughes store, accused him of criminal libel.

Two months ago the Carter Medicine Co. received a complaint that bogus pills bearing their trade-mark were being sold. The pills were put on the market by two young men, said to be drug clerks named Herbert Jones and William Babcock. They were found by Detective Sergeants Vallely and Evanhoe, and told the officers that they purchased the pills at $10 a gross from Hughes, while the regular price is $18. When Hughes learned that the detectives were on his track he sent a letter to U. S. Commissioner Shields in the Post Office building that Druggist Siebenborn was selling bogus medicines.

No evidence could be found against Siebenborn, and the latter promptly secured a warrant for Hughes' arrest on the charge of libel. Another warrant was sworn out against Hughes on the Carter Co.'s complaint. The officers learned that a man named Remington was making bogus pills in the basement of Hughes' store, but he managed to escape arrest. It is the belief of the Carter Co. that Hughes and Remington were associated in the business of sending out bogus pills, large quantities of which have been placed on the market recently.

President Jeroloman, of the Board of Aldermen, appeared in court as counsel for Siebenborn, while John H. Bird represented the Carter Co. Hughes had no counsel. He was held in $500 on each charge. The libel case will go to the General Sessions Court, and the other will be heard in Special Sessions.

Will Bring Back his Bride.

MANAGER EMIL UTARD TO BE MARRIED AT NANCY, FRANCE, ON AUG. 27.

Emil Utard, the popular and energetic manager of Ed. Pinaud's importation office in this city, is to be married at Nancy, France, on Aug. 27, to Mlle. Richard, whose family and the Utards have resided near that famous French city for many years. The ceremony will take place at St. George's Church, and after a few weeks wedding trip M. and Mme. Utard will sail for New York. M. Utard went abroad about six weeks ago on his customary summer trip to Paris. He will receive the congratulations of a host of friends on his return to New York, and none will be heartier than those of the office force at No. 46 East Fourteenth Street.

In Memory of W. H. Schieffelin.

The committee appointed by the Drug Trade Section of the New York Board of Trade and Transportation to prepare resolutions in memory of W. H. Schieffelin submitted the following:

In the death of William Henry Schieffelin the Drug Trade Section of the New York Board of Trade and Transportation mourns the loss of one who, during his thirty-six years of business life, upheld with dignity the honor and reputation of the firm established by his forefathers, and who, in addition to his labors as a merchant, slighted no call to the service of his country or the community in which he lived.

Loyal and generous in his citizenship, benevolent, courteous and gentle in his private life, honorable and enterprising in his mercantile calling, his unblemished career, despite its untimely ending, offered a complete and exemplary type of the character which has established the reputation of the merchants of our city throughout the world.

Appreciating the value of his life and lamenting its termination, his associates in the drug trade record this tribute to the unfading memory of William Henry Schieffelin, and extend to those whom his death has so deeply bereaved the assurance of a sympathy most profound.

GEO. M. OLCOTT,
THOS. F. MAIN,
S. W. BOWNE,
Committee.

JOHN M. PETERS,
Chairman Drug Trade Section, New York Board of Trade and Transportation.

VACATIONS IN THE DRUG TRADE.

The drug trade man in New York City who doesn't get a vacation because he cannot is an object of pity to all his associates, while the man who could get one if he tried and doesn't is looked upon as a candidate for Bloomingdale Asylum. There are some men who really believe they cannot be spared. They have been ridiculed and talked to in the effort to disabuse their minds of the mania, but all to no purpose, and when their friends found out that they took more pleasure in believing they were invaluable to their employers than in getting a good outing they concluded that talk was wasted on such persons. So once in a while you will run across a drug trade man who says, when you ask him where he is going for his vacation: "I haven't had a vacation in fourteen years, sir. I can't get away." Then the questioner thinks, "I wonder what the firm will do when you die. Go out of business, perhaps!" But he only thinks this. It wouldn't do to say it, for the sufferer would be mortally offended.

There is another class of men who do not go away for two weeks each summer because they have a "vacation" every week during that time. Some are bachelors and ride the bicycle. They take a spin on Saturdays and often stay away over Sunday, visiting the country or the seashore on their wheels and coming back to work Mondays, feeling "tip-top." Others, the married men, say, live out in Jersey or on Long Island, and Saturday and Sunday to them is a little vacation full of pleasure. They pity their city-confined co-workers and all the rest of the week tell them the advantages of living in the country. In the winter time they generally keep quiet and let the city men do the talking.

But it is the dweller in New York who gets a vacation and enjoys it. He can crowd enough fun and rest into fourteen days to last him the remainder of the year. He seeks the country or the shore and works harder getting fun and rest than he does in the office by a good deal. When he comes home he tells everybody that he has had a superb time and feels a thousand per cent. better. If he doesn't it's nobody's business.

There are a few men who not only get a regular vacation, but make it a point to go to some resort once a week. You will see these men running around the wholesale houses on Saturday afternoon trying to get Tom or Dick or Harry to go to Manhattan for the afternoon and evening. These, though, are the favored ones who get good pay and have money to spend.

Just a word about the man who splits his vacation up by taking two days a week off. Sometimes this is a convenient thing to do, both for the employer and the employee, but it is a very unsatisfactory way of spending a vacation, and the writer suspects that these are the men who in after-years say, "I haven't had a vacation in fourteen years."

As a rule all the city houses in the wholesale trade give their men two weeks off with pay. It pays to do so, and the employer is not well treated if the employee doesn't get a good rest and a good time. There are no idlers tolerated in a drug house, and every man is expected to begin the busy fall season fully invigorated and ready to work like a Trojan. The employers work as hard as anybody in the house, and they take pleasure in seeing their men enjoy themselves.

At McKesson & Robbins' a number of men are away or are about to go. John Oehler, of the city department, will spend his two weeks in the Adirondacks, where Charles Weisz, of the buying department, has already gone with his wife and family. Otto Breiting, one of the city salesmen, is at the seashore. W. Douglas, another of the New York City salesmen, is at Pen Argyl, a resort near the Delaware Water Gap, and A. Hageman, in charge of one of the departments, will spend the next two weeks with his family at Kingston, N. Y. T. H. Sherwood is on his way to New Hampshire, and M. Cornell, of his department, is having a good time up the State.

W. S. Mersereau and H. S. Clark, of Schieffelin & Co., are back from the Adirondacks. C. H. Tompkins, manager of the city department, is now away for two weeks, one being spent at Cottage City. J. W. George, of the same department, has just returned from a trip along the north shore. He found much pleasure in visiting Oyster Bay, Cold Spring Harbor, Huntington Harbor and other resorts. Most of Schieffelin & Co.'s force have now had their vacations or are completing them.

At Lehn & Fink's, F. W. Fink is now away at Elka Park, in the Catskills, for four or five weeks, now that Mr. Plaut has returned from Europe. Mr. Plaut went direct from the steamship to his cottage at Yonkers, where he will pass the rest of the heated term. F. W. Koch is taking his vacation in batches of two or three days, visiting nearby resorts. F. P. Hinkston, the firm's New York traveling man, is taking his vacation by coming into the city, replenishing his stock and getting a chance now and then to see Manhattan Beach or some Jersey resort.

President Thomas F. Main, of Tarrant & Co., is, of course, soon to go to Denver. As president of the N. W. D. A. he will be as busy as ever while away from New York. Of Tarrant's regular force several have just returned from their outings. Manager Evans, of the sundries department, had a pleasant trip to Maine. W. L. Owens and S. W. Lothrop, of the same department, are going away very soon, and J. C. Turner and Charles Law are back from their summer trips. S. A. Douglas Willever left for Block Island on Saturday, where he will do some fishing and gunning. From Block Island he goes to Richfield Springs. He will be away about a month. It is understood that Mr. Willever is about to become a benedict, so congratulations are in order.

The factory of the Charles N. Crittenton Co. closes every year for two weeks, so that the entire force is on a vacation at the same time. Of those in the Fulton Street office, E. G. Wells spent parts of July at Long Beach, L. I., of August at Spring Lake, N. J., and in September he will go to Denver; A. H. Kennedy has enjoyed a rest at Asbury Park; W. P. Stephenson is spending his summer in his cottage at Morristown, N. J., and W. A. Demarest will try his hand at shooting in Minnesota some time in October.

At G. C. Bacon & Co.'s office there are few who can get away this summer. Since his return from his wedding trip to Europe C. G. Bacon, Jr., has been more than busy and his example seems to have inspired all his force. F. D. Otis has been in Liberty, Sullivan County, for two weeks, but S. M. Aller and S. E. Cole, the latter the Pennsylvania salesman for the firm, are up to their necks in work and don't know when they can get off.

F. M. Robinson, of R. W. Robinson & Son, is spending the summer at Highlands, N. Y.; Theodore W. Day is just back from a trip to the Berkshire Hills; Isaac Laing leaves Friday for a few weeks' stay in Maine; George Thompson will spend part of September at Asbury Park, and C. S. Littell may go to Denver at the time of the N. W. D. A. convention, but business at home may prevent. R. W. Robinson & Son are practically ready to open the new part of their store. The unfinished sidewalk in front is all that prevents now.

W. P. Ritchey, of Bruen, Ritchey & Co., is a member of the Gatineau Fish and Game Club, and he will go to the clubhouse soon. It is located sixty miles north of Ottawa, and the opportunities for sport with rod and gun are unsurpassed. From Gatineau Mr. Ritchey proposes to go to Winnipeg for a month's stay. Of the office force of the firm, W. E. Hartt will spend two weeks at Belmar, N. J., and W. H. Williams proposes to have a good time at Stroudsburg, Pa.

Manager Stoffregen, of Sharp & Dohme's New York office, will not go away, neither will Dr. Seem. Mr. Stoffregen enjoys the daily trips to and from his home in the suburbs, and Dr. Seem finds great pleasure riding a bicycle and visiting points of interest and beauty in and around New York. Wm. J. Keller is to spend his two weeks in Sullivan County, George Doerr will visit Long Island and some up-the-State resorts and Miss Hannbeck is now at Asbury Park.

At the New York office of William R. Warner & Co., Manager Ed. Fluhr doesn't expect to get away, at least not at present. Peter R. Lance is rusticating on his onion farm at Bourneville, O. Harry Yager's Saratoga trip counted for his vacation, B. S. Lauderbeck is at Asbury Park and S. D. Wadham is in Albany for a short stay.

Theodore Weicker, of Merck & Co., is still abroad, but will return in a few weeks. George Merck has not been away this summer, and most of the office force have had their outings. Among others who are now away is H. E. Scully.

All of the Low Art Tile Co.'s New York staff are now through with their vacations. Manager Sangston had a good time in Delaware, D. R. Reid says he could have stayed at Lake Cayuga for weeks he had such a fine time and A. J. McGrath called on friends in New York and New England on his tour from Niagara Falls to Boston and back.

Oscar de Rochemont, of Sharp & Dohme's shipping department, spends his two weeks' vacation at Rehoboth Beach, Del., while Rudolph Schoenfeld, city salesman, has gone to Bar Harbor, and will later on visit Newport, Narragansett Pier and the Highlands, New York.

Plucky Druggist De Forest.

Among the many who know him in the drug trade of this city and Brooklyn, the pluck of William P. De Forest in connection with his recent severe illness is spoken of as something unusual, but quite to be expected from the Brooklyn pharmacist. For the past year Mr. De Forest has been suffering from some kind of intestinal trouble. At first he paid but little attention to it, thinking it only an ordinary ill, but as time went on and he grew worse he began to take medicines, none of which seemed to do him any good. Nearly four weeks ago the pain increased to such a degree that he concluded something radical had to be done. He consulted his doctor, and after stating his symptoms and being thoroughly examined was told: "You go right home and get into bed. You have appendicitis. I want to consult another doctor who is now operating on an appendicitis case before I tell you for sure."

With this pleasing intelligence Mr. De Forest went home and to bed. Later in the day the two doctors came and made another examination. They told him he not only had appendicitis, but had it in one of its worst forms, and that they would have an ambulance come immediately and take him to the Long Island College Hospital. The physicians believed that an immediate operation would be necessary.

Mr. De Forest's case had so suddenly, to him at least, developed from what seemed a mere derangement to one of the most serious of disorders that his breath was almost taken away. Instead of being in fair health he was now near death's door. None of his papers were in shape in case the operation proved unsuccessful. In fact they were quite the contrary. He didn't want to die without having things in order. So he begged the physicians for a little time, and after some pleading and the promise that he would not rise from the bed, he was allowed over night to fix up his office papers, his insurance and other matters that would be otherwise left in hopeless confusion if he died. With great care he did all the necessary work, all the while suffering pain, and when the morning came he was ready to be taken away.

They whisked him off in an ambulance about nine o'clock, and at eleven o'clock he was under the surgeon's knife. Since that time he has been aiding the doctors in every way he could, being unusually patient and carrying out some necessary but disagreeable orders to the letter. It is said by appendicitis patients that one of the hardest rules to follow in such cases is not to touch the feet to the floor even for an instant, after permission is given to sit for two or three hours in a chair.

Mr. De Forest is now back home and is progressing finely. His friends who tell the story to the Era say there is hardly any doubt that his pluck aided nature in getting the better of the very bad case he had. They think his experience is worth relating for the sake of others who may find themselves in the same plight.

There have been quite a number of appendicitis cases among pharmacists lately. The Era has noted recently the cases of two who recovered and two who died, the latter being druggists in Harlem and Washington Village, N. J.

It Already has a Fancy Name—Airol.

One of the Era's closest readers writes that the lately patented bismuth oxyiodidgallate referred to editorially on page 194, Aug. 15, 1895, has already received a fancy name, to wit, Airol. "But neither patent nor trade-marked name," he adds, "will monopolize this product. It stands on the same basis as dermatol (bismuth subgallate), also patented and trade-marked, but now made and sold generally without restriction in this country. The patent on compounds of this character does not hold good, and does not prevent manufacture by outsiders; but the trade-marked name is sacred, and hence the designation 'oxyiodidgallate bismuth' or 'iodogallate bismuth' should be adopted by physicians and pharmacists."

NEW YORK AND VICINITY.

——William R. Warner sailed from Europe for home a week ago to-day.

——Among the parties in a fence war in Babylon, L. I., is Mrs. Sarah P. Kalbfleisch, wife of Franklin H. Kalbfleisch.

——J. P. Lavalaye, of the class of '93 N. Y. C. P., will be at Hermon Atwood's Broadway pharmacy until October.

——T. R. Wardell, of Bainbridge, and R. W. Land, of Perrin & Land, Augusta, are among the visitors in town from Georgia.

——Charles F. Schinkel is having the painters brighten up his store, and the building at the corner of Ninth Avenue and Thirtieth Street.

——Benjamin Blossom, of Dodge & Olcott, is receiving the sympathy of friends on the death of his wife. Mrs. Blossom had been a sufferer for a long time.

——A number of securities and interests of the Charles S. Higgins Co. were sold last week under an order from John J. Morgan, receiver of the concern. The accounts owing the company aggregated $8,365.75.

——William R. Scudder, a prominent druggist of Newark, N. J., has bought the pharmacy at the corner of the Bowery and Canal Street, in this city. This drug store was established in 1849 and is one of the oldest stands in New York.

——J. D. Blauvelt, of Nyack, was seen on Fulton Street this week. His new store in Nyack is doing an excellent business, and is said by traveling salesmen to be one of the finest along the river. Dr. King, of Paterson, took Mr. Blauvelt's old store and is doing well.

——Charles A. Vroman, Jr., N. Y. C. P., '93, and assistant in pharmacy at the New York College of Pharmacy, has been obliged to resign his position at Hermon W. Atwood's Long Branch pharmacy owing to ill health. He has gone to his home in the northern part of the State to recuperate.

——The druggist's department of the Brooklyn Board of Charities and Correction is being overhauled along with other departments. One of the calls looked into was for 500 yards of material for bandages, and 780 yards were signed for. Ten days later the receipt book of the department shows that 2,000 yards of the same cloth were signed for, but were never called for on the requisition.

——There is talk in the trade about the number of new "firms" on the line of the William Sampson Co. that are beginning to operate in this city. The latest concern of this class is said to be a branch of the Frankfort Street company spoken of in a recent issue of the Era. It is very hard to catch these gentry so that they can be brought into court. Out-of-town firms had better not send merchandise to firms whose names are not known to the trade, unless the cash accompanies the order.

——Albert Plaut, of Lehn & Fink, is back at his desk after a pleasant trip to Europe with his family. He visited Germany, France, Switzerland and Austria, had fine weather everywhere and feels much refreshed by his outing. While at Carlsbad he met Frank Ruf and John Cox, and later on Alfred B. Scott, of Scott & Bowne, and Freeman D. Markwaldt. On the Normannia coming home Mr. Plaut says there was nothing to be seen but fog and rain; so it was quite a "smoking-room voyage." He landed just in time to strike the hottest days of the summer.

——At the dinner table at the Drug Trade Club the other day was a Chicago visitor. The talk turned on literature and the arts. The New York men claimed, of course, that New York was away ahead of Chicago in culture, and "jollied" the Windy City man in good shape. The Chicagoan said nothing for a while, but when everybody had had their fling he said quietly: "Yes, we admit that you folks have lots of 'culchaw' here, but how about this? I see you have on your bill of fare here to-day 'Caff's head en veiangrette.' Is that a sample? We may not have so much 'culchaw,' but we do know how to spell." The conversation took another turn just then.

BRITISH MEDICAL ASSOCIATION EXHIBITION

(Reported for the Era.)

The exhibitions held in connection with the annual congresses of the British Medical Association have become quite a prominent feature of the gatherings in question; in fact, so important have they become that few members of the association (this year numbering about 8,000) fail to go very thoroughly through the rooms devoted to exhibition purposes. This is because a steady growth both in the character and value of the exhibits has taken place during the past twenty years. There is no doubt whatever that American firms located in Britain have done very much to raise the artistic level, real utility, and, perhaps, also the costliness, of these displays. Year by year competition has grown keener and keener to secure the best places and rent-records were again broken this year. The bidding was especially keen for a fine detached position in the center of the central room. After a stubborn fight this fell to

Burroughs, Wellcome & Co.,

of Snow Hill Buildings, certainly the most progressive American firm in Great Britain. Having obtained this splendid space they did full justice to it. An imposing pyramid of lustrous pale blue velvet rose from a number of flanking glass cases, and this pyramid was covered with specimen bottles of the firm's products and surmounted by a statue of Mercury. The general effect was particularly pleasing to the eye, and as an artistic creation won unstinted praise. Closer inspection showed how carefully each detail of the display had been arranged with a view to making as complete an exhibit as possible. Along the shelves of the glass cases were arranged a great variety of medicine cases and chests, and in connection with these an end case contained a somber display of historical medicine chests used by the great explorers of recent years. Burroughs, Wellcome & Co. have fitted out all the great European exploring expeditions that have sailed during the last ten years, and the leaders of the various parties whose lives have often hung on the reliability of these "tabloid" equipments, have on their return presented the empty or half-empty chests to the firm. In this way the medicine chests of Stanley's Emin Pasha relief expedition, of Surgeon Major Parke's famous "Read Guard," of Captain Stairs' Katanga expedition, of Julius Price's arctic and Siberian travels, of Burland's Thibetan and Himalayan explorations, Prof. Garner's Gorilla Swamp travels, and a host of others, were on view. Other curiosities of medical interest comprised the medicine chest and instruments of Dr. Livingstone, the African explorer; the cap worn by Stanley in "Darkest Africa;" the medicine chest of Wilkie Collins, the novelist, and a collection of the relics of Dr. Jenner, the discoverer of vaccination, including the armchair in which that famous doctor died. Tabloids of compressed drugs were well to the fore, of course. There are very few drugs and chemicals that Burroughs, Wellcome & Co. do not make into tabloids, and perhaps the latest variety of compressed drugs is also the most successful. Tabloids of organic remedies of animal origin, such as thyroid and thymus glands, suprarenal capsules, pituitary body, bone medulla, pineal gland, didymin (orchitic substance), cerebrinin (gray matter of brain), ovarian substance, kidney substance, spleen substance and uterine wall substance, were on show. Prominence was given to a display of both liquid and dry varieties of anti-diphtheritic serum. This was the first private firm in the world to prepare anti-diphtheritic serum for general supply to the medical profession. In its bacteriological research laboratory was also discovered the method of preparing in a dry scale form a serum which, while non-deliquescent, would dissolve rapidly in water, thus producing a serum of full potency. This dry serum is being largely exported to tropical countries, as it will keep indefinitely. The Kepler malt products (the Kepler Extract of Malt and Kepler Solution of Cod Liver Oil in Malt Extract) are prominently shown. Emol-Keleet is a new dusting powder mechanically purified from a natural earth found in Scotland.

Among Americans firms

Fairchild Bros. & Foster,

of New York, have the next most imposing exhibit. Mr. A. E. Holden came over especially to supervise this matter, and right well he did it. An excellent position was obtained to the right of the main entrance, and the firm's products were tastefully displayed and attracted much attention. The services of a number of demonstrators were secured to show various peptonizing and other processes connected with the firm's products. Giant bottles of pepsine, zymine, glycerinum pepticum, etc., were the most prominent objects on the stand and between these were stacked imposing displays of preparations, now for the first time introduced to the notice of the medical profession of Great Britain. The latter included panopepton, peptogenic milk powder and pepsencia. Humanized milk prepared coram publico by means of peptogenic milk powder was tasted and pronounced excellent. Practical demonstrations were given of the preparation of peptonized milk by means of the zymine peptonizing tubes. The display of the zymine preparations was particularly interesting in connection with a bottle of pancreatic extract exhibited at the neighboring stand of Burroughs, Wellcome & Co. While Fairchild Bros. & Foster show zymine, their London agents exhibit the first pancreatic extract ever made by Dr. George Harley. This doctor first prepared the pancreatic ferment in a pure form in 1857, but his process was so costly that no manufacturers would make it, but contented themselves with preparing and supplying practically inert substances under the name of pancreatin until the word became discredited and a synonym for worthless. Fairchild Bros. & Foster found it necessary to coin a new and arbitrary title, "zymine," to distinguish this pure pancreatic extract from the pancreatins of the market.

John Wyeth & Brother,

of Philadelphia, had a prominent display of their Beef Juice at a corner of the installation of Burroughs, Wellcome & Co., the latter firm being agents for the former for Europe, Asia, Africa and Australia. Mr. William F. Horton had charge of this section and spoke confidently of the progress that the Wyeth Beef Juice had made in the past and was going to make in the future. Specimen bottles were given away with the request that physicians would test them comparatively.

Parke, Davis & Co.

have one of the smaller stands in the central room and show specimens of solid, fluid and powdered vegetable extracts, sugar and gelatine coated pills and granules, medicinal elixirs, wines, syrups, capsules, lozenges, atomizers, tablets, bougies, suppositories and preparations belonging to various other pharmaceutical groups. They also show sterilized culture-media for making pure cultures of bacteria; ferratin, the ferruginous element extracted from various foods; inhalants, for use in atomizing inhalers; oleates and pepsin.

Armour & Co.,

of Chicago, have a goodly array of digestive preparations in one of the larger side rooms. They show several varieties of pepsin and pancreatine and of glyceroles and compressed forms of these. Lactated Pepsin, a combination of the various digestive ferments in their natural proportions, is in evidence. Inspissated and desiccated ox gall, desiccated blood, and beef peptone paste are displayed, as are also desiccated thyroid plands prepared from fresh healthy glands and carefully degreased and dried. Armour's Extract of Beef is, of course, one of the most prominent objects on this stand. Vigoral, a combination of extract of beef and powdered beef fiber, is another specialty.

Reed & Carnrick

have an exhibit in the opposite side room. Their stand is well lighted from a window overlooking the Thames Embankment. Beef peptonoids are of course well to the fore, both in liquid and solid form, and there are shown liquid peptonoids prepared in combination with coca, cod liver oil milk, an emulsion of cod liver oil and condensed milk, and Carnrick's Soluble Food, a combination of milk and wheat partially peptonized and then sterilized.

Seabury & Johnson

have an exhibit in room "E" in the middle of a little group of American exhibitors. Their London agents are Fassett & Johnson, of Snow Hill, and this firm had the arrangement of the display. Antiseptic and absorbent lints, cottons, muslins, bandages and sulphur candles are in evidence.

The Angier Chemical Co.

show a pyramid of Angier's Petroleum Emulsion.

Horlick & Co.

have a novel adjunct to their display of Malted Milk. An Edison phonograph reels off to physicians a lecture on the virtues of malted milk; and a very good lecture too!

43d ANNUAL MEETING
AMERICAN PHARMACEUTICAL ASSOCIATION,
DENVER, COLORADO, AUGUST 14-21, 1895.

FIRST GENERAL SESSION.

Wednesday Afternoon, Aug. 14.—The forty-third annual convention of the American Pharmaceutical Association was called to order at 3.30 P. M. Aug. 14 in the Brown Palace Hotel at Denver, Col., by First Vice-President Charles M. Ford, in the following words:

"Ladies and Gentlemen: We have to open this session with an apology for having delayed you in the commencement of these exercises, and that apology involves also an apology for having the largest attendance I have ever seen in a convention of the American Pharmaceutical Association. I shall not attempt to explain in detail why so many are attracted to Denver. It is evident that the famous attractions of Denver are the causes which bring you here. It becomes my pleasure and duty, ladies and gentlemen, to introduce to you the chief executive of the State of Colorado, Governor McIntyre."

The Hon. A. W. McIntyre, Governor, was received by the convention with applause and made the following

Address of Welcome

"Mr. President and Ladies and Gentlemen of the American Pharmaceutical Association: It is my pleasant duty to extend to you on behalf of the State a welcome not only to those who are citizens of the United States, but to those of you who are residents and subjects across the border as well. This morning when I got up and looked out of the window I noticed that the weather was very forbidding. As last night promised a pleasant day, I could not account for it until, upon picking up the paper, I found that there was to be a convention here which had some Bostonians in it. (Laughter.) For a long time our climate here has been very pleasing to us and those who have visited us, and we have never had occasion to find fault with it except when a Raymond excursion comes out from Boston. Raymond excursions always come from Boston, and by their presence or in some other way disturb the atmosphere. I don't know whether it is because particles from the 'Hub' have so much greater weight when they get to the rim or not.

"I am pleased to see before me representatives of that great body of men who by their accuracy and knowledge prevent the physicians from laying us all away in the grave. (Laughter.) Of course, before our time. Every one has known many cases in which the pharmacist's accuracy has saved the life of a patient. I hope there are no doctors here (laughter), because I prefer to have in mind the qualities of the partienlar body that is before me.

"But I will not detain you by talking. You are here for a better purpose. I believe that you will find your stay here profitable, and I hope yon will find it pleasant. I hope, too, that you will find time and inclination to go about through the State. We have a State we are very proud of, a State the great resources of which we ourselves are scarcely sufficiently acquainted with to appreciate them. We feel that we can show to you in your going about the State, if you will do us that honor, that we really have a State greater than the representations that have been made to you. I hope, too, as I said before, that you will find your meeting here and your deliberations both profitable and pleasant. I again welcome you to our State." (Applause.)

Mr. Ford: "We have also with us the chief magistrate of Colorado's principal city, the Hon. T. S. McMurray, who will have a few words to say to you."

Mr. McMurray: "Mr. President, Ladies and Gentlemen: I hardly know that I can add anything to the words of welcome that his excellency, the Governor, has extended to you, but I wish, on behalf of the city of Denver, to say to you that I cordially indorse all that he has said on behalf of the State. I trust as you come among us that you will find your trip here pleasant and profitable. I trnst as yon go away from us when you have finished your sojourn that yon will go with pleasant recollections of the time that you have spent in the State of Colorado, and especially in its capital city. I hardly know what I could say particularly appropriate to your society. You are our friends in trouble. It is to you we go when we are in trouble, and perhaps on no other occasion, unless it is in the hot weather when we want to patronize your soda fountain and other et ceteras that you have. Whatever may be the cause, as the Governor has said, you are our friends when we need you, and upon the accuracy with which you put up the prescription that the physician may give, oftentimes depends—and there is more truth than poetry in the statement—the lives of those whom you are treating. As you are from time to time considering the subject of how you can best advance your particular line of business, we all feel that you are not doing it simply for the profit to yourself, but for the good of all mankind. (Applause.) And so we all ought to look beyond the selfish idea that all these different societies and lines of business are simply working for themselves. I do not believe that that is the case. I believe that these conventions which meet here from time to time—and we are always glad to welcome you all—I believe that you come in order to consider the particular lines of business with which yon are connected, and to so consider them that yon may not only make it more profitable to yourself, but especially more beneficial to the rest of mankind with whom you may come in contact. Of course the recreation and pleasure which you have is no small item in your annual conventions. Now, I trust you may have a full share of that pleasure and recreation as you come among us, but as you go through our State, as you enjoy the beautiful weather that we think we have in the State of Colorado above other places, you may perhaps be disappointed that your business is apt to be disturbed. But let us tell you that we have the facilities that will help you out on the other side. Although you may not have the full extent of patronage on account of the extreme good health we always enjoy, we still manage to take care of you in your line of business, because we always have a constant influx of sick people from the East who are always ready patrons of the Colorado druggist. (Applause.)

"Let me, on behalf of the city of Denver, whose chief executive I have the honor to be, let me say that while you are among us we hope you will feel that the city is yours, that you are here to enjoy yourselves, outside of the line of your deliberations. I trust that when you go away from here you will have such pleasant recollections of your stay in Denver and Colorado that before very long you will be glad to come back and visit us again." (Applause.)

The President: "Ladies and Gentlemen, I now have the pleasure of introducing to you our second vice-president, Mr. John N. Hurty, who will respond to the addresses of welcome which have been delivered."

Mr. Hurty: "Mr. Governor, Mr. Mayor and citizens of Denver: I take it as a distinction that I have been called upon to respond to these hearty welcomes, and on behalf of the pharmacists I extend to you a thousand thanks for your great kindness. Many of us, sir, perhaps most of us, are from those States east of the Mississippi. There are those here I know whose homes are in Canada, the great Empire State of New York is represented here, and Massachusetts, New Jersey, Pennsylvania, North Carolina, Ohio, too, the bloody ground of Kentucky and also Iowa, Illinois and other States, and last, but not least, my own beloved State of Indiana, the home of James Whitcomb Riley and Benjamin Harrison.

"We all know that in those great commonwealths we have grand mountains, noble forests, beautiful streams and lakes, vast areas of arable land, with its nodding grain, but nowhere upon the earth, I think, will you find more grandly grand mountains than in Colorado. These mountains that we see on every hand, with hearts of gold and silver, are certainly beautiful to look upon and inspiring to us in every way. Believe it ,sir, there are some of us so ignorant—and I am one of them—we thought that Colorado was exclusively a rocky State. We knew you had grand mountains, and we thought we would find nothing but rocks and stone, and that in our whole course we would probably not find enough grass to feed a tarantula nor enough water to stick a postage stamp. But we know better now. We have come through fertile valleys, so far as the eye could reach, valleys of grass and grain, feeding herds and beautifnl ranches, and I have been surprised at every turn, and I have delighted in it.

"We have known, I say, every one of us, hospitality, but I will venture to say that none of us has ever met with a more generous hospitality, with a kindlier, sweeter hospitality than we have met with here. We will return to our homes with sweet memories of this place. We will regard the great mountains that we have seen as types in their ruggedness and grandeur of the people who live here. We know that to be true. I would be pleased to stand here and utter further sentiments and thoughts and feelings that I have had, but lest I should prove a spendthrift with my tongue, I will do what the great Cæsar did when he came to the Rubicon, and that is—pause." (Applause.)

President Simpson here called Vice-President Hurty to the chair while he read the following

Annual Address of the President.

"Fellow-members of the American Pharmaceutical Association: The meeting of the association which took place last September at Asheville, North Carolina, important as it was both in its aims and its results, will be remembered chiefly, I think, for the interest attaching to the place in which it was held. Those who were present will not easily forget the beauty and grandeur of the mountain region of North Carolina; but I may mention the fact that our place of meeting last year was within sight of the highest mountain summits east of the Mississippi, and now again we 'meet upon the high places of the earth,' amid aspects of nature grander and more impressive still. Here we are al-

most upon the very roof of the continent, that great 'divide' that sends its streams on the one hand to the Pacific Ocean, and on the other to the Gulf of Mexico, and so to the Atlantic.

"From such a height as this it is easy to take broad views of our country as a whole; and with the 'mind's eye' to include in our vast survey Canada in the north—for Canada is really a part of this country—there the Atlantic and Gulf States of the Union; here the great basin of the Mississippi, next this magnificent system of mountains and plateaus, and beyond this still, the States of the Pacific slope. It is easy from such a height to perceive that throughout this endless variety of surface, soil and climate, there runs a grand simplicity and unity of plan—easy, too, to believe that this unity is typical of a yet grander unity which is to make of our present diversity of tongues and temperaments, of customs and convictions, one truly great and matchless American people, able and worthy to lead the world.

"It has been said that most great men are born within sight either of the mountains or of the sea. If this be true, what may we not expect of a people reared amid influences like these? Where, if not here, shall we seek for men of energy and enterprise, of lofty purpose, of breadth of view and of steadfast devotion to principle?

"But we are not here to wonder or to speculate, but to do the work that lies before us, with the earnestness to which the importance of that work may well incite us. Allow me to add, not as a matter of speculation, but as a matter of assured knowledge, that to whatever influence it may be attributable, we can always count with absolute certainty on large-hearted Western hospitality, and we all know upon what a scale Denver bids welcome to her guests.

"In the regular course of official duty, I have appointed the usual committees, and in addition to these, a committee called for by a resolution passed at our last meeting, with reference to the status of pharmacists in the army and navy, with a view to securing for them by Congressional action, the rank and pay of assistant surgeon. I have in accordance therewith appointed a committee consisting of one member for each State and Territory, whose names will be found on page 6, Vol. XLII., of the proceedings.

"And now, before proceeding further, I must make one complaint against my distinguished predecessor. In looking over the subjects which come within the province of this association, and upon which I, as your presiding officer, might naturally be expected to comment, I find that he has left nothing unconsidered, except the one who might succeed him in this chair, and that one he has left with very little indeed to say. Still there is one subject which even he could not exhaust, a subject of such vital concern both to the pharmacist and the public at large as to be always full of interest, and indeed to demand your repeated and most earnest consideration—I mean, of course, the subject of education; and while what has just been said applies to the subject as a whole, I would recommend that the attention of this meeting be given first and chiefly to that aspect of it which relates to the qualifications of druggists. The great importance of the matter will, I trust, warrant my treating it at some length.

"Judging from our choice of meeting places lately—in the White Mountains of New Hampshire, the Alleghanies of North Carolina, and now in the Rocky Mountains—the motto of the association would seem to be 'Excelsior,' and it is to be hoped that a corresponding onward and upward tendency may continue to be characteristic of our work; but let us not forget another characteristic of mountains, without which their elevation would be impossible, I mean their stability, their sure foundation; and let us put into our work this quality also of the 'everlasting hills.' Let us seek to establish our profession on the broad foundation of living, active intelligence; and then we may hope by conscientious endeavor to build it up to any desired eminence of usefulness and honor.

"We have now among us, it is true, experts and specialists of whose attainments any profession might well be proud. The work and the influence of such men is, I know, of incalculable value—still all this is not enough.

"The schools of pharmacy throughout the country are doing excellent work. They have no serious difficulty, I believe, in maintaining a satisfactory standard of requirements for admission to their classes. As yet, however, the number of their graduates is comparatively small, and their influence for good, though certainly great, is still inadequate to our need. Our ranks are recruited mainly from among drug store apprentices, the majority of whom are poorly equipped educationally for the work they have undertaken to do. Just here lies our trouble. This is the weak point in the structure we are seeking to erect, and I beg you to notice that this weakness is in the foundation. The State boards are doing what they can to insure a fair amount of technical knowledge in those whom they license to practice pharmacy; but they can never correct the evil of which we complain so long as their powers are restricted to testing the merely technical knowledge of candidates.

"But I need not argue this point further. All present are agreed, no doubt, that our weakness—nay, our danger, lies in this lack of intelligence, this inadequate intellectual discipline and attainment on the part of those now crowding into the profession. The difficulty of the situation, as I understand it, is to agree upon the right application of the only possible remedy, namely, improved general education as a prerequisite to apprenticeship. Two years ago at the meeting of the International Pharmaceutical Congress, held in Chicago, resolutions were adopted declaring what should be the educational qualifications of apprentices seeking to enter the drug business, and the time that they should be required to serve. At the Asheville meeting last year I had the honor to introduce a similar set of resolutions which were adopted by this association. (See page 353 of the proceedings.) It has been thought by some that these requirements are perhaps a little too far in advance of the present status of pharmacy to receive the support they merit. Recognizing this fact, and at the same time feeling the great importance of the subject to the future welfare of our profession, and recognizing also the fact that it is desirable to make an early beginning, no matter how modest or unpretentious that beginning may be, I therefore recommend that resolutions embodying the following features be passed by this body:

"In the opinion of the American Pharmaceutical Association, the best interests of pharmacy as a profession demand that a definite minimum standard of preliminary general education of all persons entering drug stores to learn the art of pharmacy ought to be enforced by the boards or commissioners of pharmacy of the respective States, and that the preliminary education possessed by

J. M. GOOD.

James M. Good, the newly elected president of the A. Ph. A., has been one of its prominent workers for many years. He joined the association in 1871 and has held several important offices within its ranks. In 1887 he was a member of the council and in 1888 he was chosen third vice-president. He has also acted on a number of important A. Ph. A. committees, and in 1893 was chairman of the delegation to the American Medical Association. He has been professor of pharmacy in the St. Louis College of Pharmacy since 1875. A more extended sketch of Prof. Good appeared in the May 2, 1895, Era, page 571.

all such persons ought to be at least equivalent to that required for admission to the public high schools; that all persons applying for registration as pharmacists or assistant pharmacists should be required to give satisfactory evidence of sufficient general education, by examination or otherwise, and should not be registered or licensed as pharmacists or assistant pharmacists if deficient in that respect; and that a copy of this resolution be transmitted by the permanent secretary of this association to each pharmaceutical examining board or commission or board of pharmacy in the United States.

"It may have occurred to some present that the end we have in view might be secured by simply requiring applicants for license to pass an examination in some prescribed course of general study in addition to that of pharmacy. A little reflection, however, would show that such a plan would be impracticable. For an ordinary apprentice to pursue a course of study in addition to what is already required of him is out of the question; he has neither time, strength nor inclination for it, to say nothing of the lack of a teacher. If a boy has already completed the required course before beginning his apprenticeship, it would be unreasonable to expect him to stand a satisfactory examination in it after four years of enforced neglect. Besides all this, we are not concerned to know how many facts of history or rules of grammar the candidate may happen to remember; the important thing is that, before undertaking the study of pharmacy, he shall have acquired a good degree of intellectual strength and training, the habit of systematic application, some knowledge of himself and the world about him, and, above all, that he shall have acquired such appetite for knowledge that in his own chosen branch at least he may be trusted to do thorough work. The value of a good general education, in its bearing upon the particular pursuit in which one may be engaged, is not commonly well understood. Some good people look upon a college education as a key to all prosperity, a sort of 'open sesame' to fortune's treasure house; while, on the other hand, many, who are nothing if not practical, hold that the earlier a young man devotes himself exclusively to his chosen pursuit the better his chance of success. I need hardly say to a body like this that neither of these views contains the whole truth. It is possible, of course, to spend too much time in aimless study, and we may even acquire at college the indolent habits of the bookworm; but these are by no means the necessary results of education properly so called. They are rather the results of faulty methods and ideals, which are now happily giving way to something better.

"A young man may be said to be well educated, I think, when, having first been trained to right use of his senses, he has further learned to digest and to assimilate what he reads. The maxim 'through hand and eye to the brain,' points us, no doubt, to nature's way, the wisest and best way, of training the young; but education ought not to stop here. The mind also needs to be developed and trained till it is able, not only to interpret rightly what the senses report, but to deal intelligently with words and ideas, to seize their meaning with as firm a grasp and as clear an insight as belong to hand and eye in the world of matter and motion. Indeed, I am not sure but the ability to read intelligently (by which I mean the power not only to get from the printed page all that the writer intended to convey, but to compare the matter thus acquired with similar matter already known, and to estimate it at its true value), I am not sure, I say, that the ability to read in this way ought not to be ranked even higher than the ability to observe for one's self, however keenly, the objects and phenomena of the material world. There is no need, however, to measure these powers one against the other. There is no necessary antagonism between the two. On the contrary, they go hand in hand, each aiding the other and doubling its efficiency. Nothing is understood that stands alone. To understand a thing is to place it in its right relation to surrounding objects, and the more numerous the points of contact the more complete the understanding. To be able to give from memory the name of an object and one or two of its properties is hardly to know it at all; but in a profession like ours, certainly 'a little learning is a dangerous thing.' It is with a view to saving our apprentices from mistakes on this point that we would insist upon their postponing the study of pharmacy till the mind has been so far developed by previous study as to have a wholesome appetite for genuine knowledge, and has been so far trained as to be able to acquire it. If such a requirement should have the effect of excluding the incompetent and the indifferent, so much the better for them, for us and for the public; for, to repeat what has been expressed above, in a profession like ours, with its grave responsibilities, incompetence is sin.

"The advice, 'know something of everything and everything of something,' seems especially appropriate to druggists. Some knowledge of Latin, as we are all aware, is of direct use to the apprentice in throwing light upon the nomenclature of the business; but its chief value lies in its power to illumine the mind itself—to light up the whole intelligence by cultivating a sense of the right use of words, the real nature of language. Substantially the same may be said of mathematics, science, history—in fact, any study that teaches one to consider the meaning of words, to compare, to discriminate, to classify, to reason—in a word, to think for one's self. Consider for a moment the difficulties in the way of an apprentice without such mental discipline. He must commit to memory an endless succession of disconnected facts, which he, through ignorance of general principles, has no power to arrange and classify. These facts are conveyed in language that to him is virtually an unknown tongue; and all these difficulties he must encounter with a mind untrained to habits of systematic application.

"But I need not dwell longer upon this subject. There can hardly be two opinions as to the desirability of the end we have in view. Just how that end is to be secured is for you to determine. The obstacles in the way are serious enough, but are not, I trust, unsurmountable."

Upon motion of Mr. Gordon the annual address of the president was referred to a committee of three to be appointed by the presiding officer, who selected Messrs. M. W. Alexander, of Missouri; J. P. Remington, of Pennsylvania, and W. C. Alpers, of New Jersey.

President Simpson here resumed the chair and called for the reading of the minutes of the preceding session. Mr. Kennedy, secretary of the council, then read the minutes of the fifth session of the council, which upon motion were adopted as read. The minutes of the sixth session were also read by Mr. Kennedy, and after discussion were referred back to the committee without adoption, with the request that the committee withdraw their recommendation to publish the names of delinquent members who have been dropped from the roll for non-payment of dues.

The next in order being the reports of committees, a number of reports of the standing committees were handed in, but owing to the lateness of the hour the reading of the same was deferred until a later session.

Nominating Committee.

After a five minutes' recess the convention proceeded to a roll call of States for the purpose of selecting members of the nominating committee, with the following result:

Alabama, E. C. Andrews; Arkansas, E. F. Klein; California, no response; Colorado, John Best and C. H. Wells; Connecticut, no response; Delaware, no response; Florida, S. P. Watson; Georgia, Joseph Jacobs and J. A. Sullivan; Illinois, Walter M. Sempill and Charles Zimmerman; Indiana, Frank H. Carter and Charles W. Eichrodt; Iowa, Fletcher Howard and C. D. Wangler; Kansas, Mrs. M. O. Miner and George Leis; Kentucky, Albert J. Troettlein and Addison Dimitt; Louisiana, N. P. Roux and L. F. Chalin; Maine, no response; Maryland, Charles Caspari, Jr., and Alfred R. L. Dohme; Massachusetts, Eli H. La Pierre and S. A. D. Sheppard; Michigan, C. C. Sherrard and George McDonald; Minnesota, W. A. Frost and L. A. Harding; Mississippi, no response; Missouri, Adolph Brandenberger and H. M. Whelpley; Montana, no response; Nebraska, Charles R. Sherman and Norman A. Kuhn; Nevada, no response; New Hampshire, no response; New Jersey, S. W. Williams and W. C. Alpers; New York, E. H. Bartley and Clay W. Holmes; North Carolina, O. N. Royster and John W. MacCrea; North Dakota, J. Davison; Ohio, C. T. P. Fennel and Geo. Lewis Hechler; Oregon, no response; Pennsylvania, E. A. Cornell and F. G. Ryan; Rhode Island, no response; South Carolina, F. T. Wilhite; South Dakota, no response; Tennessee, no response; Texas, J. Burgheim; Utah, no response; Vermont, no response; Virginia, T. Roberts Baker; Washington, no response; West Virginia, no response; Wisconsin, no response; Wyoming, no response; District of Columbia, W. S. Thompson; Province of Quebec, J. E. Morrison.

As delegates at large on the nominating committee the president appointed Albert E. Ebert, of Illinois; J. P. Remington, of Pennsylvania; M. W. Alexander, of Missouri; W. J. M. Gordon, of Ohio; J. N. Hurty, of Indiana.

As a committee on the time and place of next meeting the chair appointed Wm. A. Frost, of Minnesota; J. E. Morrison, of Montreal, Canada; W. S. Thompson, of the District of Columbia; S. P. Watson, of Georgia; Louis F. Chalin, of Louisiana. Mr. Chalin resigned from this committee and suggested the appointment in his place of J. A. Legendre, of Louisiana, which substitution was accepted by the president.

The secretary read invitations from the Pharmaceutical Association of Montreal and the Mayor, the Board of Trade, and the Chamber of Commerce of Montreal, also the Business Men's Club of Hot Springs, Arkansas, and the Minnesota State Pharmaceutical Association and the Twin City Commercial Club, inviting the convention to meet at St. Paul, Minneapolis, on Lake Minnetonka. Each of these communications earnestly requested the members of the convention to meet at their respective cities at their next annual session. The communications were referred, upon motion of Mr. Remington, to the committee on time and place of next meeting for their consideration.

Mr. Kennedy reported the names of 216 persons as applying for membership to the association, which names were posted in the hall for the consideration of the members in the usual manner.

At this point, the session having extended until nearly 7 o'clock, the convention adjourned until Thursday morning at 10 o'clock.

SECOND GENERAL SESSION.

Thursday Morning, Aug. 15.—The convention was called to order with President Simpson in the chair, and the minutes of the preceding session were read and approved as read.

Secretary Kennedy read the minutes of the 7th session of the council, which were approved as read.

Delinquents' Names to be Published.

Mr. Alexander: "As I understand it, the council refuses to accept the suggestion of the convention. I move, therefore, that so much of the minutes just read as refers to members' names being dropped from the roll after three years of non-payment of dues be referred back to the council, with instructions to not publish these names." Seconded.

Mr. Sheppard: "As I made that motion in the council, I think I ought to explain my position in the matter. I think I could have made it plain yesterday to the association. I am very sure if any one should serve as treasurer for the term of five years he would be fully convinced it was a most wise and proper thing for these names to be published. The first reason is that otherwise our list of dropped members will increase, I have no doubt, in the first two years, 50 per cent. It is one of the very best means of making a man pay up and resign. Secondly, in an association like this, where the membership is gathered up in a somewhat hasty manner, it is an absolute certainty that we get among our list of members a great many men who are not first-class men so far as carefulness, financial accuracy and general attendance to business is concerned. A great many men come into the association simply for the advertisement. I say that advisedly, Mr. President. Many men join this association and hold their membership for one year, and get a certificate of membership, hang it up in their stores, and then for three years afterward are advertised in our printed list as members; they thereby get four years' advertising as members of the great American Pharmaceutical Association. This certificate they hang up in their stores and pay no attention to the bills from the treasurer. No man is ever dropped until he has been written to more than once, and the last letter sent to him is a very strong one, and I say, gentlemen, it is simply justice to the association that this class of men be dropped. Of course occasionally there is a man who does not deserve to be described as I have stated, but I think the majority of these men who are finally dropped are of that class. And then I think there is another point. Our proceedings should be a record of our action. Every man should be able to take the proceedings of the association from one year to another and tell exactly what the status of the members has been as well as of the action we have taken. The personality of our members is a very important factor in our work. And right along that line you will remember, many of you, that there has for a number of years been published in the proceedings a list of the payments made by the members from one year to another so that we can tell just when every man pays his dues. Every man can audit his own account against the treasurer, so that if a man looks up the account of John H. Brown, he is able to tell whether he has been a regular member or whether he has been one of the slip-shod men. I think that the question of the record alone should outweigh the question of sentiment. It is not an injustice to these men. We are not doing them any wrong. No one of them is ever dropped without abundant notice. I think we do this association a great injustice if we stop that action which we have been carrying on so many years and with no sort of difficulty. It has never caused us any trouble. Why stop it? It has done us a great deal of good, and never done harm." (Applause.)

Mr. Ebert: "I am very glad that we have with us to-day Mr. Sheppard, who can explain the situation. It is just exactly as I have always understood it. Certainly our financial matters pertain to our business, and I do hope that the council will be sustained. I am glad to see that I am going to be seconded to day and be able to say 'I told you so yesterday.'"

Mr. Alexander: "While I realize the force of the treasurer's remarks, there is something due to sentiment after all. There are many men who think that when they are called upon to pay their annual dues of $5, 'I can't pay it this year, but I will be able to make it up next year.' But next year comes along, business is a little bit worse than it was the year before, and so it goes along until the three years are up, and these men are dropped; they can't pay up. It is not because they do not want to pay. I am speaking particularly about these hard times. Under ordinary circumstances I think it is all right, but what particular good it will do to publish these names, except as the matter of record is concerned, which I will admit and acknowledge is an important feature, but I say there is something due to these men, and their names should not be published as being too poor to pay their dues. This is the point I wanted to make, Mr. President, but I will withdraw my resolution referring that back because I acknowledge the force of the treasurer's remarks."

The motion of Mr. Alexander having been withdrawn, the minutes as read by Secretary Kennedy were unanimously approved.

Upon the motion of Mr. Kennedy the secretary of the Committee on Membership was instructed to invite the applicants who were named at the former session to complete their applications by signing the blank provided and the payment of dues.

Mr. Kennedy here reported applications for membership to the number of seventeen, which followed the usual course by being posted in a prominent place subject to the further action of the convention.

Secretary's Report.

The secretary here read his financial report. In addition to the financial matters pertaining to the office, he gave a statement of the condition of the library owned by the association. The secretary stated that instead of there being 10,000 volumes in the library, an actual count of the books owned by the association showed that there were only about 560 or 570 volumes, of which one-half were bound and the remainder unbound.

In a great many cases volumes of the records were incomplete to the extent that from three to ten volumes were absent. The secretary further stated that the books were now packed in boxes, and that a large number of them were of little or no value to the association as a body, and that if he were authorized to do so he would destroy such volumes as were considered of no value to the association.

The secretary also stated that in accordance with the instruction received from the association he had sent to the various pharmaceutical journals notice that if agreeable he would be glad to receive copies of their publications; that in all cases where this had been done the copies had either been received by the secretary personally or he had been informed by the reporter on progress of pharmacy that favorable replies had come to him, so that all the papers were received that were applied for.

The secretary also stated that he was instructed to send a letter to the different associations and boards of pharmacy asking action on certain rules adopted at Asheville referring to the matter of apprenticeship, but that out of 90 or 100 letters sent out but about 5 or 6 responses were received, stating that favorable action had been taken by the association, but that undoubtedly some of the associations had taken action upon this subject prior to the sending of this letter. How many associations had taken action favorably or otherwise and not reported to this association the secretary was unable to state.

The secretary also, in alluding to the matter of the revision of the complimentary list last year, wherein it was decided that pharmaceutical journals should not receive the proceedings of 1894, stated that some of the strictures indulged in by the journals were not of a very pleasant character regarding this act of the association; some were offensive, and one or two in particular called for a reply. In two cases, one being that of an official organ of a foreign association, and one an American journal, letters were written to the editors of these papers asking for an explanation of statements made. The publisher of the American journal in a later issue retracted his statements, but in the case of the foreign journal no reply had as yet been received. Both of these communications, prior to their transmittal, had been submitted to the other officers of the association, and met with their approval.

Upon motion of Mr. Alexander the report was received and referred to the Committee on Publication.

Upon motion of Mr. Seabury the unbound volumes owned by the association were presented to Prof. John U. Lloyd, of Ohio, as the man in the association most able to appreciate the value of the books in completing sets otherwise difficult to secure. On behalf of future pharmacists who would have access to his library, Prof. Lloyd thanked the association, and stated it frequently happened that duplicates of reports were received, and in such cases could be furnished to pharmacists desiring such numbers to complete their own volumes.

The secretary then suggested the idea of presenting the complete reports of the American Pharmaceutical Association to such schools of pharmacy connected with universities as applied for them. This was discussed at some length, and finally, upon motion of Mr. Hallberg, the council was requested to make a lower rate on these books to the members of the association, to permit them to complete their volumes.

The annual report of Treasurer Sheppard was then read, and upon motion of Mr. Remington was received and referred to the Committee on Publication.

Mr. Whelpley offered the following resolution and moved its adoption:

"Resolved, That the permanent secretary be instructed to request the pharmaceutical journals to publish the revised schedule of prices of volumes of the proceedings." This was seconded and unanimously carried.

Mr. Kennedy here read the report of the Finance Committee, which, upon motion of Mr. Alexander, was referred and filed.

The report of the Committee on Membership was received and referred. This report, which extended to some length, showed a total active membership at the time of the report of 1,533; number of honorary members, 15; number dropped

for non-payment of dues, 30; 19 members were reported as having died during the past year.

Prize Essays.

The Committee on Prize Essays appointed at the last meeting reported that the first prize had been awarded to Henry Kraemer for his paper on "The Microscopical Examination of Cloves," second to Alfred R. L. Dohme for "Chemical Examination of Ipecac and Stramonium," third prize to Lyman F. Kebler on "Volumetric Estimation of Alkaloids."

The Committee on Ebert Prize reported that after due consideration of the papers presented in competition, they were forced to the conclusion that no one of them complied in all respects with the rules governing the contest, and that the prize would, therefore, not be awarded.

Mr. Eliel, of the Committee on the Revision of the U. S. Pharmacopœia, submitted a lengthy report of that committee which was listened to with interest and referred to the section on scientific papers for discussion.

New Officers.

The Committee on Nomination reported the following officers: For President, J. M. Good, Missouri; for First Vice-President, C. E. Dohme, Maryland; for Second Vice-President, Adolph Brandenberger, Missouri; for Third Vice-President, Mrs. M. O. Minor, Kansas; for Treasurer, S. A. D. Sheppard, Massachusetts; for Permanent Secretary, Charles Caspari, Jr., Maryland; for Reporter on the Progress of Pharmacy, C. Lewis Diehl, Kentucky; for three members of Council, G. L. Hechler, Ohio; C. M. Ford, Colorado; W. J. M. Gordon, Ohio; for unexpired term of C. L. Diehl, J. Burgheim, Texas. Each one of these names was received with applause when announced, and upon motion of Mr. Torbert the secretary was instructed to cast a unanimous vote of the association in favor of the candidates named.

Mr. Sayre offered the following resolution and moved its adoption:

"Whereas, The services of Prof. Henry Kraemer for the past three years as reporter on the progress of pharmacy having been of exceptional value; be it

"Resolved, That the American Pharmaceutical Association extend to him a vote of thanks for his labor in their behalf, and with it hopes that his European trip may prove immensely successful."

Mr. Sayre's resolution was unanimously adopted.

Montreal Next Year.

The Committee on Time and Place of Next Meeting reported Montreal as the place, and Aug. 12, 1896, as the time. After discussion in regard to changing the time to the first week in September, the report was adopted as read.

Chairman Diehl, of the Committee on National Formulary, read his report, which was referred to the Committee on Publication. After some discussion as to the manner of publication of the National Formulary, the council was requested to secure its publication at the earliest possible moment, and in such form and manner—whether separately or with the proceedings—as the council deemed best. Upon motion of Mr. Whelpley, the association recommended that the council and Committee on National Formulary should prepare an epitome of the National Formulary for distribution among pharmacists.

Chairman Hallberg, of the Committee on Revision of Constitution and By-Laws, submitted a report recommending the following changes recommended by the council: To change the name of "permanent secretary" to "general secretary." To eliminate from the section governing the election of officers the one sentence which exempts the permanent secretary from the annual election, and placing him on the same basis with the other officers, so far as regards his election. To repeal Art. 5, Chap. 7, providing that the author of every paper shall present a synopsis of its contents to the chairman of the section on scientific papers. Also incorporating a section to distinguish between various terms such as "meetings," "sessions," etc., so as to avoid conflict in terms. Upon motion, the report was laid over under the rules until the next session of the association.

The following changes in the constitution and by-laws were recommended and referred to the council: That the chairman of the various sections be empowered to refuse any paper that they deem not worthy to be presented. That delegates shall not be eligible as members of the nominating committee until they have completed their membership. Proposed by Mr. Ebert: To insert in Chap. 1, Art. 2, a provision that members of the council shall be elected from such members as have held at least five years' membership in good standing in this association. Proposed by Mr. Mayo: Chap. 9, insert after Art. 16: "The council may arrange for such social sessions to be held after the adjournment of the last general session as it may deem expedient, but no business of the association shall be transacted at these social sessions." Further recommended that the chairmen of the various sections be ex-officio members of the council.

The secretary read a telegram of fraternal greetings from the Wisconsin Pharmaceutical Association, and the secretary was instructed to send the proper response.

The session of the convention having extended until nearly 2 o'clock, hereupon adjourned until Saturday, Aug. 17, at 10 o'clock A. M.

SECTION ON COMMERCIAL INTERESTS.

First Session, Thursday Afternoon, Aug. 15.—Mr. Seabury, chairman, called the section to order in the following words: "My first duty in calling our section to order is to read a letter from the secretary, who is not present, and I am very sorry to say that four-fifths of our executive committee are not present, but I think we will provide for such absentees in the future. In the absence of the secretary it becomes your duty to select one and nominations will be in order."

Mr. Holmes, of New York, was nominated, and upon motion the nominations were closed and Mr. Holmes declared the unanimous choice of the section for secretary. The minutes of the last session were then read by the secretary and approved, after correction by the substitution of the word "commended" instead of "condemned," referring to the action of the Congress of the United States upon the resolution offered by Mr. Sheppard at Asheville. Chairman Seabury then read his address to the section, entitled "An Analysis of our Past and Present Professional Mercantile Obligations." (The substance of this address will be given next week.)

Mr. Mayo moved that the address be referred to a committee of three appointed by the chair, to be reported on at the next session of the section. The chair appointed as such committee Messrs. Alexander, Wooten and McDonald. The secretary read an announcement that the Broadway Theater would be open for the inspection of visiting pharmacists immediately after the adjournment of this session. Upon motion the section then adjourned until 8:30 P. M. of the same day.

Second Session, Thursday Evening, Aug. 15.—The session was called to order by Chairman Seabury, and after reading and approval of the minutes of the preceeding session the committee appointed on the president's address made their report, and upon motion of Mr. Ryan the resolutions embodied in the report of the committee were presented to the section separately to be acted upon.

National Trade Committee.

The secretary read the first resolution: "Resolved, That a National Committee on Trade Interests and Local Organization be created; this committee to consist of three members from this section, together with the chairman of the Committee on Trade Interests of each State pharmaceutical association. This committee shall report annually in a condensed form the condition of trade throughout the country and upon any other pertinent subject, making such other recommendations as are deemed necessary."

Mr. Good: "The chairmen of these committees in the State pharmaceutical associations are likely not to be members of this association, and I do not think that we can put upon an official committee of this section a party who is not a member of the association."

Mr. Holmes: "This question was raised in the appointment in the New York State Association of a committee which was quite analogous to this committee, the object of that committee being to secure, if possible, a report on the condition of trade in each county of the State, and as there were not members of the association from each county, it became necessary for the association to appoint the best person from each county not having members in the association. The province of these State members of the committee is to furnish complete reports of the trade interests of their locality; then the committee of three from this section take those several reports, and from them, in a condensed form, make a report of the condition of trade throughout the country. This is the idea involved in the recommendation of the president. It seemed to your committee a good one, and therefore in order to accomplish it we tendered that resolution—the only way, it seems to us, in which it could be accomplished."

Mr. Alpers: "I believe the committee that recommended this course did not look into the matter thoroughly, or this resolution could hardly have been offered. In the first place, what right have we to appoint upon one of our committees a man who is not a member of our association? It seems to me perfectly ridiculous that we should pick out forty-six men from all over the United States and ask them to act as a committee in our body. What guarantee have we that they will act? We have had some experience in inviting State organizations to act in harmony with us. It has happened at various times that they have been asked to report on some matters, as, for instance, on the question of apprenticeship. We learned from the president's report yesterday that out of thirty-odd State organizations called upon only five responded. Now, what right have we to expect that the chairmen of of these trade interest committees not members of the association would respond? They would simply laugh at the matter and throw it aside. Furthermore, has this committee ascertained that all of these State associations have trade interest committees? I do not know that they have. What guarantee have we that they have? Some may have such a committee and some may not. Certainly the composition of this committee is very ill-advised in my mind, and I do not think we ought to take any action on the selection of a committee in that way. If we want a committee let us select it from our own members."

Mr. Watson: "I thoroughly agree with

Mr. Alpers. I do not believe we have the right to appoint as a member of this committee a man who is not a member of the association, and I, therefore, move that that section of the resolution be amended to read one member of this association from each State be appointed to constitute that committee; and in doing that it would naturally be supposed that the chairman of this section who appoints that committee will select some representative man of that State who would be supposed to know the status of the trade interests of that State, and would take an interest in the work of this committee. I offer that as an amendment to the motion."

The motion was seconded.

Mr. Hallberg: "Whenever there is any proposition made in this association to do some work which would demonstrate that this is really an American pharmaceutical association, there is always some objection of this kind made. Now, it seems to me that the proper way to extend the usefulness and popularity of this American Pharmaceutical Association is to present it in such a way throughout North America that the men of the various States who are interested in special subjects will practically be forced to become members of this association. I see no reason under the constitution or by-laws why these men cannot be selected, or cannot, at least, be asked to act as members of this committee. The president or chairman of this section is not in a position to select the proper kind of men from the various States. The different State associations usually select the proper man for such a position as chairman of their trade interests committee, and he is preeminently the man who has watched these matters for the purpose of reporting at his State meeting; and if he is not a member of the American Pharmaceutical Association, then the fact that he has been appointed on this national committee would, I think, practically compel him to join the association. I have always favored a plan of organization of this kind, and I do not think we ought to be sticklers about appointing men simply because they do not happen to be members of this association at the particular time that they are appointed. I therefore favor the original resolution."

Mr. Kuhn: "I think that the last speaker is exactly right, and, therefore, I hope that the amendment will be voted down and the original resolution be carried."

Mr. Watson: "In the first place, I, for one, as a member of this association, do not want to force any man to become a member of it. If he does not want to become a member of the association I would rather he would stay out. Another point that suggests itself to my mind is this: In appointing these members probably we do not know whom we are appointing. For instance, our association is in session now; some of the State associations have met and appointed their committees, and they will meet again probably just a week or two before our next meeting, and in the mean time the gentlemen who are chairmen of the Trade Interests Committees now may cease to be such, and new men be put in their places. It is altogether impracticable for the asociation to appoint anybody on its committees who are not members of the association."

Mr. Good: "I agree that Mr. Hallberg is sentimentally right, but he is technically wrong."

Mr. Seabury: "The chair dislikes to take up much of your time on the ground that he has already trespassed upon it in a way that he believes he made himself pretty well understood upon these subjects. The recommendation was not made without thought. The object of making it a committee of five, my own recommendation, was to form a nucleus first and then it would spread to State organizations. That was in my mind, without attempting to give you that in 1895 on the ground that if you attempted to get too much work on this section at once, the chances were that very little would be accomplished, judging by past experience. At the same time, in reporting on my address I think the committee overlooked a most prominent feature of it, and I believe that they have made amends in the form of a resolution. I simply wish to defend myself on that point. I have not attempted this work in any haphazard way. I agree with Mr. Watson on the generalities in the general way of the appointment from a national standpoint, which I anticipated, but not at this meeting. I do not think we are ripe for it. I think at the next meeting we have our Committee on Trade Interests would recommend that, and we would probably so construct our recommendations that the president of each State association would make it his pleasure to appoint each year a member of this special committee. That applies to the other committees which the chair has recommended."

Mr. Holmes: "Under the suggestion which you offer, if my associates on the committee are agreed, I would like to suggest as a substitute that the president of each State pharmaceutical association appoint a member of this committee who shall be a member of the American Pharmaceutical Association. That will cover the entire ground, and accomplish, I think, the same purpose."

The other members of the committee signified their acceptance of the amendment.

Mr. Whelpley: "I trust the committee will further amend this resolution by including a member from each State and Territorial pharmaceutical association and the provincial pharmaceutical associations of Canada."

The suggestion was accepted by the committee, and the question being put upon the adoption of the resolution as amended was carried, the resolution reading as follows:

"Resolved, That a national committee on trade interests and local organization be created, the committee to consist of three members from this section and one from each State and Territorial pharmaceutical association and the provincial associations of Canada, said committeemen to be members of the American Pharmaceutical Association, and appointed by the presidents of the various associations aforesaid. This committee shall report annually in a condensed form the condition of trade throughout the country, and upon any other pertinent subjects, making such recommendations as are deemed necessary."

The second resolution presented by the committee was then taken up, reading:

"Resolved, That a committee on proprietary articles and pharmaceutical products be created, this committee to consist of five members. The duties of this committee shall be to report annually upon the condition of proprietary traffic, substitution and other existing evils, and to make recommendations as to the best methods of correcting them."

Upon motion this resolution was adopted as read.

The secretary read the third resolution presented, reading:

"Resolved, That a committee consisting of nine members be appointed as a special conference committee on resolutions, to draft any appropriate resolutions on pertinent subjects and submit them at the next session."

The resolution was adopted, and the chair appointed as such committee Messrs. J. N. Hurty, Indiana; M. W. Alexander, Missouri; John F. Patton, Pennsylvania; L. F. Chalin, Louisiana; E. E. Quandt, Maryland; Thomas F. Wooten, Illinois; Geo. L. Hechler, Ohio; Paul G. Schuh, Illinois.

The chairman: "The report of the committee having been disposed of, we will now have read such papers as have been presented to us. In the absence of the committee, we have concluded to allow these papers to be read without prejudice, and it will devolve upon the Executive Committee whether they shall be published or not, for the reason that we are unable to come to any agreement now on account of the absence of the committee. This section will always give fair play to every one, and if a paper is read that our members have any objection to, why, they have the floor where they can relieve their minds. I shall always follow out the rules of the section. Speakers will be allowed five minutes, outside of those who read the papers, and no speaker shall speak twice until the first edition has been exhausted. (Applause.) We have a paper here from Mr. Girling, of Louisiana. If Mr. Chalin is present, I would like to have him read it, as he is from the same State. The secretary will read the paper in the absence of any member from Louisiana."

Patent Medicines.

The paper, "The Patent Medicine Evil," by Robert N. Girling, Louisiana, was then read. It appears in this issue.

Mr. Hallberg moved that the paper be referred to the Executive Committee. Seconded.

Mr. Ebert: "This paper gives us suggestions in regard to legislation which, like many of the other suggestions, are not practical. To secure legislation which will control the proprietary medicines of this country and compel them to publish their formulas, is not possible in any State of this Union because, for one reason, there is more money furnished by the proprietors of the patent medicine interests of this country than the druggists of the country would be able to gather to overcome the log-rolling that might be done to defeat such a measure. What we want is a practical way of getting such legislation. I wish to tell you how it was done in the State of Illinois, and we have accomplished the very object that this writer wishes to attain. In the State of Illinois we have just passed an amendment to the Pharmacy law, of four sections, and they can be interpreted in this way: First, no one but a registered pharmacist shall open or conduct a drug store; second, all drugs, medicines and poisons shall be sold in a store conducted by a registered pharmacist; third, the name of the registered pharmacist shall be over the door or over the department of every place where such drugs, medicines and poisons are sold; fourth, all drugs, medicines and poisons must bear the name of the registered pharmacist and his address. Now, gentlemen, if you can see the scope of it, it is this: All drugs, medicines and poisons. Now if a patent or proprietary remedy is a drug, medicine or poison, it can only be sold by a registered pharmacist, in a store conducted by a registered pharmacist, the registered pharmacist's name must be over the door or over the department where such drugs medicines or poisons are sold. This law has been passed in the State of Illinois against all of the opposition that the patent medicine interest could bring to bear, and even the medical profession who did not wish to recognize it when they found out that patent medicines were included—against the whole oposition that we had to confront we passed it in the Senate with four votes and in the House with nine; and although the Governor did not sign the bill for the reason that there had been

so much opposition, the bill became a law. To obviate the matter that the department stores can sell proprietary medicines, we have a clause also in the law providing that apprentices in a drug store must be registered by the State Board of Pharmacy, so that they cannot employ half a dozen girls. And another feature is that nothing in this law shall interfere with the exclusive wholesale business of the wholesale dealer in the large cities. We have a great deal of competition from the wholesaler who retails in the large cities. The wholesale dealer in the State of Illinois, from this time on, will not be allowed to retail. (Applause.) You want to know how we are going to sell these remedies in sections where there is no registered pharmacist. The State Board of Pharmacy, by another section of the law, has the privilege to give a permit in sections of the State where there is no store conducted by a registered pharmacist for the sale of such proprietary or domestic remedies, and these proprietary or domestic remedies shall be specifically named by the board when giving such permit. That is constitutional, that law is, and we expect to see that it is carried out in the State of Illinois." (Applause.)

The chair: "It is moved and seconded that this paper be referred to the Executive Committee for its action." The motion was carried.

Secrets and Non-Secrets.

Dr. F. E. Stewart then read a paper in answer to Queries Nos. 8 and 9 as follows:

"Query No. 8. Are non-secret preparations in imitation of well-known domestic medicines a legitimate product; and is it honest for a dealer to allow his name to be printed on the label so as to give an unknown compound currency, when he is ignorant of the contents of such preparation?"

"Query No. 9. Does not the pharmacist jeopardize his reputation and standing by dealing in non-secrets, when he possesses the knowledge of compounding as good or better formula?"

Upon motion of Mr. Alpers the paper was received and referred to the Executive Committee.

Mr. Ryan moved that the readers of subsequent papers be granted fifteen minutes, and if the paper occupies a longer time than that in the reading, that it be abstracted. Carried.

Mr. Alpers: "As a pharmacist, I believe that this paper should not be passed without remark. It seems to me that it is in some respects like a package of bitter pills coated with sugar. The author has certainly devoted a great deal of time and endeavor to the paper, and there are no doubt many things said in the paper that are in perfect harmony with our views. But the object of the paper, it seems to me, was not so much to condemn proprietary medicines as to recommend non-secret ones, and the condemnation of the proprietary medicines was only put down our mouth as a coating of sugar to hide the taste of the non-secret bitter pill. I believe it is one of the greatest detriments to our profession that non-secret medicines are sold. I believe it is a slur on the honor of the pharmacist to send out any bottle on which he has a printed label, without knowing what that bottle contains. He does exactly that same thing for which he condemns the proprietary medicines. It is stated by the author of this paper in various places that it is not wrong to sell medicines the exact formulas of which are pasted on the bottles. Yes, but how does the pharmacist who buys these medicines know that they contain what is printed on them—what guarantee has he of that? The author compares the selling of such medicines, which the pharmacist does not prepare himself, with the selling of bicarbonate of soda or chloroform or fluid extracts. If there was ever any sophistry offered to this association, it was that very sentence. How can a non-secret medicine, the formula of which is supposed to be printed on the bottle, be compared with put-up products of the manufacturing houses like bicarbonate of soda, where we have the means of testing them and convincing ourselves that we actually do sell bicarbonate of soda—that we actually do dispense chloroform? How he can compare such products with non-secret products I do not understand. They are as much different from each other as light and darkness. As I said before, while I believe it is a good thing to have this subject mentioned, while I fully agree with the author in all he has said in condemnation of proprietary or patent medicines, while I also believe with him that such medicines have tended a good deal to ruin our business, yet I protest against the preparation of non-secret medicines. It is only tending to demoralize our business and it is only helping the ignorant pharmacist. Any pharmacist of ability or pride will prepare his own medicines, if he sees the need of it, and the claim that he has not the capital is ridiculous. We all know that when the agents of the secret medicines come to us we have to buy at least three, six or twelve dozen, in order to get anything like a decent price—smaller than we may think we can manufacture them for ourselves. If you who buy these secret medicines would take the same money and buy some labels—you know you can buy a thousand labels for twenty-five and fifty cents—and buy a few bottles or packages, the entire expense of getting up the whole business will not amount to more than four or five dollars to start with. If you see it is profitable, you can then extend your business. But to claim that the expense is too high for any one, and that in place of going to this expense you must buy a lot of proprietary goods amounting to hundreds of dollars, is simply ridiculous. In my experience every manufacturer of a non-secret has made a point, and a very urgent point, to buy the non-secrets, because 'they look so much like the proprietary articles.' (Applause.) That is to say, while we condemn the proprietary articles, we ourselves will aid in perpetrating a fraud by offering something that looks like it. I remember not long ago a representative from a certain house came to me and putting a package on my counter said: 'Don't that look like Warner's Safe Cure? You can make fifty cents on that.' He wanted me to perpetrate a fraud, and the higher profit that was made on it was only held out as a bait to catch me." (Applause.)

After further discussion pro and con, participated in by Messrs. Sherman, Ryan, Snow, Klein and Stewart, Joseph Helfman, of Detroit, Mich., read a paper prepared on the opposite side of the same question.

Upon motion of Mr. Alpers, Mr. Helfman's paper was referred to the Executive Committee.

Mr. Hallberg: "I think this is a case of the kettle calling the pot black. I would like to know if the time of this convention is to be taken up by rival institutions coming here for the purpose of airing their views on a question of this character. There are two sides to this question, and if these gentlemen had lain awake nights for weeks they could not possibly have reached further extremities in each case than they have succeeded in presenting to us here to-night, and I, for one, am certainly opposed to loading the reports of our proceedings and the records of the association with these purely ex parte statements as to the relative qualities of secrets and non-secrets. I would not give the snap of my finger for the difference of the statements of these two positions that have been presented to us. I do not favor non-secrets, but I certainly object to the slurs that have been thrown here promiscuously, and without any qualification whatever, upon every druggist that desires or by a combination of circumstances is almost compelled to make use of a few non-secret remedies. There is no question in my mind but that there is a fairly legitimate field for them. It certainly is in bad taste for a concern to come here, and in such unmeasured terms decry the use of non-secret medicines, when at the same time it is one of the largest producers of the rankest kind of patent monstrosities, etc. (Applause.) I say, Mr. Chairman, let these gentlemen come here with clean hands if they want to present this question, but I am opposed to having any such extreme views presented here either for the secret or for those that are non-secret." (Applause.)

Mr. Diller: "I have listened to this debate with a good deal of interest, a good deal like the fellow that said, 'What are you going to do about it?' (Laughter.) I tell you people read the newspapers, and you have got to stop the newspapers if you want to stop this patent medicine business. In fact, I don't know what I would do in my store if I didn't have patent medicines to sell—I am pretty near starved now. (Laughter.) Our doctors give the patent medicines, they dispense them right in their own places; they don't know a continental of what is in the medicine they dispense, but they send prescriptions to us all the time containing coal-tar preparations and they don't know what they are made of half the time. On last night some one asked the question whether the eagle or the rabbit was the druggist, in that stuffed work of art hanging before us, and we don't yet know which is which, but that question ought to be settled. (Laughter.) An old lady came into my store and said, 'Have you got any genuine Godfrey's Cordial?' I said, 'Yes, ma'am, I have.' Said she, 'Did old Godfrey make it?' and says I, 'You are asking too many questions; I know he didn't make this because I made it myself.' (Laughter.) 'Well,' she said, 'I am going to have the genuine Godfrey's Cordial.' Says I, 'The old gentleman has gone hence about 100 years ago, and I don't know whether he went up or down. Wherever he went, I don't know whether they have a better opinion of him than you have or not.' (Laughter and applause.) They will not believe the druggist, but they will believe everything that these here constitutionally lying newspapers say about it. They say, 'Don't take anything but our medicines'—and they won't. I again say, What are you going to do about it?" (Applause and cheers.)

A paper, "A Final Remedy," by Clay W. Holmes, New York, was then read and referred to the Executive Committee, upon motion of Mr. Stewart.

Mr. Watson: "Inasmuch as there is an excursion at half-past 8 in the morning, and it is now 11 o'clock, I move you that we adjourn."

The chair: "Before adjournment takes place I would like to state that we have reports of these special conferences on the subjects suggested by the chair, and the question of alcohol will also come; we also propose to give the floor to Mr. Hayes on the question of a universal trade association; then there will be the election of the year's officers, all of which I am sure will occupy another session, and I now notify the secretary that we want another session, and we propose to get it. The question before the house is that we adjourn. Unanimously carried, and we will stand adjourned until you are notified when our next session takes place."

(Continued next week.)

ASSOCIATIONS,
CLUBS, SOCIETIES.

——The Montana Pharmaceutical Association meets in Helena, Aug. 28 and 29.

——The thirteenth annual meeting of the Association of Manufacturers and Wholesale Dealers in Proprietary Articles will be held in Denver, Col., Sept. 2 to 7, inclusive, and coincident with the meeting of the National Wholesale Druggists' Association. The headquarters and meetings of the association will be at the Brown Palace Hotel.

——The New Hampshire Pharmaceutical Association will hold its twenty-second annual meeting at Laconia, Sept. 3 and 4. A number of interesting papers will be read. The headquarters of the association will be at the City Hotel, where rates have been secured at $1.50 per day. Arrangements have been perfected for an excursion on Lake Winnipesaukee, Wednesday, Sept. 4.

North Dakota Association.

——The North Dakota Pharmaceutical Association held its tenth annual meeting in Fargo, Aug. 6, 7 and 8. The meeting was called to order with President Ole Grandrud, of Grand Forks, in the chair, W. S. Parker acting as secretary. The address of welcome was delivered by Attorney Frank J. Thompson in behalf of the chief executive. Mr. Thompson punctuated his remarks with bits of cordial praise for the drug fraternity, and was cheered to the echo. He was followed by President Granrud, who said in part:

"The Pharmacy law remains the same as it was last year, and I suggest that we have it so amended that an applicant for registration as an assistant pharmacist be required to pass an examination before the State Board. This would be a guarantee of proficiency and an assurance to the employer. A pharmaceutical department in connection with one of our State educational institutions is a growing necessity. There is a sufficient number of ambitious young men, wishing to avail themselves of higher education in the art of pharmacy, to justify this action on the part of the Legislature. The effective legislation obtained last winter in regard to a change in the Prohibition law is something that every pharmacist hails with delight."

The president expressed himself as being against some varieties of medicinal articles that claimed to cure any and all ills, and thought druggists should not encourage their sale.

Secretary and Treasurer Parker reported there was $405.40 on hand, and $650.91 had been received. The association numbered at present 163 active and 6 honorary members. The Board of Pharmacy reported 200 drug stores in the State and 14 candidates for examination during the year. There are 234 registered pharmacists and 55 registered assistant pharmacists. The report contained the following: "The drug busines has sustained its share of depression during the past eighteen months. The present outlook, however, is encouraging. There have been no prosecutions for violation of the pharmacy laws of North Dakota."

The board reported $635.05 on hand at the beginning of the year. During the afternoon twenty applications for membership were acted upon.

The following officers were elected: President, George A. Day, Fargo; first vice-president, E. C. Lucas, Lisbon; second vice-president, T. W. Kibbe, Drayton; secretary and treasurer, W. S. Parker, Lisbon; local secretary, L. Christianson, Fargo.

The question of whether the establishment of a mutual benefit insurance fund in connection with the organization was advisable was discussed, but those present came to no determination, the matter being left over until next year.

The last session of the Legislature cost the association $330 or thereabout. Of this sum $125 remains yet to be collected from the druggists. The executive and legislative committees acknowleged their inability to collect the amount, and a committee consisting of Messrs. Meredith, T. W. Kibbe and H. Levaux, of Grafton, were appointed to make arrangements with the commercial travelers whereby the delinquent druggists may be induced to pay. The next meeting of the association will be held in Fargo.

The names of E. C. Kenyon, of Forest City, H. L. Hausman, of Grafton, and A. J. Wiedman, of Grand Forks, were selected to present to the Governor as candidates for the vacancy on the State Board of Pharmacy by the expiration of the term of H. L. Hausman.

Directors were chosen as follows: H. L. Hausman, Grafton; C. R. Meredith, Casselton; Robert Berg, Grand Forks; G. A. Day, Fargo; D. F. Siegfried, Sanborn; A. L. Lien, Hillsboro; J. J. Wamburg, Hope; J. J. Freeman, Dickinson.

President Day announced the following committees:

Executive—C. R. Meredith, Casselton; Ole Granrud, Grand Forks; H. Leraux, Grafton; G. A. Day, Fargo; W. S. Parker, Lisbon.

Queries and Pharmacy—E. C. Kruger, Forest River; W. P. Porterfield, Fargo; H. L. Hausman, Grafton; A. J. Wiedland, Grand Forks; E. C. Lucas, Lisbon.

Insurance—D. F. Siegfried, Sanborn; Ed. W. Liebe, Ellendale.

Trade—L. Christianson, Fargo; T. W. Kibbe, Drayton; L. A. Tambert, Casselton; H. E. White, Jamestown; Charles Bury, Buxton.

Unofficial Formulas—Samuel Ellingston, Grand Forks; H. L. Hausman, Grafton; G. C. Sabin, Fargo; R. Hamilton, Hunter; G. E. Kemott, St. Thomas.

Adulteration—A. J. Wiedland, Grand Forks; H. Gletsche, Bismarck; Charles J. Lee, Valley City; A. C. Buck, New Rockford.

Entertainment—J. H. Reynolds, St. Paul; C. R. Meredith, Casselton; W. S. Parker, Lisbon; L. Christianson, Fargo.

Delegates selected to coming pharmaceutical conventions were:

South Dakota—Edward Liebe, Ellendale; S. L Harris, Oakes; O. Granrud, Grand Forks.

Minnesota—G. F. Peterson, Grand Forks; E. C. Lucas, Lisbon; C. R. Meredith, Casselton.

North Dakota—L. Christianson, Fargo; H. L. Hausman, Grafton; Robert Berg, Grand Forks.

American Pharmaceutical Association—H. L. Hausman, Grafton; W. S. Parker, Lisbon.

One of the entertainment features was an excursion trip over the Northern Pacific Railroad to Detroit, Minn., where the members were met by teams and conveyed to the Fairmount House, after which they were treated to an hour's ride through the most picturesque and delightful of Northern Minnesota lakes and rivers.

N. W. D. A.

The National Wholesale Druggists' Association, through its president, Thos. F. Main, is out with the following circular letter addressed to its members:

You are hereby notified that the annual meeting of our association will be held in Denver, Col., Monday, Sept. 2.

The subjects to be discussed at this meeting are of great importance, and I desire to call special attention to the necessity of your being present, in person if possible, or by representative if you cannot yourself attend.

As it frequently happens that the member of a firm in attendance is not in possession of statistics in relation to all branches of the business, I call attention to the following partial list of reports which will be acted upon, and the information in regard to each subject which it would be well for members to have, in order that the reports may be intelligently discussed.

Proprietary Goods.—Are there infractions of rebate terms in your section? Are your sales interfered with by proprietors selling quantity lots to retailers? If so, are such quantities legitimately used by purchasers?

Paints, Oils and Glass.—Have your profits from the sale of these goods been satisfactory during past year? If not, can you suggest a plan to make them more profitable?

Box and Cartage.—Percentage of cost of box and cartage on gross sales. Does such percentage include the cost of in as well as out cartage? Cost of free delivery in city and suburbs, expressed as percentage on gross sales.

Fire Insurance.—Rates you are paying on building; on stock; on stock in warehouse.

Transportation.—Unjust classification of any articles.

Credits and Collections.—Time on which goods are sold. Average time taken by customers. Percentage of customers who cash their bills. Cash discount allowed.

Commercial Travelers.—Cost of selling goods through travelers, expressed as percentage on gross sales.

An excursion rate of one and one-third fares has been secured. The chairman of the Committee on Transportation, John M. Peters, will announce the full details of the itinerary in a few days. The Committee on Arrangements has adopted a programme which provides not only for the entertainment of members while in Denver, but for a tour through the Rocky Mountains after the close of the meeting, which will afford an opportunity of visiting the most famous places of scenic interest in Colorado.

There is always room on the market for another five-cent cigar with a little better tobacco in it than ordinarily. There is also room for a cigar with just as good tobacco in it as is found in the ordinary good five-center and which can be bought by the retailer at a lower figure than usual. R. W. Tansill & Co., First Avenue and Thirty-eighth Street, New York, make both kinds, the famous "Punch," costing $35, and the "Deliciosa," costing $33 per thousand. A sample smoke of either will be sent for a two-cent stamp.

BOARDS OF PHARMACY.

——The Virginia Board of Pharmacy will hold a meeting in Richmond, Oct. 8, for the examination of candidates.

——The Montana Board of Pharmacy holds its regular meetings the first Tuesday after the first Monday in October and April of each year. The officers of the board are D. M. Newbro, Butte, president; G. W. Shoemaker, Billings, secretary, and Emil Starz, Helena, treasurer.

——The South Dakota Board of Pharmacy announces the following as the places and dates of meeting for the ensuing year: Aberdeen, Oct. 9, 1895; Sioux Falls, Jan. 8, 1896; Huron, April 8, 1896; Yankton, June 24, 1896. N. J. Blesser, of Milbank, succeeds O. H. Tarbell, of Watertown, as a member of the board. Mr. Blesser is one of the pioneer druggists of the State and a successful pharmacist. Mr. Tarbell has served two terms as a member of the board and retires with the best wishes of his associates, by whom he was held in high esteem.

Interpretations of the New Illinois Pharmacy Law.

In order to aid in the proper observance of the new Illinois Pharmacy law, an abstract of which was published in the Era of June 27, the State Board of Pharmacy have "defined" certain sections for the guidance of those interested.

"Temporary absence" of the owner or manager, during which time an assistant may have charge, is construed to mean that "the assistant pharmacist may have charge only while the registered pharmacist has gone to his meals or to any other like necessary duty, requiring no more time than is generally so consumed, and does not mean that the assistant pharmacist can take charge of the drug store or pharmacy for a half day or a day at a time."

Regarding the duties and privileges of apprentices, the law is interpreted to mean they shall in no instance be permitted to act as assistant or registered pharmacist during the absence of the latter, and shall not be considered as in any sense authorized to exercise the duties of registered or assistant pharmacists.

The word "recommend" in Section 3 is intended only as a protection against violating the medical practice act when he supplies the ordinary demands for remedies in his business. It gives no right or authority to diagnose diseases and prescribe medicines therefor.

It is decided that any store may sell the following drugs without violating the law, viz.: Alum, aqua ammonia, borax, copperas, cream tartar, flavoring extracts (not medicinal), olive oil, rosin, sal soda, soda ash, soda bicarbonate, sulphur, spices and turpentine, and that the law prohibits the sale of patent or proprietary medicines and all drugs, medicines, chemicals and poisons by persons not authorized by the board under the provisions of the law.

Section 8 allows the board to grant permits to persons in villages and other localities to sell the usual domestic remedies under certain restrictions, and permits obtained from the board must state specifically what the holder is allowed to sell. The board has decided to issue no permits except in villages or localities remote from any pharmacy or drug store. The permit will allow the sale of the following only, viz.: Alum, aqua ammonia, ammonia carbonate, asafœtida, black antimony, blue vitriol, borax, cream tartar, copperas, castor oil, flaxseed, fenugreek, glauber salts, gum arabic, gum camphor, glycerin, insect powder, petrolatum, rosin, turmeric, turpentine, saltpeter, sal soda, soda ash, soda bicarbonate and sulphur in bulk. Also the following when put up by a registered pharmacist, sealed and properly labeled with directions for use: Tartaric acid, chamomile flowers, cinchonidia, cinchonidia pills, chlorate potash, Epsom salts, extract or essence of ginger, hive syrup, Hoffman's anodyne, laudanum, oil of cloves, paregoric, quinine, quinine pills, Rochelle salts, saffron, senna, Seidlitz powders, spirits cinnamon, spirits camphor, spirits niter, spirits peppermint, syrup ipecac, tincture arnica, tincture iodine, tincture muriate iron.

Also patent medicines that are nonpoisonous and harmless.

COLLEGES AND SCHOOLS OF PHARMACY.

——The council of the Ontario College of Pharmacy met Aug. 7 and elected the following officers: President, J. H. Mackenzie, Toronto; Vice-President, John McKee, Peterboro; Registrar and Treasurer, J. T. Lewis; Scrutineers, Messrs. Murchison and McCann; Auditors, Messrs. James Watt and Hargreaves. By a resolution which was passed, all apprentices are permitted to write at the qualifying examinations in May and December of each year, if their apprenticeship expires by the time of the annual meeting, which is held in August. The registrar reported that the receipts were $8,452 and the disbursements $8,137, leaving cash on hand to the amount of $315. The assets of the college are set at $52,000. Of this sum the building is valued at $33,551, subject to a mortgage of $13,000. The increase in the college's resources amounts to $3,000 for twelve months.

Chicago College of Pharmacy.

The summer botanical excursions are now concluded, and have proved very interesting and enjoyable to the class. Many medicinal plants were gathered and much practical knowledge of botany acquired. The excursions were held to the following points: Desplaines, Lombard, North Evanston and Grand Crossing, Ill., and Whiting, Ind.

The college is represented at the A. Ph. A. meeting by A. E. Ebert, A. Scherer, L. Lehman, F. M. Schmidt and C. Lewis Diehl, all but Prof. Diehl being from Chicago. The Alumni Association is represented by A. D. Thorburn and W. M. Nachtway, of Chicago, Q. O. Kaczowski, of Plaquemine, La., W. E. Coolbaugh, of Stockton, Kan., and J. L. T. Davison, of Denver, Colo.

The college building has been thoroughly renovated during vacation, the office, halls and laboratories having been repainted and put in first-class order. The correspondence is larger than ever before, matriculations are coming in rapidly and all indications point to classes of unusual size. The college has now the addresses of 750 of its 850 graduates and is desirous of completing the list. Graduates who are not receiving the college publications are requested to forward their addresses to the actuary.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS
Issued August 13, 1895.

544,308—John L. Kihn & W. T. Reed, Hamilton, O.—Bottle washer.
544,319—Axel W. Nibelius, Hackettstown, N. J., assignor of two-thirds to J. W. Mackay, Jr., New York, and W. P. Ferguson, Brooklyn, N. Y.—Extracting aluminum oxid.
544,324—Samuel C. Rowell, assignor of one-fourth to H. D. Dupee and E. Ellis, Boston, Mass.—Bottle.
544,366—Harley J. Morrison, Clifton, O.—Recovering glycerin from soap-underlye.
544,437—Fritz A. Kleemann, assignor to Kleemann & Co., Berlin, Germany.—Apparatus for sterilization of milk or other liquids.
544,442—Thos. H. Rees, E. D. T. Sheffield and L. A. Tallerman, London, England; said Rees assignor to said Sheffield and Tallerman.—Medical dry bath.
544,499.—Hugo Brewer, Duisburg, Germany. Utilizing waste lye.
544,512—Anton Molinari, Wood Ridge, N. J.—Syringe.
544,516—Odilon Perrier, Paris, France.—Method of and apparatus for continuous distillation of crude hydrocarbons, etc.
544,549—Orin J. Taylor, Washington, D. C.—Syringe.
544,580—Siegmund Halla, assignor to A. Raudnitz, Vienna, Austria-Hungary.—Furnace for manufacturing yellow prussiate of potash.
544,584—Alice Macdonald, London, England.—Obtaining metallic lead and white lead pigments from lead sulfides.
544,607—Peter Batsche, Dusseldorf, Germany.—Apparatus for washing and sorting granular materials.
544,612—Atkinson Crossley, Talywain, England.—Manufacturing zinc oxide.

TRADE-MARKS
Registered August 13, 1895.

26,933.—Preparations for the Treatment of the Feet. Archibald H. Sanders, Minneapolis, Minn. The word "Footcura."

26,934.—Tonic Remedy for Nervous Affections and General Debility. John Curran, Minneapolis, Minn. The words "Curran's Celery Compound," with the three initial letters interlocked and the other letters of the respective words embraced by the respective initials of the words.

26,935.—Stomach and Bowel Medicine. Harriet E. Bailey, Danielsonville, Conn. The pictorial representation of a spray of flowering balsam having a number of flowers closely arranged and interspersed with leaves.

26,936.—Remedy for Colic, Cholera, Dysentery, Diarrhea, Cramps and Similar Troubles. Herman C. Lemke, Chicago, Ill. The words "St. Johannis Drops."

26,937.—Remedies for Asthma, Bronchitis, Catarrh, Hay-fever and Similar Affections. Mary J. Walrath, Minneapolis, Minn. The words "Nancy's Brazilian Asthma Cure" and the pictorial representation of a shield bearing a wheel and surmounted by an imperial crown and partially inclosed by palm branches.

26,947.—Chewing Gum. Faultless Chemical Co., Baltimore, Md. The word "Woozy."

26,948.—Toilet Soap. The Oakley Soap and Perfumery Co., New York, N. Y. The representation of a panel inclosed with an elliptical figure ornamented with scrolls and surmounted by a bow of ribbon.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ARKANSAS.

Russellville.—J. W. Wells, sold out.

CALIFORNIA.

Los Angeles.—John Beckwith & Son, sold to Thomas & Ellington.
Red Bluff.—H. C. Brooks, damaged by fire.
Woodland.—Pond & Lawson, now W. H. Lawson.

COLORADO.

Antonito.—F. D. Potthoff, sold out.
Aspen.—The Free Coinage Drug Store, sold to Carr & May.

CONNECTICUT.

New Canaan.—J. H. Winters, sold to L. W. Hill.

GEORGIA.

Cordele.—Taylor Drug Co., sold to H. S. Nash & Co.

ILLINOIS.

Colchester.—G. M. Thompson & Co., now G. M. Thompson & Son.
Lockport.—Moon's Drug Store, damaged by fire.
Mt. Pulaski.—John Schuler, new store.
Peoria.—Edw. W. Burch, deceased.
Sadorus.—J. W. Lewis, new store.
Vandalia.—Mix & Townsend, burned out.

INDIANA.

Chalmers.—E. R. Price, sold to S. D. Sluyter.
Frankton.—W. J. Darnell, M. D., new store.
Huntington.—Walter & Trixler, now C. M. Walter.
Indianapolis.—M. Y. Shaffer, sold to C. W. Harding.
New Castle.—M. L. Reed, removed to Allison Bldg.
Willow.—Henry Duke, closed by sheriff.
Laporte.—The Laporte Medicine Co., incorporated.

IOWA.

Boone.—Tornbloom & Fitzgerald, dissolved.
Clarinda.—W. A. Henderson, now W. A. Henderson & Co.
Clinton.—S. Cozine & Sons, 5th and 3d Sts., sold to K. G. Skartum.
Gladbrook.—E. J. Carver & Co., sold to C. G. Reed.
Granville.—J. M. Womeldorf & Co., sold to P. B. Vosburg.
Ida Grove.—Johnson Bros., dissolved.
Rockwell.—A. F. Dean & Co., new store.

KANSAS.

Moline.—D. N. Smith' sold to E. W. Elting.
Mulvane.—H. E. Pontius & Co., sold to J. W. Steiger.
Topeka.—W. I. McClure, deceased.
Wichita.—D. W. Tanner, sold to E. Edwards.

KENTUCKY.

Lexington.—Browning-Ringo Drug Co., sold to Ben D. Bell.
Louisville.—Charles E. Graff, deceased.
Uniontown.—Cooper & Buckham, dissolved.
Versailles.—John A. Scrogin, deceased.

MAINE.

Anson.—W. H. Bodfish, sold out.
Lewiston.—Zepherine Dube, sold to A. Bernard.
Portland.—H. H. Hay & Son, H. H. Hay, deceased.
Ypsilanti Co., incorporated.

MARYLAND.

Baltimore.—Jno. K. B. Emory, deed of trust.
Moore & Cooper, removed to 211 Lexington St.
Albert E. Schmidt, 2051 Pennsylvania, deed of trust.
A. L. Tumbleson, Broadway and Pratt, assigned.
Berlin.—Dr. T. A. Franklin, burned out.

MASSACHUSETTS.

East Saugus.—George H. Perkins, sold to Reeves Bros.
Natick.—H. E. Fourcey, removed to Milford.
Peabody.—A. V. Keefe, Washington and Foster, new store.
Wareham.—H. R. Butman, new store.
Whitinsville.—Sam'l A. Melcher, insolvent.

MICHIGAN.

Brutus.—Dr. Peter Beyer, removed to Grand Rapids.
Grand Rapids.—George W. Nichols, sold to Adolph H. Wilson.
Northville.—C. R. Stevens, sold to Murdock Bros.
Portland.—J. W. Higgs, removed to Webber Block.

MINNESOTA.

Lake Crystal.—M. W. Kelley, sold to Ramsdale & Co.
Lindstrom.—Holcomb Bros., dissolved.
Little Falls.—M. V. Wetzel, new store.
Minneapolis.—Holmes Bros., burned out.
O. E. Miller Hernia Treatment Co., incorporated.

MISSOURI.

Bethany.—M. Desseret, sold to John Majors.
Kansas City.—John R. Conley, sold to Thos. Vicroy
Quitman.—J. W. Jackson, now Jackson & Holt.
Rutledge.—Snyder & Allensworth, sold to Wm. Elsea.
St. Joseph.—Fredk. Schelbe, deceased.

NEBRASKA.

Superior.—Nels. P. Johnson, deceased.
Valentine.—Keeley & Thatcher, sold to Quigley & Oglesby.

NEVADA.

Reno.—Bishop's Pharmacy, Ruhe Bldg., new store.

NEW HAMPSHIRE.

Charlestown.—Dr. M. N. Roote, deceased.

NEW JERSEY.

Jersey City.—Mal de Mer Co., incorporated.
Washington.—Warren County Drug Store, sold to F. N. Jenkins.

NEW MEXICO.

Albuquerque.—T. H. Burgess & Son, attached.

NEW YORK.

Batavia.—Cooley & Gould, now Gould & Bonsteel.
Buffalo.—Jeffrey & Gotshall, sold out.
Ceres.—O. P. Coon's drug store, burned out.
Northville.—H. A. Molius, sold to L. C. Brown & Co.
Owego.—J. M. Anderson, Talcott St., new store.
Syracuse.—C. E. Jewell, Mulberry, cor. Harrison, sold to L. M. Van Buskirk, who removes to Brighton, N. Y.
C. H. Norton, Mulberry, cor. Adams, sold to F. B. Sherman.

NORTH CAROLINA.

Wilmington.—Hall & Stokes, now Dr. W. F. Stokes & Co.

NORTH DAKOTA.

Fargo.—Christianson drug stock, sold to J. J. Wamberg; to be known as Moorhead Pharmacy.

OHIO.

Baltimore.—Dr. Henderson, new store.
Bryan.—White & Long, now John P. Long.
Columbus.—E. N. McCarter, Long and Grant Ave., sold to Mrs. A. Roney & Son.
Holmesville.—Dr. Mourey, new store.
Painesville.—Eugene H. Carroll, deceased.
Quincy.—Hubble's Drug Store, burned out.
Somerset.—Wilson & Flautt, now T. A. Wilson & Co.
Zanesville.—Frank Haas, Lee and Linden Ave., new store.

OKLAHOMA.

Guthrie.—A. C. Hixon & Co., sold to Edw. Nichols.

OREGON.

Roseburg.—Hamilton Drug Co., incorporated.

PENNSYLVANIA.

Adamsville.—Blair's Drug Store, burned out.
Allentown.—W. E. Moyer, 9th and Hamilton, sold to Clayton L. Freeman.
Easton.—Weaver & Solliday, now John A. Weaver.
Galeton.—A. Schwanzenbach, deceased.
M. I. Schwazenbach & Co., assigned.
Grove City.—A. E. Bligh & Co., assigned.
Jermyn.—The Rushbrook Drug Store (John K. Jones, Mgr.), new store.
Millersburg.—M. B. Miller, sold to John W. Starr.
Reynoldsville.—H. Alex. Stoke, new store; will open Sept. 1.
Sharpsville.—R. W. Beck, sold to R. L. McFarland.
Wilkes-Barre.—E. Reap, sold to John Krutzer.

RHODE ISLAND.

Providence.—Patrick J. Collins, assigned.

SOUTH CAROLINA.

Florence.—King & Rhodes, now T. D. Rhodes.
Sumter.—J. S. Hughson & Co., now J. S. Hughson.

SOUTH DAKOTA.

Sioux Falls.—Guinter & Dow, removed to Spring Valley.

TENNESSEE.

Knoxville.—T. J. Matthews, sold to Bell Ave. Pharmacy.

TEXAS.

Cuero.—J. M. Reuss & Son, now J. M. Reuss' Son.
Dallas.—C. V. Waller, sold to E. J. Jacobs.
Denison.—V. L. Wood & Co., Muller Block, sold to G. G. Randell.
Gainesville.—R. E. Phillips, now Phillips & Ellis.
Waco.—M. T. Bell, damaged by fire.

VERMONT.

Derby.—Marvin & Wilder, now H. H. Wilder.
St. Alban's.—F. E. Eldred, new store.

VIRGINIA.

Richmond.—Park Place Pharmacy, sold to W. B. Logan.
Roanoke.—Barbee Christian Drug Co., assigned.

WASHINGTON.

Sprague.—W. P. Putnam, burned out.

ONTARIO.

Toronto.—H. W. Burgess, 278 Yonge St., new store.

First Visit Here in 22 Years.

George R. Robinson, for the past 25 years a druggist in Cleveland, O., but formerly in the same business in Brooklyn, has been in New York City for a few days renewing old friendships. It is 22 years since Mr. Robinson was here, and he notes the changes that have taken place in that time as being simply stupendous. It is in the territory above Twenty-third Street, however, that he sees the most change. "Downtown it is much the same," said he to the Era representative. "I was with Henry H. Dickinson at the corner of Hicks and Montague Streets, Brooklyn, when he started that store. In those days it was considered one of the finest pharmacies to be found anywhere around. From Brooklyn I went to Cleveland, being with Vaupel & Moore for some years. Now I am located at No. 392 Cedar Street, Cleveland."

Being asked about the state of business in Ohio, Mr. Robinson said he did not share the general opinion that the fall would see a big revival in trade, at least in his particular field. He gave some examples of the decline of prescription business in Cleveland, due to doctors filling their own prescriptions, and spoke of the way in which department stores hurt the druggist's business in the matter of patent medicine sales.

E. G. Wells, of Crittenton & Co., upon whom Mr. Robinson was calling, said in his most serious manner that the Cleveland druggist always says, as he bids him good-by, "Well, I must go up to Broadway and take a stage."

Catalogues, Price Lists, etc., Received.

Whitall, Tatum & Co., New York.
J. L. Hopkins & Co., New York.
Herf & Frerich's Chemical Co., St. Louis.
Fritzsche Bros., New York.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

Get the best corks you can find on the market, and find out which is the best kind by sending to the Lancaster Cork Works, Lancaster, Pa., for samples and prices.

Beeman's was the first pepsin chewing gum on the market, and people are acquainted with its quality and name. When they ask for pepsin gum they mean the Beeman kind.

If you are interested in pepsins, their quality and prices, examine Dike's. A free sample for this purpose will be sent you by the manufacturers, F. Stearns & Co., Detroit, Mich. Dike's costs fifty cents per ounce, and all jobbers have it.

Elijah J. Molloy, 101 Beekman Street, New York, is the sole agent for the United States for Itrosyl, Vibrona and the Compound Syrups of the Hydrobromides of the well-known pharmaceutical firm of Fletcher, Fletcher & Co., London.

A good plaster with your name on it will help both your plaster trade and your reputation. The Deane Plaster Co., Yonkers, N. Y., furnish help of this kind, and they have a special offer which will interest you. Write to them about it.

Anderson's Sifter and Mixer is made entirely of metal, has changeable sieves and is especially adapted for the retail druggist, as its price is within his reach. Write for description to the Anderson Cycle and Mfg. Co., Detroit, Mich.

Fairchild's Peptogenic Milk Powder claims to do but one thing, but that claim, modifying cow's milk to the standard of human milk, is made most decidedly. It simply gives babies a nutriment as digestible as mother's milk, and it can be recommended by the druggist to do just that—no more, no less.

Anybody can see the great difference between the ordinary printed and the lithographed label. Most druggists can see a difference in prices, too, but this difference is smallest in F. Huhn's quotations for such work. Write to him about it. His address is 72 Pine Street, New York.

Clarke's Pure Rye Whisky is put up in four-ounce flasks convenient to carry in the pocket, and costs $1.50 per dozen in half-gross cases. There are good profits and quick sales in this brand put up in this way. The customer knows he is getting a good article, and the four-ounce package is just the right size.

The cost of the writing, typesetting and press work is about the same for an ordinary catalogue or booklet as it is for one a little bit better, but the latter is worth 100 per cent. more if a little extra work or expense keeps it out of the waste basket. The Lotus Press people, 140 West Twenty-third Street, New York, put on these little extras which make your catalogue stick and stay where you send it.

There is no question about people wanting the Green Fly Button. The only question is whether you want one of Swan's Pneumatic Ink Bottles in addition to your regular profit of 100 per cent. An ink bottle is furnished free with every ten dozen buttons in a display mortar, or nine dozen in boxes. Address the Fly Button Co., Maumee, O.

Little Cathartic Granules, 30 in a vial, with buyer's name and address, at $6.50 per gross, 85 cents per thousand in bulk or $8 for 10,000, will meet almost any kind of fair competition. They will also give satisfaction to customers because they are made by Wm. R. Warner & Co., Philadelphia, New York and Chicago.

Everything in the line of pharmaceutical manufactures is listed in the catalogue of Eli Lilly & Co., of Indianapolis, and every druggist should have it because the list prices are in the lowest notch consistent with quality, and there is a 40 per cent. discount from these. This discount applies to goods purchased in the regular way through the jobbing trade.

The suspensory bandages manufactured by Flavell, 1005 Spring Garden Street, Philadelphia, have certain qualities of fit and durability which have made them favorites with the medical profession, and the druggist will find that a stock of them is one which meets many prescription demands. A sample line of six bandages will be sent by mail at the nominal price of $1.10.

The pharmacist demands in his counter scale the greatest possible degree of sensitiveness combined with an ability to stand the rough wear of counter work. The Springer Torsion Balance Co., 92 Read Street, New York, have made just such a combination to meet this demand. The principle of the "torsion balance" helps them to do this, and they explain why in their new catalogue.

Samples of Hunt's Pleated Paper Bottle Caps are sent out by the American agents, McKesson & Robbins, New York, to enable the druggist who has never used them to see how they add to the appearance of a bottle of medicine; also to show him why people are apt to choose the most attractive package, and the druggist who puts up that kind. This object lesson is very effective.

A little extra work on the wrapper, capping the cork, etc., pay because they attract attention. A wire display stand will pay for itself for the same reason. The accompanying illustration proves this because the display stand attracts your attention. The Philadelphia Ornamental Wire Co., Philadelphia, make such stands in dozens of different designs or in your own special design.

Johnston's Dry Sized Kalsomine, made by the Dry Kalsomine and Fresco Paint Works, Brooklyn, N. Y., has struck the fancy of foreigners as an attractive and aseptic wall finish, as is shown by shipments recently made to South Africa, Turkey, and increased orders from Spain. The present house-cleaning and painting season is an unusually prosperous one for this company, and the use of their products is extending all over the country.

There's no use arguing against the fact that the finest drug store stands the best chance of getting the most and best trade. Every druggist knows that he prefers to trade at the most attractive grocery, dry goods store or meat shop and other people have the same preference for the nice drug store. The Cassel-Garside Co. of Peoria, Ill., make a specialty of building extra fine store fixtures at ordinary prices, and they want to hear from you if you contemplate any improvements.

Dr. T. B. Williams, of Philadelphia, Pa., under date of July 15, 1895, recommends Goldbeck's Malt Extract in the following letter: "I can cheerfully add my testimony to the value and efficacy of the Goldbeck Extract of Malt in the treatment of many diseases and as a valuable nutriment at all times. Have found it especially useful in all forms of gastric disorders, anæmia, mal-nutrition and kindred complaints, and would recommend it at all times in wasting diseases as a first-class builder."

"Fresh and fruity" are the words which should describe the flavors of the syrups and crushed fruits dispensed at the soda fountain. By a new process which they use upon the finest selected ripe fruits, the J. Hungerford Smith Co. of Rochester, N. Y., are able to give their "True Fruit" specialties these desired qualities. Their True Fruit Shrub is a delicious beverage which can be sold to families and used with the addition of ice water.

Italian violin, banjo and guitar strings have the reputation of being the best, and the Mazzoni strings are the best that come from that country. They are being introduced throughout the United States by sending sample strings to leading musicians, and the demand will therefore come from the best class of customers. Besides, they are the best string to work up a trade with, or to hold a trade that wants the best string procurable. Frank A. Stratton & Co., New York, are the importers.

The position in popular regard occupied by the violet as a "fashionable" flower indicates quite naturally that violet perfume will be all the rage. The approaching holiday season will give opportunity for a display of this appreciation, and much of this will be bestowed upon the latest and finest, Vennard's New Roman Violet. Prices and description will be found in the announcement of the selling agents, McKesson & Robbins, New York, and in anticipation of a coming demand these are of interest now.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Angostura Tonka Beans, Beeswax, Blue Vitriol, Cacao Butter, Carnauba Wax, Colocynth Apples, Gum Kino, Rape Seed.

Declined: Canary Seed, Chlorate of Potash.

New York, Aug. 20, 1895.

The past week has probably developed fewer new features in the drug market than any corresponding period for several months past, and the number of radical changes in prices has been comparatively small, but the movement of seasonable articles into channels of consumption has continued of satisfactory volume in the aggregate, and there is no diminution of confidence concerning the future. Unusual business activity is not expected in midsummer, and dealers are perfectly satisfied when trade is of average proportions. Thus far this season that average has been considerably exceeded, and there is consequently no complaint, but, on the contrary, a gratifying development of buoyancy and increasing assurance that the coming autumn season will witness the realization of their sanguine expectations. To quote a review of the general business situation: "The chief feature of importance, however, is the spirit in which business is being done generally at large money centers. A year ago purchases of any article were made sparingly and only for absolute needs. Now large orders are given for goods which cannot command an immediate retail sale. Merchants are at least ready to anticipate the wants of customers, without waiting until the stock has been absolutely depleted before submitting fresh orders." These remarks confirm our previous reports of preparations which have been made by importers, manufacturers and large dealers to meet the anticipated demand of the future.

OPIUM.—The jobbing demand during the past week has been fair with prices unchanged and steady, the steadiness being largely due to a light available spot stock, and cables from abroad of a similar condition in primary markets. There is plenty of opium here, but the bulk is in strong hands and held out of the market, consequently there is no opportunity for large operations. On the other hand, there is no apparent disposition to operate in a large way, and there is considerable diversity of opinion concerning the course of prices when the current large crop comes on the market.

MORPHINE—Is fairly steady in the absence of fluctuations in values of the crude article, but the demand continues only moderate and wholly in accordance with current requirements of consumers, the most of whom are receiving deliveries on regular contracts with manufacturers.

QUININE—Has been moving steadily into channels of consumption with a continued strong undertone to the general market. The stock in second hands is reduced to such an extent that only small parcels can be quoted, and buyers of round lots are obliged to place their orders with domestic manufacturers or agents of foreign makers, which further substantiates the claim that outside holders are no longer a factor, and that the market will eventually be controlled by manufacturers. Values abroad are maintained on a basis which makes it impossible to import fresh supplies and secure a profit, and outside dealers seem to be closing out their holdings with a view of abandoning the business.

ALCOHOL—Has continued to meet with only a limited inquiry, and there is no improvement in the general condition of the market. Competition between sellers continues keen and consumers are taking advantage of the situation by forcing prices to the lowest possible limit when making bids. The reorganization of the old combination of distillers has not yet been productive of much harmony among the various interests throughout the country, and there is nothing of an encouraging character in the present outlook.

ACID, SALICYLIC.—Values show no further decline, but the market is yet more or less demoralized, and the tendency continues toward a lower basis.

BALSAMS.—Values of all kinds remain unchanged and there is nothing to note beyond a steady jobbing movement.

BEANS, TONKA.—It is generally conceded that the current crop of Angostura is very small and that nearly all has been shipped from primary markets. The stock in first hands here has been materially depleted by the purchase of a round lot by a large consumer, and dealers, realizing the fact that there is likely to be a shortage, have marked up their quotations 10@15c. per lb.

CACAO BUTTER.—The demand has continued active with a further improvement in prices owing to an additional advance in foreign markets, and spot quotations are fully ½c. higher.

COD LIVER OIL—Is seasonably quiet, but values are decidedly strong both here and abroad, recent purchases having been made in Norway for American account at prices above the parity of current spot quotations. Holders offer very sparingly and decline to part with large parcels, feeling confident that when the consuming season begins values will steadily improve.

COLOCYNTH APPLES.—Holders of prime Trieste have advanced their quotations 2c. per lb. and are indifferent sellers, owing to scarcity and the upward tendency of primary markets.

OIL PEPPERMINT—Is unsettled and irregular. New crop oil is beginning to offer from producing districts, but at prices above dealers' views, and efforts are being made to depress values by offering old oil on the spot at lower figures. It is claimed, however, that the output will be light both in New York and Michigan, and distillers do not seem to be anxious to accept orders for future delivery.

CAMPHOR.—The market retains a decidedly strong undertone. A further advance in prices is generally anticipated, but the demand is not particularly urgent, and aside from a fair degree of activity in Japanese for out-of-town consumption, a quiet feeling has prevailed.

GUM KINO.—Outside lots have been absorbed, and the tone of the market is firmer, the principal holders having advanced their prices 25 cents per lb.

CANARY SEED—Is fractionally lower in sympathy with European markets, and all varieties show a decline of ⅛ cent per lb.

CORIANDER SEED—Has developed increased activity without change in spot values, but futures are fully 1 cent per lb higher owing to a corresponding advance in primary markets, due to a largely over-estimated crop, together with efforts to cover on short sales made early in July for August delivery.

RAPE SEED.—The spot stock of English is small, and concentrated in few hands, with values showing an advance of ½ cent per lb.

CARNAUBA WAX—Is in reduced supply and about 2 cents per lb higher on all grades.

BEESWAX—Is firmer owing to scarcity of desirable grades and prices of ordinary pure are fully 1 cent per lb higher.

BLUE VITRIOL—Is stronger in sympathy with the higher cost of copper, and sellers offer sparingly at an advance of ¼ cent per lb.

CHLORATE OF POTASH—Is dull and weak, with quotations fractionally lower.

London Market Report.

London, Aug. 10, 1895.

As might be expected, the markets have been none too busy since our last report. When Monday is a bank holiday business is generally dull through the following week, and although the holding of the drug sales stimulated things a little, this week has been no exception to the rule.

ALOES.—Zanzibar skin, 40s. for good soft to 21s. for ordinary dark.

BENZOIN.—New arrival good, smallish, almondy Siam, £6 17s. 6d.; good almondy seconds, Sumatra, £8 10s.

BERGAMOT OIL.—Super-distilled, f. o. b. Messina, 7s. 8d. per lb.

CAFFEINE.—Firmer; 26s. to 27s. on spot, and 22s. for August-September delivery.

CAMPHOR.—Firmer; Japanese, 185s.; June-August shipments, 165s. Chinese: Refined has advanced 2d per lb; price in half-ton lots, 1s. 11½d. per lb.

IPECACUANHA.—A lot changed hands on Aug. 8 at the drug sales at rates steady on the whole, but occasionally lower to the extent of 1d. per lb.

MENTHOL.—Good white crystals, 13s. 6d. per lb.

PEPPERMINT OIL.—Cockings bought in at 6s. 9d. per lb.

SARSAPARILLA held for 1s. 5d. for Jamaican and 1s. 3d. for Honduras.

SENNA.—New crop Tinnivelly, good bright green, 5d.; medium green, 4d.; small, 3d.; pods, 1½d.

STAR ANISE OIL.—Higher; 6s. 8d. on the spot.

TONQUIN BEANS.—Partly frosted fair beans quoted at 5s. 6d.

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ALCOHOL BLANKS.

Section 61, Act of Congress, dated Aug. 28, 1894, provides for the refunding of the Internal Revenue tax on all alcohol used in manufacturing in the arts and in medicinal or other like compounds. Retail druggists to secure this rebate should be prepared to present accurate record and proof of such use. We have prepared for druggists' use some special ALCOHOL BLANKS for keeping a proper record of alcohol used for manufacturing purposes, with full directions for keeping the record and for preparing your claims to secure the rebates. If you are not keeping such records, *these blanks may save you a lot of money.*

If you are a subscriber to the Era, we will send you a package of these Alcohol Blanks on receipt of 16 cents to cover the expense. *To non-subscribers the Alcohol Blanks are strictly net 50 cents per package*, postpaid.

Address
THE PHARMACEUTICAL ERA,
New York.

ALCOHOL REBATES.

More than 1,000 druggists have acted upon our suggestion to keep full record of the alcohol they use for manufacturing purposes, and are using the record blanks we have prepared, so that their claims will be in proper shape for presentation if the test cases are decided in favor of the consumer. Though large, this number is not so great as it should be. Every druggist who uses alcohol for manufacturing purposes is standing in his own light if he is not prepared to claim his refund of the internal revenue tax on alcohol used as contemplated by Section 61 of the Tariff act.

The various precautions to be observed to render the record of use and claim for rebate unassailable have been outlined and liberally discussed in the pages of this journal during the two months past. The most essential is the purchase of alcohol in original packages if possible, that the tax-paid stamp may thus be available for purposes of proof.

The offer to furnish the record blanks is still open. A package will be sent to any subscriber to the Era for 16 cents, to non-subscribers for 50 cents. A circular of instructions accompanies each package.

WORK OF THE A. PH. A.

Nothing very startling was accomplished at the Denver meeting, though so far as association meetings go the gathering was a successful one. The attendance was larger than customary, and if any one returned dissatisfied with his entertainment it is his own fault, for amusement in lavish profusion and of unique and high excellence was on draught continually. The Denver pharmacists had a hard task before them to equal that city's proverbial hospitality, but they not only equaled it, but surpassed it.

A large accession to the membership was a pleasing announcement, and the reports of the various officers showed the association to be in a satisfactory and healthy financial condition. The selection of Montreal as the city for next year's meeting seems to give universal satisfaction, and was a wise move. The discussions in each of the sections, on education and legislation, commercial and scientific, proved very animated, and in some respects different from those held at meetings during a few years past. A somewhat significant feature was the presentation of so many papers from chemists and others in the employ of, or associated with, our large manufacturing houses. As might be expected under such circumstances, the representatives of rival institutions did not hesitate to take opposite positions and presented diametrically antagonistic arguments upon the question at issue. The association allowed all to have their say, though indulging in somewhat caustic criticism occasionally, finally avoiding responsibility by referring the whole matter of the publication of the papers to the standing publication committee.

In the scientific section the merits of and arguments for and against non-secret remedies caused a ripple of feeling and some plain-worded discussion. The paper on antiseptic dressings found the members present not altogether in harmony with the stand taken by the writer; on the contrary, the majority of opinion seemed to be in opposition to him. In the section on education and legislation the discussion of the question of practical experience, whether it should be required before or after a college training, was awaited with fear and trembling by some and anxious anticipation by others, and when it came the speakers occasionally descended to personalities, and finally the whole resolved itself into the determination to leave the question alone and not go on record concerning it just at present.

Contrary to expectations and to the statement in these pages last week, based upon incomplete reports which at that writing had been received, the commercial section reaffirmed their position in the free alcohol matter, as expressed in the famous resolution passed last year at Asheville. Last week we made the statement that the members seemed to show more familiarity with the merits of the question than a year ago, and so they did, to judge from first reports, but later speakers and those responsible in large part for the passage of the resolution brought forth the old, fallacious, thread-bare arguments, and as they came to Denver with the purpose of obtaining such action on the part of the association, sufficient opposition was not developed to defeat them. Regarding the Hayes plan for regulating the sale of patent medicines, the association passed a resolution advising druggists not to support it until it was placed upon a more satisfactory footing and had been promised enforcement by proprietors.

But a perusal of the complete report as offered elsewhere in this issue will show better than can a few rambling comments the actual work of the A. Ph. A., the utterances of its henchmen and the real progress, if any, which was attained.

ORGANIZATION IN NEW ENGLAND AGAIN ACTIVE.

The success which has attended the efforts of the retail druggists of New England to organize in defense of their trade interests is a matter which must call for the admiration of the trade in other parts of the country where failure has been just as conspicuous as New England success has been prominent. The druggists of the latter section of the country are full of enthusiasm and are determined to make every effort to demonstrate that there is really something in organization, and intend to carry the matter to such a point that other people can see it. The New England Retail Druggists' Union has perfected its organization to such an extent that nearly the entire jobbing trade of that section has given its positive assurance of co-operation and support in fighting the price-cutting evil, and the organization in turn has within the last ten days prepared a list of jobbing houses with whom its members will do business.

The issue is thus sharply defined at the outset, and the prospects are that further advantages will accrue to those who identify themselves with the interests of the union. The latter proposes, as soon as possible, to embrace in its membership every reputable retail pharmacist in New England whose membership it is possible to secure. To obtain this membership and familiarize the trade with the present work and objects of the union, the services of Mr. F. W. Reeves, of Cambridge, have been secured, and he will devote all his time to pushing the cause of pharmacy in New England. He will pay personal visits to all sections in his territory, organize local associations where there are none, and, where possible, secure the adoption of a scale of prices. This, we believe, is the first instance where an organization of retail druggists has actually adopted the up-to-date methods which distinguished other successful organizations, viz., the employment of active representatives to devote their entire time to the extension of the work, and the keeping up of the interest of the rank and file by personal effort and encouragement. This new plan will certainly be watched with more than ordinary interest, and its success will confer a benefit upon the entire trade by showing what can be done when a little earnestness and determination can be added to the usual perfunctory features of drug organizations.

Secretary C. P. Flynn, of Boston, in referring to the proposed new departure, writes: "If we do not succeed in stopping the cutting evil because we may not get the assistance of the New York jobbers, then we have another card to play which I do not thing either the proprietors or the jobbers would like to see. Our policy is 'reciprocity,' so we shall support those who support us. That is fair."

W. C. Offutt, Savannah, Ga.—I take pleasure in saying that we get more valuable information from your Era than from any drug paper published, and consider its advent the most valuable acquisition in years

SOUND MINDS IN SOUND BODIES.

The old saying, "all work and no play makes Jack a dull boy," is so apt to be quoted to the confusion of critics who wish to see the spur applied to lagging industry, that any animadversion upon some features of the recent meetings of State associations becomes a rather unwilling task. The risk of being called a curmudgeon, misanthrope or some other dreadful name, and having one's utterances attributed to a belief in the sourness of certain grapes which are out of reach, is too great, and calls for a degree of intrepidity possessed by few. Besides, in this case, that discretion which keeps the mouth closed and the pencil or fountain pen in the pocket is perhaps the better part of valor, for the pharmacist of the present day is getting too athletic to stand much scribbling nonsense. This brings us up against the point which we wished to make at the outset, but could not find the proper words to express, viz.: Isn't there a preponderance of athletics in the doings at pharmaceutical meetings of late years which overshadows the practical and scientific?

This question might be raised by several people for different reasons. For instance, the pharmacist who attends his State meeting and carries off a prize awarded to him for the doubtful merit of being the homeliest man present, or he who umpires a game of baseball or officiates as center rush in the football difficulty and is afterward plastered and arnicated so that his fellow-citizens do not recognize him, might complain that there was some pertinence in the inquiry. Then the old dry-as-dust fellows who groan over the lack of scientific attainments and believe that every apothecary should go about with a halo, say of benzene rings, about his head, may deplore this seeming levity of demeanor, and amid the hilarity of such occasions may recall the gravity of past gatherings when pharmacy was being born, and imagine that they hear the rattling of bones as the fathers of pharmacy turn in their graves at such unseemly proceedings.

The pharmaceutical valetudinarian may also raise his voice in protest. He cannot run or jump and has his opinion of those who can. His views upon the number of strikes which can be legally allowed to the man at the plate are somewhat hazy, and the spectacle of his brethren walking with feet swathed in gunny sacks, climbing a greased pole, or trundling a wheelbarrow with bandaged eyes, does not inspire him with admiration.

Last, but not least, are the druggists who have to stay at home, and a few editors. There is no use in listening to their grumbling about the dignity of the profession. They belong to the "sour grape" crowd, and are simply jealous.

Some time ago we had occasion to ask editorially, "Of what use are associations?" Upon mature reflection the answer is easier than was anticipated. They are of use in changing the physical type of apothecary. The world has been taught to regard him with that preconceived idea which has come down from the time of the lean and hungry individual who figured in the case of the Capulets and Montagues. In the future he will rival Hercules, Sullivan, Corbett and the other favorites. Hurdles will be a pleasant diversion, and "putting the shot" will mean a feat much different from its present connection with washing bottles.

But the effect which all this will have upon the professional standing of the pharmacist among his own constituents is a matter of anxiety. In former years he attended his yearly meet, read a paper upon "A new method for preparing an infusion of Nepeta cataria," or participated in a discussion whether certain chemical salts should be made in vacuo or made in Germany, and his fellow-townsmen applauded with some misgivings when the account of it appeared in the local paper. It will be different in the future. His friends will understand what manner of man he is, when he returns from his annual function with a pair of red suspenders won for proficiency in "cracking the whip," or a bottle of hair oil awarded for successfully transporting an egg one-half mile carefully balanced upon the crown of a plug hat. He will be recognized as the "best man" in town, which he undoubtedly will be.

In the not distant hereafter the annual meeting of the Blank State Pharmaceutical Association will be an inspiring occasion, much facilitating the proper circulation of the blood. Local Secretary Acestes and the Committee on Arrangements will cordially welcome to their Sicilian sands the storm-tossed pharmaceutical Trojans and their beloved leader, President Æneas. Their devotion at the tomb of the dead Anchises will be brief but reverential. The games and tests of physical endurance will then be in order. There will be a boat race, a sprinting match and a contest in archery, the latter being especially for the angels of commerce, who will draw the "long bow" with a proficiency born of experience. There will be a contest with gauntlets for a black bull (of the Irish kind may be), and perhaps some young and muscular Dares will prance up and down with chip upon shoulder defying his brethren to knock it off. Perchance also some aged and decrepit Entellus will rise up and desire to don the mailed gauntlets of seven folds of tough bull's hide and give him battle. After some argument the old man will be cooled down and induced to wear the ordinary skin gloves, and will then proceed to chase the muscular Dares over the plain, incidentally knocking out a handful of teeth and spoiling a Trojan nose.

The proceedings will be interesting reading, and the future secretary may be our modern Virgil and his report our modern Æneid.

DRUG CLERK WANTED.

Proprietors often desire to make a change in their clerks, and a good drug clerk is the best investment. More of these drug clerks read the "Want Ads" in the Era than any other similar ads. When you want a clerk, try one. Answers can be sent in our care if desired.

THE NEW WHISKY TRUST.

With part of his time devoted to determining whether he was in favor of free alcohol, another part devoted to studying how to get his rebate, and still another portion devoted to reading headlines regarding the Whisky Trust squabble which affected the original cost of his product, the retail druggist, if not afflicted with symptoms of delirium tremens, will undoubtedly confess that he has lately suffered from a peculiar phase of alcoholism. There is, therefore, a welcome relief from the usual and unavoidable calorific rigors of midsummer in the announcement that the property of the Whisky Trust was finally sold at auction at Chicago on Aug. 14. We have an unpleasant remembrance of having read, not carefully or understandingly, during the last six months in the columns of the daily press, of various legal tangles in trust affairs which interfered with the summer outing of several eminent jurists, and caused strained relations, in a Pickwickian sense, between the Commonwealth of Illinois and the United States courts.

The sale was made to the reorganization committee, as the kickers against the old régime were called, there being no other bidders present at the sale with a certified check for $50,000 upon their persons, or with prospects of being able to raise $9,800,000, the purchase price. The property sold did not include all that was owned by the trust, but does include seventeen distilleries and the office buildings at Peoria, which are considered the best and most essential portions of the defunct corporation's belongings. The receiver, however, still holds a lien against the property to secure the payment of $1,000,000 in bonds issued by the old management, which matter, by the way, is in litigation, and also to secure the payment of such rebate vouchers as the court shall finally order paid. The reorganization committee will change its name to the American Spirits Manufacturing Co., and has already incorporated under the laws of Illinois. As the State courts some time ago declared the old trust an illegal corporation, some curiosity may be appropriately expressed as to the difference between the odor which greets the nostrils of Attorney-General Maloney when the rose is presented to him under another name, and that which greets him when a combination of distillers for restraining trade in their own direction operates as the American Spirits Manufacturing Co., instead of the Distilling and Cattle Feeding Co.

ADULTERATED COFFEE.—T. H. Pearmain and C. G. Moor have recently obtained a small sample of adulterated coffee. (Analyst.) A filtered 10-percent. decoction had the same specific gravity as genuine coffee, namely 1009.5. After some little trouble the sample was found to consist of exhausted coffee, together with ground acorns.

PRACTICAL HINTS.

——Cheerfulness is often better for indigestion than medicine. Make the public good a study and you shall not want for friends.

——Merchants who cannot see the advantage of saving the discounts are not necessarily color blind. The seat of their trouble is in their appreciative faculties.

——What does it cost you to do business? Have you ever compared one year's expense account with that of another? Are there any items in this account which can be curtailed or entirely eliminated? There are many channels through which money is lost, such as careless handling of stock, overweights, charging incorrect prices, improper care of apparatus, etc.

——Says an old dispenser: "When dispensing two kinds of pills for the same person, always use different shaped boxes, so that they may not be mistaken. Never allow the excited, nervous customer to hurry you. Be as expeditious as possible, but don't attempt to do more than one thing at a time. Finish and label one prescription before you take up another."

——When not pressed for time, humor the penchant some customers have for examining goods, and you will not lose anything by such concession. Never impose upon the ignorance of customers or take advantage of children. There is no more excuse for acting a small lie in business than there is for telling a downright falsehood. Ability, courtesy and honesty are the concomitants to business success.

——How do you read your drug journal? By running down the column to find something sensational or of special interest to you? If you pursue this course you fail to "live up to your possibilities." There is nothing in a well-conducted journal that is not of value. All may not be equally interested in certain topics or subjects, but there is information for all. To keep up with the times one should read his paper carefully.

——In discussing the question, What holds a customer? a writer in a hardware publication answers "service." This answer means a great deal. It means a satisfied patron—one pleased with the quality of goods, manner of delivery, the method of rendering accounts, the courtesy of attendants, the style of the store and its service, the personnel of the establishment, the prestige or general reputation of the store, and the professional skill of the proprietor.

——Many articles considered salable only in a particular season of the year may be sold during other seasons, and can be disposed of as opportunity offers, but it is advisable to invoice and pack away such as are only suitable for a particular season. This plan, besides being more profitable as regards the price you are able to obtain for these articles, will be found of assistance as a reference in buying your stock for the following year, and, besides, it will shorten your work when you come to take your annual inventory.

ADVERTISEMENTS FOR RETAIL DRUGGISTS

Most people know that corn cures can be procured at a drug store. It may seem superfluous to tell them this in an advertisement, but the object in such a case should be to get them to go to a particular drug store for the "cure." Some people pursue their painful way without taking the trouble to attempt a cure. These people need reminding that there are corn remedies. The druggist can't use his persuasive powers upon every customer who limps, but he can advertise his corn destroyer with the chance of hitting 75 customers out of a possible 100 readers. Obviously the best way of advertising common things, like corn cures, for instance, is to use some unique method to attract attention. If the girl trimming corns with a razor attracts your notice, and you think of the picture when your own corn is being pinched, you can safely argue that it will work the same way on your customers.

(No. 28.)

SOME people have corns and some have not—most of us have. If you are troubled with corns—hard or soft—drop in and buy a bottle of our "Acme Corn Cure." It will surely give you relief—much more satisfactory relief than you can obtain by the use of a razor.

KNIGHT & DAY, DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

NEW FIRMS NEED IT.

Hargrove & Stewart, Rushville, Ind.—A new firm cannot do without the Era.

Hanson & Emerson, Sauk Centre, Minn.—We are very much pleased with the Era.

J. P. Zipf, Grass Valley, Cal.—Am a subscriber to the Era and cannot do without it.

F. R. Drake, Patricksburg, Ind.—I am a subscriber to the Era and would not be without it.

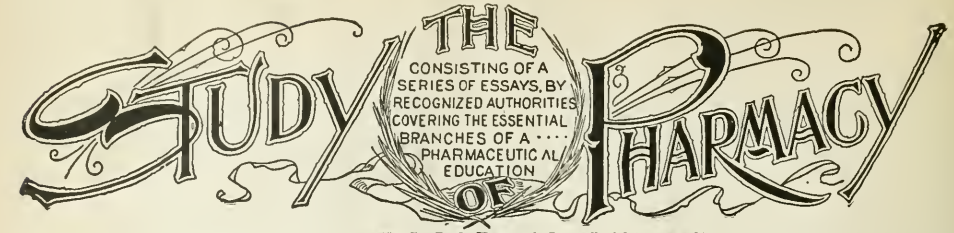
C. W. Long, Wakefield, Neb.—We think the Era is a great paper and would not do business without it.

Emery J. Eastman, Elsinore, Cal.—I get more useful information from the Era than from all the other drug journals which I take.

V. R. Bissell & Co., Auburn, Wash.—We have been subscribers to the Era for three or four years, and expect to be as long as we are in business.

J. M. Remington, Shawnee, Okla.—I seldom overlook anything in your valuable journal, as it is up to date strictly. All live druggists appreciate your journal. It is worth twice what we pay for it.

E. A. Saxby, Pemberville, O.—Have been a reader of the Era since its first number, except past two years, which time I have been out of the business, but upon my return I hasten to renew old acquaintances.



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[Continued from page 232, August 22.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXI. VOLUMETRIC QUANTITATIVE ANALYSIS.

By Virgil Coblentz, Ph. G., A. M., Phil. D.

Volumetric analysis is the method by which we determine the quantity of certain substances by means of the volume of selected reagents which are required to perform a given reaction.

The process of adding the liquid reagent from graduated measures is called titration.

The strength of a volumetric solution as compared with that of another, or, in other words, its ratio to the latter, is called its titer.

A volumetric or standard solution is a solution of definite strength, which is made by dissolving a given weight (in grams) of a reagent, in a definite volume (in cubic centimeters) of water. These solutions are usually made by dissolving the molecular weight of a reagent in grams or a fraction thereof in 1,000 cc. (1 liter) of water. The following abbreviations are in use:

N or $\frac{N}{1}$ (normal). "Volumetric solutions are designated as normal $\frac{N}{1}$ when they contain in 1 liter the molecular weight of the active reagent, expressed in grams, and reduced to the valency corresponding to one atom of replaceable hydrogen or its equivalent.

"Thus, hydrochloric acid, HCl = 36.37, having but one H atom replaceable by a basic element, has 36.37 gm. of HCl in 1,000 cc. of the normal volumetric solution; while sulphuric acid, H_2SO_4 = 97.82, having two replaceable H atoms, contains only one-half of this number, or 48.91 gm. of H_2SO_4 in 1,000 cc. of its normal solution. Potassium hydrate, KOH = 55.99, has but one K to replace one H in acids, hence its normal solution contains 55.95 gm. of KOH in one liter" (U. S. P.).

$\frac{N}{10}$ (decinormal) = Solutions which contain in 1 liter one-tenth of the quantity of the active reagent in the normal solution.

$\frac{N}{100}$ (centinormal) = Solutions which contain in 1 liter one-hundredth of the quantity of the active reagent in the normal solution.

$\frac{2}{N}$ (double normal) = Solutions which contain in 1 liter twice the quantity of the active reagent in the normal solution.

$\frac{N}{2}$ (semi-normal) = Solutions which contain in 1 liter one-half of the quantity of the active reagent in the normal solution.

Indicators.

An indicator is a substance which is added to the solutions, during titration, for the purpose of showing, by a change of color (or other visible change), the exact point at which the reaction is complete.

The principal indicators employed are:

(1) Solution of Litmus (Test solution, U. S. P.).—This turns red with acids and blue with alkalies.

(2) Alcoholic Solution of Phenolphtalein (Test solution, U. S. P.).—This is colorless with acids and turns deep red with alkali hydrates and carbonates; bicarbonates and most other salts do not produce this color. It is not reliable when alkaline salts of ammonium or phosphoric acid are present.

(3) Solution of Methyl-Orange (Test solution, U. S. P.).—This solution acquires a yellow color in contact with alkali hydrates, carbonates or bicarbonates. With the inorganic acids the solution acquires a crimson color. It is indifferent to carbonic acid and should not be used with organic acids.

(4) Solution of Rosolic Acid in Diluted Alcohol (Test solution, U. S. P.).—The solution turns violet with alkalies and yellow with acids.

(5) Decoction of Brazil-Wood (Test solution, U. S. P.).—This is a very sensitive indicator, especially adapted in the estimation of alkaloids. The solution turns purplish-red with alkalies and yellow with acids.

(6) Tincture of Cochineal (Test solution, U. S. P.).—The solution turns violet with alkalies and yellowish-red with acids. It is employed as an indicator when ammonia or alkaline earths are present.

(7) Starch Mucilage (Test solution, U. S. P.).—The cold solution turns blue in the presence of free iodine.

(8) Solution of Potassium Chromate (Test solution, U. S. P.).—The solution gives a red color with silver nitrate. When any halogen salts are present the red color does not appear until every trace of the halogen has combined with the silver.

(9) Solution of Potassium Ferricyanide (Test solution, U. S. P.).—This gives a blue color or precipitates with ferrous and only a clear brown solution with ferric salts. This indicates that all of the ferrous salt has been oxidized to ferric, when it ceases to impart a blue color to the solution.

Apparatus Employed.

Measuring Flasks and Cylinders.—For the preparation of volumetric solutions we employ accurately graduated flasks or cylinders. The flasks (Fig. 72) are made of various sizes, usually of the capacity of 250, 500 and 1,000 cc. (at 15° C. or 59° F.), which is indicated by a mark on the neck. Graduated cylinders (Fig. 73) are also employed for this purpose.

Pipettes.—These are instruments graduated to deliver definite volumes of fluids. They are constructed to hold, when the fluid is drawn up to the mark indicated on the stem, various volumes, as 1 cc. or fraction thereof, 5, 10, 15, 20, 25 or 50 cc.

Burettes.—These are long tubes, usually of a capacity of 25, 50 or 100 cc., and graduated into divisions of 1 cc. or fractions thereof (one-fifths or one-tenths). These are employed for measuring out standard solutions. They are graduated between two points on the cylinder, the upper one (0) beginning a short distance below the upper extremity, the lower one (50 or 100 cc.) being situated a short distance above the point where the tube begins to narrow toward the outlet; the fluid can be measured only between these points (0 and 50). The burettes are usually fitted below with a pinch-cock arrangement or with a glass stop-cock (Fig. 75); the former when pressed, or the latter, when turned, allows the fluid to flow out at any speed desired. The pinch-cock arrangement is applied to the simpler forms of burettes in which a short heavy piece of rubber tube is slipped over the narrow neck of the lower end of the burette and tied, if necessary. Into the other end of the rubber tube is slipped a short piece of glass tubing of small caliber, drawn to a fine orifice; between the extremities of the

rubber a pinch-cock is placed, and by pressing the two tips it is caused to open

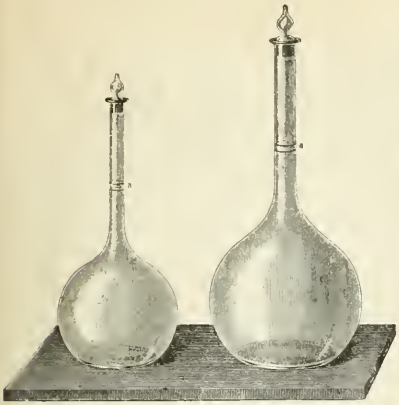

Fig. 72.

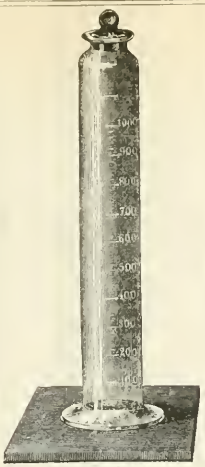

Fig. 73.

Fig. 74.

Fig. 75.

and permit the flow of liquid from the burette.

Beginners find it at first somewhat difficult to read off the height of the column of fluid correctly. On holding the burette so that the surface of the fluid is on a level with the eye, it will present an appearance like that shown in Fig. 76, this being known as the *meniscus*. It is a matter of some difference whether the height of the meniscus is read off on a line parallel with the upper edge (o) or the lower

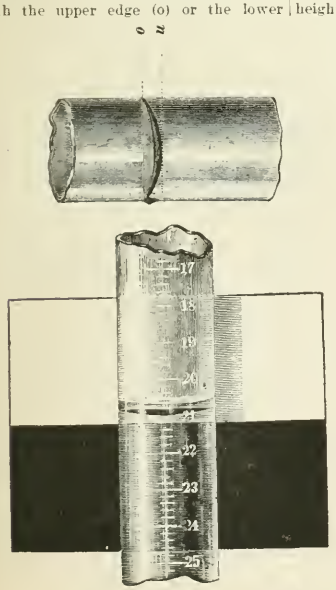

Fig. 76.

one (u). But if we begin by reading off from one of these edges, we must use the same height in all our other readings. To facilitate the accuracy of reading, various devices have been proposed; one of the simplest (for clear liquids) is that shown in which a piece of paper half black and half white is held against the back of the burette, the upper edge of the black portion being held a few milimeters below the level of the liquid; the lower concave curve of the meniscus then appears as a sharp black line which enables the operator readily to note the height of the fluid. A very convenient instrument for avoiding the meniscus altogether, and which can be employed with accuracy for all kinds of fluids, is the Erdmann float. This consists of a small cylindrical closed tube, sufficiently weighted so that it will float upright, around the middle of which a line is scratched; this is placed in the fluid in the burette and the height is read off by comparing the ring (scratch) on the float with the divisions on the burette.

In the operation of titrating, the substance to be titrated, if in dry or concentrated form, should always be dissolved in, or diluted with, water. Beakers or flasks, placed on a sheet of white paper, or a porcelain dish, should be employed for holding the solution; the operation should be conducted with as much light as possible, in order to distinguish clearly the change of color, etc., which denotes the end point of the reaction. In the beginning of the operation, the standard solution may be added rapidly *under constant stirring*; toward the end it should be added more cautiously, and finally only in drops. Thus in adding a standard solution of an alkali to an acid (diluted), with phenolphtalein as indicator, each drop of the alkali solution will produce a red color which almost immediately disappears. Toward the end of the reaction, however, this red color disappears less rapidly; then the operator should proceed very cautiously. Just sufficient of the reagent should be added to produce the desired color (not too in-

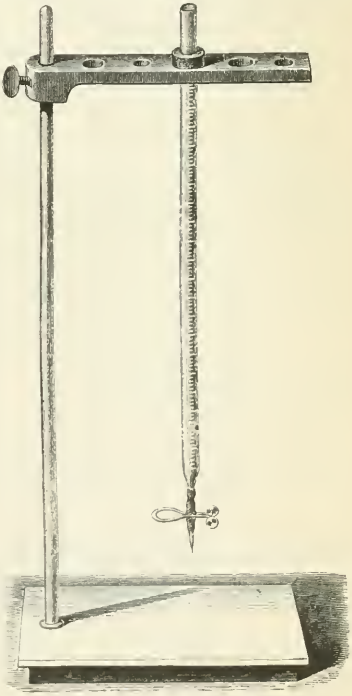

Fig. 77.

tense), or to cause decolorization, as the case may be. With such indicators as phenolphtalein or litmus, which produce marked changes in color, little difficulty

is experienced in distinguishing the end-point of the reaction. Other indicators, however, such as methyl-orange, Brazil wood, cochineal, etc., cause considerable difficulty for the inexperienced, the change of color being often very gradual and sometimes indistinct. It is best for the operator to take two beakers or test tubes containing the same bulk of water as there is fluid for assay, acidulate one with the standard acid solution, and render the other alkaline to an equal degree; then add to both an equal amount of the indicator. On placing these beside the sample to be assayed the change of color can be accurately noted by comparison.

Preparation of Standard Solutions.

As before stated, these solutions are prepared by dissolving a given weight, that is, usually, the molecular weight of the reagent, expressed in grams, in 1,000 cc. of water. Thus in order to prepare a standard normal solution of hydrochloric acid, we should weigh off (assuming that we had an acid of the exact strength required) an amount containing 36.37 gm. of the absolute acid, place it into a flask, and dilute it with water to 1 liter. Then if 1,000 cc. of the solution contain 36.37 gm. of absolute HCl, 1 cc. of the solution contains 0.03637 gm. of absolute HCl.

From the equation:

$$\underset{\substack{\text{Hydrochloric}\\\text{Acid}\\36.37}}{HCl} + \underset{\substack{\text{Sodium}\\\text{Hydrate}\\39.96}}{NaOH} = \underset{\substack{\text{Sodium}\\\text{Chloride}}}{NaCl} + \underset{\substack{\text{Water}}}{H_2O}$$

we learn that 36.37 gm. hydrochloric acid is equivalent to 39.96 gm. of sodium hydrate; 1 cc. or 0.03637 gm. hydrochloric acid is equivalent to 0.03996 gm. of sodium hydrate; x cc. of hydrochloric acid is equivalent to x × 0.03996 gm. of sodium hydrate.

If we know the number of cubic centimeters of normal acid solution, the amount of alkali is readily calculated.

The second clause of the definition of volumetric solutions reads thus, "and reduced to the valency corresponding to one atom of replaceable hydrogen or its equivalent."

When we desire to prepare a normal sulphuric acid solution we weigh off an amount equivalent to 48.91 gm. (one-half of 97.82) of the absolute acid, and dilute it to 1 liter; here we have taken one-half of the molecular weight, for sulphuric acid, being bivalent, corresponds to two atoms of replaceable hydrogen. Thus:

$$\underset{\substack{\text{Sulphuric}\\\text{Acid}\\97.82}}{H_2SO_4} + \underset{\substack{\text{Sodium}\\\text{Hydrate}\\2\times 39.96}}{2NaOH} = \underset{\substack{\text{Sodium}\\\text{Sulphate}}}{Na_2SO_4} + \underset{\substack{\text{Water}}}{2H_2O}$$

One molecule (97.82 p.) of sulphuric acid is equivalent to two molecules (2 × 39.96 p.) of sodium hydrate; one-half of a molecule (48.96 p.) of sulphuric acid is equivalent to one molecule (39.96 p.) of sodium hydrate; 1,000 cc. $(\frac{N}{1}$ V. S.) containing 48.91 gm. sulphuric acid = 39.96 gm. of sodium hydrate; 1 cc. $(\frac{N}{1}$ V. S.) containing 0.04891 gm. sulphuric acid = 0.03996 gm. of sodium hydrate; x cc. of normal sulphuric acid solution = x × 0.03996 gm. of sodium hydrate.

The estimation of acids or alkalies is known as acidimetry and alkalimetry. In order to prepare the various standard solutions, we must select some substance which can be readily had in pure and undiluted form. For this purpose crystallized oxalic acid answers best. Its solution must be carefully and accurately prepared, for upon this all other normal acid and alkaline standard solutions are based; hence any inaccuracy in this standard would be carried over into all others.

(1) NORMAL OXALIC ACID VOLUMETRIC SOLUTION: $H_2C_2O_4 + 2H_2O$ = 125.7; 62.85 gm. in 1 liter.

Weigh 62.85 gm. of pure oxalic acid in crystals and transfer it without loss to a measuring flask or cylinder of 1 liter capacity, add enough distilled water to dissolve it, then, maintaining the temperature at or near 15° C. or 59° F., add water make the volume measure exactly 1,000 cc.

One cc. of normal oxalic acid V. S. is the equivalent of: Oxalic acid, crystallized, $H_2C_2O_4 + 2H_2O$, 0.06285 gm.; ammonia gas, NH_3, 0.01701 gm.; sodium hydrate, NaOH, 0.03996 gm.; potassium hydrate, KOH, 0.05599 gm.; potassium permanganate, $KMnO_4$, 0.03153 gm.

(a) Estimation of Alkali Hydrates.

Exercise.—In about 30 cc. of water 0.4 gm. of soda was dissolved, with phenolphtalein as indicator; 9 cc. of normal oxalic acid V. S. were required to neutralize it (sufficient to discharge the pink color). What was its percentage in pure NaOH?

According to the equation,

$$\underset{\substack{\text{Oxalic Acid}\\125.7}}{H_2C_2O_4 + 2H_2O} + \underset{\substack{\text{Sodium Hydrate}\\2\times 39.96}}{2NaOH} = \underset{\substack{\text{Sodium Oxalate}}}{Na_2C_2O_4} + \underset{\substack{\text{Water}}}{4H_2O}$$

One thousand cc. $(\frac{N}{1}$ V. S.) containing 62.85 gm. of oxalic acid are equivalent to 39.96 gm. of sodium hydrate; 1 cc. $(\frac{N}{1}$ V. S.) containing 0.06285 gm. of oxalic acid is equivalent to 0.03996 gm. of sodium hydrate; 9 cc. of the normal oxalic acid V. S. = 9 × 0.03996 = 0.3576+ gm. of sodium hydrate.

That is, 0.4 gm. of the soda taken contains 0.3576 gm. of pure substance; hence, 0.4 : 0.3576 = 100 : x; x = 89.4 per cent.

Alkalimetry.

Any of the normal or decinormal acid solutions may be employed for estimating the strength of alkalies or alkaline solutions. The substance or fluid is quickly weighed, dissolved or mixed with the necessary volume of water, then a few drops of phenolphtalein solution are added, or in the presence of carbonates, methyl-orange solution, and the standard acid solution then added until the red color of the former just disappears or the yellow color of the latter changes to red. Great care must be employed not to add any more of the reagent than just necessary to produce or discharge a given color.

Exercise.—Fifty cc. of solution of lime (lime water), with phenolphtalein as indicator, required 20 cc. of decinormal oxalic acid V. S. for complete neutralization (sufficient to discharge the pink color). What percentage of calcium hydrate does the solution contain?

According to the equation,

$$\underset{\substack{\text{Oxalic Acid}\\125.7}}{H_2C_2O_4 + 2H_2O} + \underset{\substack{\text{Calcium Hydrate}\\73.83}}{Ca(OH)_2} = \underset{\substack{\text{Calcium Oxalate}}}{CaC_2O_4} + \underset{\substack{\text{Water}}}{4H_2O}$$

125.7 parts of oxalic acid are equivalent to 73.83 parts of calcium hydrate; 62.85 parts of oxalic acid are equivalent to 36.91+ parts of calcium hydrate; 1,000 cc. $(\frac{N}{10}$ V. S.) containing 6.285 gm. of oxalic acid are equivalent to 3.691+ gm. of calcium hydrate; 1 cc. $(\frac{N}{10}$ V. S.) containing 0.006285 gm. of oxalic acid is equivalent to 0.003691+ gm. of calcium hydrate; 20 cc. of the decinormal oxalic acid V. S. = 20 × 0.003691+ = 0.07382+ gm. of calcium hydrate.

That is, 0.07382+ gm. of calcium hydrate is contained in 50 cc. (about 50 gm.) of solution of lime; hence, 50 : 0.0738 = 100 : x; x = 0.14 per cent.

True percentage by weight would require that the specific gravity of the solution be taken into consideration. In this case, where it is practically identical with that of water, it may be neglected.

Inasmuch as sulphuric acid varies in strength, and the accurate weighing of quantities corresponding to definite amounts of absolute acid is next to impossible, the strength of a diluted acid is adjusted by means of a standard solution of potassium hydrate, which in turn owes its accuracy to having been standardized by oxalic acid (see Normal Potassium Hydrate, V. S.)

(2) NORMAL SULPHURIC ACID: H_2SO_4 = 97.82; 48.91 gm. in 1 liter.

For method of preparation see U. S. P.

For equivalent of 1 cc. of normal sulphuric acid see U. S. P.

Exercise.—Exactly 1.7 gm. of stronger ammonia water was diluted with water, rosolic acid added as indicator, and normal solution of sulphuric acid added until the violet-red color gave way to yellow, 28 cc. of the normal solution having been consumed. What is the percentage strength in ammonia gas?

$$\underset{\substack{\text{Sulphuric Acid}\\97.82}}{H_2SO_4} + \underset{\substack{\text{Ammonia Water}\\2\times 17}}{2NH_3.H_2O} = \underset{\substack{\text{Ammonium Sulphate}}}{(NH_4)_2SO_4} + \underset{\substack{\text{Water}}}{2H_2O}$$

One thousand cc. $(\frac{N}{1}$ V. S.) contain-

ing 48.91 gm. of sulphuric acid are equivalent to 17 gm. of ammonia gas; 1cc. ($\frac{N}{1}$ V. S.) containing 0.04891 gm. of sulphuric acid is equivalent to 0.017 gm. of ammonia gas; 28 cc. of normal sulphuric acid V. S. = 28 × 0.017 = 0.476 gm. ammonia gas. Since 1.7 gm. of ammonia water has been taken, then 1.7 : 0.476 = 100 : x; x = 28 per cent.

(b) Estimation of Alkali Carbonates.

Exercise.—Let it be assumed that two samples of sodium bicarbonate, each of 0.85 gm., are to be assayed, to determine the percentage of pure salt.

Here it should be stated that two methods are available for assaying alkalies in presence of carbonic acid. One is the cold method, with methyl-orange as indicator, since this is not sensitive to carbonic acid. The other is the hot method, with phenolphtalein as indicator, which will not strike a pink color with alkalies, until all the carbonic acid has been expelled by heat.

Let it now also be assumed that we used the cold process, with methyl-orange, on one sample, and the hot process, with phenolphtalein on the other, and that, in both cases, 10 cc. of normal sulphuric acid were required to produce neutrality.

(1) Cold Process.—The procedure is the same as in all solutions heretofore explained.

$$\underset{\substack{\text{Sulphuric Acid}\\ 97.82}}{H_2SO_4} + \underset{\substack{\text{Sodium Bicarbonate}\\ 2\times 83.85}}{2NaHCO_3} = \underset{\substack{\text{Sodium Sulphate}}}{Na_2SO_4} + \underset{\substack{\text{Carbonic Acid Gas}}}{CO_2} + \underset{\substack{\text{Water}}}{H_2O}$$

One thousand cc. ($\frac{N}{1}$ V. S). containing 48.91 gm. of sulphuric acid are equivalent to 83.85 gm. of sodium bicarbonate; 1 cc. ($\frac{N}{1}$ V. S.) containing 0.04891 gm. of sulphuric acid is equivalent to 0.08385 gm. of sodium bicarbonate; 10 cc. of normal sulphuric acid, V. S. = 10 × 0.08385 = 0.835 + gm. pure sodium bicarbonate. That is, 0.850 gm. of the sodium bicarbonate taken contains 0.835 gm. of pure substance, hence 0.850 : 0.835 = 100 : x; x = 98.2 per cent.

(2) Hot Process.—When phenolphtalein is used as indicator, the solution will have to be boiled after the addition of each installment of the standard acid solution in order to expel the carbonic acid. The end of the reaction is recognized from the fact that the red color produced by the indicator with alkalies ceases to reappear after several minutes' boiling.

(c) Estimation of Organic Salts of the Alkalies and Alkali Earths.

The organic salts of potassium, sodium, lithium, strontium, etc., are examined by weighing out a small amount in a platinum or porcelain crucible, then heating slowly to redness (uncovered) until no further gases are given off and a charred mass remains. The crucible is allowed to cool, and its contents treated with boiling water and filtered into a flask or porcelain dish. The crucible is washed out with boiling water, and the washings passed through the filter, until the filtrate ceases to turn red litmus blue. To the filtrate, which should be clear, a sufficient amount of the indicator is added, and the alkali carbonate present estimated as directed above. This method is directed by the U. S. Pharmacopœia to be carried out with lithium benzoate, lithium citrate, lithium salicylate, potassium acetate, potassium bitartrate, potassium citrate, potassium and sodium tartrate, sodium acetate, sodium benzoate and strontium lactate.

Potassii Bitartras:

$$^{*}\underset{\substack{\text{Potassium Bitartrate}\\ 2\times 187.67}}{2KHC_4H_4O_6} = \underset{\substack{\text{Potassium Carbonate}\\ 138}}{K_2CO_3} + \underset{\substack{\text{Carbon}}}{5C} + \underset{\substack{\text{Carbonic Acid Gas}}}{2CO_2} + \underset{\substack{\text{Water}}}{5H_2O}$$

$$\underset{\substack{\text{Sulphuric Acid}\\ 97.82}}{H_2SO_4} + \underset{\substack{\text{Potassium Carbonate}\\ 138}}{K_2CO_3} = \underset{\substack{\text{Potassium Sulphate}}}{K_2SO_4} + \underset{\substack{\text{Carbonic Acid Gas}}}{CO_2} + \underset{\substack{\text{Water}}}{H_2O}$$

One thousand cc. $\frac{N}{1}$ V. S. containing 48.91 gm. of sulphuric acid is equivalent to 69 gm. of potassium carbonate; 1 cc. $\frac{N}{1}$ V. S. containing 0.04891 gm. of sulphuric acid is equivalent to 0.69 gm. of potassium carbonate.

One molecule (138 parts) of potassium carbonate is obtained from two molecules (2 × 187.67 parts) of potassium bitartrate , hence one-half of a molecule (69) parts) of the former is obtained from one molecule (187.67 parts) of the latter. Then each 1 cc. of normal sulphuric acid V. S. is equivalent to 0.069 gm. potassium carbonate, which in turn represents 0.187 + gm. potassium bitartrate.

(3) NORMAL HYDROCHLORIC ACID SOLUTION is made after the same principle and is in every respect equivalent, in neutralizing power, to normal sulphuric acid. It may be employed in all instances given under the latter.

$$\underset{\substack{\text{Oxalic Acid}\\ 125.7}}{H_2C_2O_4 + 2H_2O} = \underset{\substack{\text{Sulphuric Acid}\\ 97.83}}{H_2SO_4} = \underset{\substack{\text{Hydrochloric Acid}\\ 2\times 36.37}}{2HCl}$$

(4) NORMAL POTASSIUM HYDRATE VOLUMETRIC SOLUTION. —KOH = 55.99; 55.99 gm. in 1 liter.

For method of preparation see U. S. P.

Acidimetry.

The necessary amount of fluid (acid) should be weighed off in a tared and stoppered weighing flask, in order to avoid injury or corrosion of the balances. It is not always advisable to attempt to weigh off a definite amount of the fluid, as this is attended with considerable difficulty. It is better to measure a quantity of the fluid by means of a pipette into a flask and then weigh the amount. The amount of acid selected depends upon its strength. For this purpose the Pharmacopœia tabulates a list of various acids, stating the amount to be taken. Any weight approximately near that given may be selected. It is best to avoid taking large amounts of the acids, as this would result in the useless waste of a large volume of the standard alkali solution.

After weighing off the acid, the contents of the weighing flask are carefully rinsed out into a beaker or other flask preparatory to titrating. Then a few drops of the indicator are added, and titration carried out with normal alkali solution until the fluid turns faint rosered (with phenolphtalein), or blue (with litmus), or yellow (with methyl-orange), or faint violet-red (with rosolic) acid), etc.

The following equations will explain the various equivalents of the acids:

(a) $$\underset{55.9}{KOH} + \underset{36.37}{HCl} = KCl + H_2O$$

0.0559 gm. of potassium hydrate (1 cc.) is equivalent to 0.03637 gm. of absolute hydrochloric acid.

(b) $$\underset{55.9}{KOH} + \underset{59.86}{HC_2H_3O_2} = KC_2H_3O_2 + H_2O$$

0.0559 gm. of potassium hydrate (1 cc.) is equivalent to 0.05986 gm. of absolute acetic acid.

(c) $$\underset{\substack{2\times 55.9\\ 55.9\text{ p.} = 48.91\text{ p.}}}{2KOH} + \underset{97.82}{H_2SO_4} = K_2SO_4 + 2H_2O$$

0.0559 gm. of potassium hydrate (1 cc.) is equivalent to 0.04891 gm. of absolute sulphuric acid.

(d) $$\underset{\substack{2\times 55.9\\ 55.9\text{ p.} = 74.82\text{ p.}}}{2KOH} + \underset{149.64}{H_2C_4H_4O_6} = K_2C_4H_4O_6 + 2H_2O$$

0.0559 gm. of potassium hydrate (1 cc.) is equivalent to 0.07482 gm. of crystallized tartaric acid.

(e) $$\underset{\substack{3\times 55.9\\ 55.9\text{ p.} = 69.83\text{ p.}}}{3KOH} + \underset{209.5}{H_3C_6H_5O_7} + H_2O = K_3C_6H_5O_7 + 4H_2O$$

0.0559 gm. of potassium hydrate (1 cc.) is equivalent to 0.06983 gm. of crystallized citric acid.

(f) $$\underset{\substack{2\times 55.9\\ 55.9 = 48.9}}{2KOH} + \underset{97.8}{H_3PO_4} = K_2HPO_4 + 2H_2O$$

In the case of phosphoric acid, with phenolphthalein as indicator, neutralization is attained when potassium orthophosphate (K_2HPO_4) is formed, which requires two molecules of alkali.

0.0559 gm. of potassium hydrate (1 cc.) is equivalent to 0.0489 gm. of phosphoric acid.

(g) $$\underset{55.9}{KOH} + \underset{97.8}{H_3PO_4} = KH_2PO_4 + H_2O$$

With methyl-orange as indicator, neutralization is attained when acid potassium phosphate (KH_2PO_4) is formed, which requires one molecule of alkali.

0.0559 gm. of potassium hydrate (1 cc.) is equivalent to 0.0978 gm. of phosphoric acid.

(5) CENTINORMAL POTASSIUM HYDRATE V. S. containing 0.5599 gm. to the liter, or 0.0005599 gm. to the cubic centimeter, is employed in conjunction with decinormal sulphuric acid V. S. (containing 0.004891 gm. in the cubic centimeter) in the estimation of total alkaloids in extract of nux vomica

* The reaction may also be written thus:

$$2KHC_4H_4O_6 + 5O_2 = K_2CO_3 + 7CO_2 + 5H_2O$$

10 cc. $\frac{N}{100}$ potassium hydrate (0.005599 gm.) is equivalent to 1 cc. $\frac{N}{10}$ sulphuric acid (0.004891 gm.).

Deci and centi normal solutions are employed for the determination of minute quantities of acids or alkalies. Because of their great dilution, we are enabled to measure off volumes representing exceedingly small quantities of the actual reagent, which under ordinary circumstances would be impossible with a burette of the usual graduations. Since the solutions are very dilute, an error of a tenth or fifth of a cubic centimeter would not affect the result, which would be the case, however, were we to employ a normal solution which is 100 times as strong.

(6) DECINORMAL SILVER NITRATE VOLUMETRIC SOLUTION. $AgNO_3$ = 169.55; 16.955 gm. in 1 liter.

Dissolve 16.955 gm. of pure silver nitrate in enough water to make, at or near 15° C. (59° F.), exactly 1,000 cc.

Keep the solution in small, dark amber-colored, glass-stoppered vials, carefully protected from dust.

Note.—Titration by decinormal silver nitrate V. S. may be managed in various ways, adapted to the special preparation to be tested.

a. In most cases it is directed by the U. S. P. to be used in presence of a small quantity of potassium chromate T. S., which serves to indicate the end of the reaction by the appearance of the red color of silver chromate.

b. In some cases (potassium cyanide, hydrocyanic acid) it is added until the first appearance of a permanent precipitate.

Exercise.—An unknown quantity of pure sodium chloride was dissolved in water in a beaker, a few drops of potassium chromate were added to impart a yellow color, then the silver solution was slowly run in, under constant stirring, until the last drop caused the solution to turn permanently pale reddish (silver chromate); 30 cc. of silver solution were required. How much sodium chloride was present?

(a) $AgNO_3 + NaCl =$
Silver Nitrate 169.55 + Sodium Chloride 58.37 =
$AgCl$ Silver Chloride + $NaNO_3$ Sodium Nitrate

One thousand cc. ($\frac{N}{10}$ V. S.) containing 16.955 gm. of silver nitrate are equivalent to 5.837 gm. of sodium chloride.

One cc. ($\frac{N}{10}$ V. S.) containing 0.016955 gm. of silver nitrate is equivalent to 0.005837 gm. of sodium chloride.

Thirty cc. silver nitrate = 30 × 0.005837 = 0.175+ gm. of sodium chloride.

The other halogen salts are estimated in the same manner. The halogen acids (HI or HBr) must be first neutralized with an alkali.

Ferrous iodide cannot be estimated directly like the above halogen salts, because the indicator, potassium chromate, reacts with the ferrous salt; hence we have recourse to another method, known as Volhard's, which is equally applicable to the estimation of all halogens.

Estimation of Hydrocyanic Acid.

The hydrocyanic acid is weighed off, diluted with water, and solution of sodium hydrate added until the liquid is strongly alkaline, as shown by litmus paper or solution. Then decinormal silver nitrate solution is slowly dropped in with constant agitation until a faint permanent cloud of silver cyanide ($AgCN$) is produced. If during the operation the litmus becomes red, more of the sodium hydrate must be added until the indicator shows a blue tint.

The reaction is as follows:

$2HCN + 2NaOH =$
Hydrocyanic Acid 2 × 26.98 + Sodium Hydrate =
$2NaCN$ Sodium Cyanide 2 × 49 + $2H_2O$ Water

The sodium hydrate is added to prevent the liberation of free nitric acid which would prevent the silver cyanide from precipitating:

$2NaCN + AgNO_3 =$
Sodium Cyanide 2 × 49 + Silver Nitrate 169.55 =
$AgCN.NaCN$ Double Cyanide of Silver and Sodium + $NaNO_3$ Sodium Nitrate

Two molecules of hydrocyanic acid (53.96 parts) are equivalent to 1 molecule of silver nitrate (169.55 parts). Or 5.396 parts of hydrocyanic acid are equivalent to 16.955 parts of silver nitrate. Or 0.005396 part of hydrocyanic acid is equivalent to 0.016955 part of silver nitrate. Therefore, 1 cc. of $\frac{N}{10}$ silver nitrate V. S. (containing 0.016955 gm. of the salt) is equivalent to 0.005396 gm. of hydrocyanic acid.

(7) DECINORMAL IODINE VOLUMETRIC SOLUTION: I = 126.53; 12.653 gm. in 1 liter.

Dissolve 12.653 gm. of pure iodine in a solution of 18 gm. of pure potassium iodide in 300 cc. of water; then add enough water to make the solution measure, at or near 15° C. (59° F.), exactly 1,000 cc.

The potassium iodide plays the part of a solvent for the iodine.

Estimation of Sulphurous Acid, Free and in Sulphites.

The acid or sulphite is largely diluted with water, starch paste added, then iodine solution added until a faint permanent blue appears. The sulphurous oxide or sulphite undergoes oxidation to sulphuric acid or to sulphate, and the iodine is thereby converted into hydriodic acid according to the equation:

$I_2 + H_2O + SO_2.H_2O =$
Iodine 2 × 126.5 + Water + Sulphurous Acid 63.90 (SO_2)
126.5 parts are equivalent to 31.95 parts
H_2SO_4 Sulphuric Acid + $2HI$ Hydriodic Acid

One thousand cc. ($\frac{N}{10}$ V. S.) containing 12.65 gm. iodine are equivalent to 3.195 gm. of sulphurous oxide; 1 cc. ($\frac{N}{10}$ V. S.) containing 0.01265 gm. iodine is equivalent to 0.003195 gm. of sulphurous oxide.

Estimation of Hyposulphites (Thiosulphates).

The equation is as follows:

$2I + 2(Na_2S_2O_3.5H_2O) =$
Iodine 2 × 126.5 + Sodium Hyposulphite 2 × 247.64 =
126.5 parts are equivalent to 247.64 parts.
$2NaI$ Sodium Iodide + $Na_2S_4O_6$ Sodium Tetrathionate + $10H_2O$ Water

One thousand cc. ($\frac{N}{10}$ V. S.) containing 12.65 gm. iodine are equivalent to 24.764 gm. of sodium hyposulphite; 1 cc. ($\frac{N}{10}$ V. S.) containing 0.01265 gm. iodine is equivalent to 0.024764 gm. of sodium hyposulphite.

(8) DECINORMAL SODIUM HYPOSULPHITE VOLUMETRIC SOLUTION: $Na_2S_2O_3 + 5H_2O$ = 247.64; 24.764 gm. in 1 liter.

This solution is standardized by means of decinormal iodine V. S. See U. S. P. for method of preparation.

Estimation of Free Iodine.

A quantity of iodine is weighed off and by aid of potassium iodide dissolved in water. Then the hyposulphite solution is added, under constant stirring, until the solution has paled to a yellowish tint. A little starch paste is now added and the addition of the hyposulphite continued in drops until the blue color just disappears.

Then according to the equation:

$2(Na_2S_2O_3.5H_2O) + 2I =$
Sodium Hyposulphite 2 × 247.64 + Iodine 2 × 126.5 =
247.64 parts are equivalent to 126.5 parts
$2NaI$ Sodium Iodide + $Na_2S_4O_6$ Sodium Tetrathionate + $10H_2O$ Water

One thousand cc. ($\frac{N}{10}$ V. S.) containing 24.764 gm. sodium hyposulphite are equivalent to 12.65 gm. iodine; 1 cc. ($\frac{N}{10}$ V. S.) containing 0.024764 gm. sodium hyposulphite is equivalent to 0.01265 gm. iodine.

Estimation of Free Chlorine or Bromine.

This process is adapted to all substances containing free chlorine or bromine. (See also Aqua chlori.) The substance is weighed off and added to water containing a slight excess of potassium iodide, whereupon either the chlorine or bromine liberates an equivalent quantity of iodine from the potassium iodide, which in turn is estimated by means of the hyposulphite solution as directed above.

Estimation of Iron in Ferric Salts.

A suitable quantity of the iron salt or solution is weighed off and added to water contained in a glass-stoppered bottle. To this is added some hydrochloric acid and an excess of potassium iodide (which must be absolutely free from iodate). The mixture is kept for half an hour at a temperature of 40° C., then cooled and mixed with a few drops of starch T. S. Decinormal solution of sodium hyposulphite is then run in till the blue color of the solution is discharged.

The ferric chloride causes the liberation of an amount of iodine equivalent to the amount of metallic iron present.

The ferric is reduced to ferrous chloride. The hydrochloric acid added serves to prevent the solution of the iodine by the excess of potassium iodide present. The reaction is as follows:

$$\underset{\substack{\text{Ferric}\\\text{Chloride}\\2\times 55.8\,(Fe)}}{Fe_2Cl_6} + \underset{\substack{\text{Potassium}\\\text{Iodide}}}{2KI} = \underset{\substack{\text{Ferrous}\\\text{Chloride}}}{2FeCl_2} + \underset{\substack{\text{Potassium}\\\text{Chloride}}}{2KCl} + \underset{\substack{\text{Iodine}\\2\times 126.5}}{2I}$$

55.8 parts of metallic iron are equivalent to 126.5 parts of iodine.

0.00558 part of metallic iron is equivalent to 0.01265 part of iodine.

Since, according to the equation, 1 cc. of decinormal hyposulphite solution (containing 0.02476 gm. of the salt) is equivalent to 1 cc. of decinormal iodine solution (0.01265 gm.), and as this is equivalent to 0.00558 gm. metallic iron, hence 1 cc. of the hyposulphite solution is equivalent to 0.00558 gm. of metallic iron.

(To be continued.)

GAMBOGE.

"Gamboge is, next to gum-benjamin, perhaps, the most interesting of Siamese products," says the Trading World, of London. "While gum-benjamin is peculiar to a small belt of land in the north, gamboge is a resinous product indigenous only in the islands and the sea coast of the Gulf of Siam lying between 10° and 12° north latitude. The tree is known locally as 'Ton Rong.' It is found only in the islands of Koh Chang, Koh Kong, and Koh Rong, and the mainland of the Indo-Chinese peninsula opposite these islands. The trees grow to the height of some fifty feet, and are straight-stemmed with no lower branches, owing probably to the dense shade of the forest in which they grow. Ten years' growth is said to be required before the tree is ready for tapping. This is carried on by the Cambodian and Siamese islanders in the rainy months from June to October, when the sap is vigorous, by cutting a spiral line round the trunk from a height of some 10 feet downward to the ground. Down these grooves the resin wells out of the bark and trickles in a viscous stream into a hollow bamboo placed at the base of the tree, and from these is decanted into smaller bamboos, where it is left for one month to solidify. To remove the gamboge the bamboo is placed over a red-hot fire, and the bamboo husk cracking off, there is left the article known as 'pipe' gamboge. The trees can be tapped two or three times during one season, and at the end of the season their trunks present a curious network of intersecting spirals. Care must be taken to prevent the rain water mixing with the resin in the grooves, as any mixture of water causes honeycombing and black discoloration, and a consequent depreciation in value. The most valuable gamboge is that which is the least honeycombed or discolored, and is all the more difficult to obtain, considering the period of heavy rains during which the resin is extracted. The bamboos contain on an average less than one pound of gamboge, or about 170 bamboos to the picul. The price asked by the pickers themselves is at the rate of 2 ticals (3s.) for five bamboos full, and the local price is at the rate of 2 ticals (3s.) for three, of 65 ticals (£4 18s.) per hundred, or about £8 7s. per picul. The whole output is sold to local Chinese traders and taken by sailing boat to Bangkok."

A. Ph. A. PAPERS.

TARAXACUM ROOT AND TARAXACIN.

By Lucius E. Sayre.

As a continuation of the investigation mapped out for myself a few years ago in connection with taraxacum and reported upon in 1893 and 1894, I desire at this time to present the results of further work during the past winter in the same direction. It may be remembered that an effort has been made to determine the variation in the root at different seasons of the year, and to determine whether the valuable constituents are to any great extent altered by the application of a low heat such as might be used in drying the fresh drug.

During the past year an effort has been made to determine the nature and characteristics of the so-called bitter principle—taraxacin—and to this end my investigations have been chiefly directed. The first difficulty in isolating the active principle lay in the separation of it from the extraneous matter with which it is always contaminated when its colorless aqueous solution is evaporated. This extraneous matter was referred to in a former paper (Proceedings of 1893, p. 78) when it was stated that all attempts to obtain the bitter principle in a crystalline form, free from admixture of brownish-red extractive, had been unsuccessful, and what was reported as taraxacin in the analysis was this crude bitter principle containing this extractive.

It seemed impossible to separate the small needle-like crystals from the resin-like globules of other uncrystallizable material seen under the microscope, and whether these uncrystallizable amorphous globules of extractive or the crystals were actually the bitter principle, it was almost impossible to tell. My efforts have been directed toward this particular problem—how to obtain the taraxacin in the pure state. If it be a crystalline body, how can this body be separated from the above-mentioned amorphous substance or substances? For help in the work I am indebted to Mr. A. B. Clarke, a student in the Schoool of Pharmacy of the University of Kansas.

A record of the work will show probably that a separation of the bitter principle has been accomplished, and in the present paper an attempt will be made not only to show this, but to make clear the various steps in the process, so that others may be able to take up the subject or follow the ground gone over and thus be able to verify or disprove the statements made herewith. At the same time an attempt will be made to offer a process for the separation of an acrid (?) principle which exists in the root.

In the work during the year the various preparations of the drug were used as starting points, viz., the chloroformic extract, the extract and the fluid extract. It is unnecessary to take up each one of these divisions in detail and refer to the many failures and the causes of them. Reference will be made to such parts of the work as yielded results, which I desire to record for the benefit of those who will at a future time wish to verify it.

Coloring Matter.—A point worthy of note has been hinted at in a former paper, namely, that the root at a certain time in the late fall seems charged with a coloring matter almost entirely absent at other seasons. On going over this part of the work again this year, I found that the October root was of a much higher color and contained this peculiar coloring principle, which was entirely absent in the root collected in September. This coloring principle was obtained nearly pure by dissolving it from the chloroformic extract with alkaline water and precipitating it from the alkaline solution with an acid. It is very sensitive to acids and alkalies; with the former yellow and with the latter a deep red color is produced.

Acrid (?) Principle.—One ounce of the extract was mixed with clean white sand and dried in an oven at a temperature of 65° C. and powdered. This powdered extract was very hygroscopic, taking up water and becoming caked together when allowed to stand in the air but a short time. The powdered extract was placed in a continuous extraction apparatus and extracted with chloroform for ten hours. The chloroformic extract was nearly colorless. The heat used in the manufacture of the extract seemed to have rendered most of the coloring matter insoluble in chloroform. There was, however, a small amount in solution which became visible upon concentration, and on complete evaporation a yellow mass of pasty consistence remained, having an acrid (?) and very bitter taste. The residue was dissolved in water and one-third of the yellow solution placed in a vacuum desiccator and allowed to evaporate. This gave no crystals, but the residue was highly colored and had an odor resembling caramel. This was again dissolved in water and shaken with absolute ether. The ether was then drawn off, and on evaporation left a residue which was not crystalline, but had an intensely sharp acrid (?) taste—not bitter.

Taraxacin.—Four ounces of a fluid extract, prepared by repercolation, was diluted with an equal bulk of water and a dilute solution of subacetate of lead added until no further precipitation was produced. The precipitate was mixed with water and hydrogen sulphide passed through the mixture, until the lead was all deposited in the form of sulphide. The mixture was then filtered and the filtrate evaporated to dryness on a water-bath. The residue showed no signs of bitterness, making it evident that the bitter principle had not been precipitated by the subacetate of lead.

The first filtrate from the precipitate formed by the subacetate of lead was freed from lead by passing hydrogen sulphide through the solution and filtering out the lead sulphide formed. The filtrate was then evaporated to dryness, leaving behind a yellow pasty mass of intensely bitter and acrid taste. The

mass was mixed with sand and dried in an oven at 55° C. for three days, but the residue did not dry sufficiently to be powdered. It was divided into small particles and macerated in chloroform. The chloroformic extract on being evaporated left a large crop of crystals nearly free from foreign matter. The residue was very bitter.

This bitter residue gave glucosidal reactions, but when the drug was treated by the lime process for the separation of glucosides, viz., the powdered drug mixed with freshly prepared milk of lime and evaporated to dryness on a water-bath, and the residue extracted with alcohol, no evidence of the bitter principle could be found in the residue after evaporating the alcohol.

Of the processes employed for separating the taraxacin, thus far the one in which the solution, after precipitation with subacetate of lead is used, is by far the most satisfactory, but in any of the processes it is necessary to use a large amount of the drug, as the principle exists in the root in very small quantities—about 0.05 per cent.

It was found during the investigation that the acrid (?) principle existing in the root could be separated from the bitter principle by shaking an aqueous solution of the chloroformic extract of the extract with absolute ether, drawing off the ether and allowing it to evaporate, when a yellowish mass having a very sharp acrid taste remained. This residue dissolved in water and was acid to litmus paper. The relative amount of this acrid (?) principle contained in the drug was not determined, but the percentage is very small.

It is now thought that a plan has been mapped out by which future investigators, using large quantities of the drug, will be able to completely isolate the bitter principle or "taraxacin" from taraxacum root, and by combustion determine its ultimate composition. Fifty pounds of the drug have been extracted with chloroform, and during the next winter it is hoped this work will be fully accomplished.

ASSAY OF WILD CHERRY BARK.

By A. B. Stevens, Ph. C., and J. N. Judy, Ph. C.

Query No. 1.—Is the thin, green wild cherry bark really more valuable therapeutically than the older and thicker bark? Make comparative assays.

The therapeutic value of the bark depends upon the amount of the active principles within the bark. This principle is a glucoside, identical with or closely allied to amygdalin. Therefore the query can be answered only by a comparison of the results obtained by the assays requested.

The thick bark occurs in the market in slightly curved or arched pieces of various sizes, the length being about 25 to 80 mm., and the breadth 13.5 to 50 mm. The thickness of the pieces which consist entirely (or nearly so) of the inner bark is about 3.15 to 4.16 mm. In cases where the outer portion of the bark is attached it is nearly or quite 6 mm. thick.

The thin bark has the principal characteristics of the thick bark, such as odor, fracture and color, which may vary somewhat, also differing in thickness, being about 2 to 2.8 mm. thick. It is also found in the market in somewhat smaller fragments than the thick bark.

Both the thick and thin barks vary in color and other external characteristics according to the size of the pieces, and the presence or absence of the periderm, etc. When the periderm is attached, the pieces are of rougher character, and in such parts of the bark the color is redder, and somewhat spotted at intervals with irregular grayish silver-white or brownish patches. Some of the smaller pieces, particularly the thin bark, present a uniform reddish-yellow appearance and is nearly smooth externally. Internally the bark has a deep yellowish or reddish-brown color, the color of the thick bark being the more intense. On the inner surface of the bark occasional portions of wood are found. The longitudinal fracture is close and presents a rough surface of a yellowish-gray color interspersed with reddish spots and stripes. The transverse fracture is close, somewhat rough and fibrous, and of a redder hue than the longitudinal. The texture of the bark is somewhat spongy, particularly the inner layers.

Carefully selected samples of each variety were obtained and the wood and outside rough portions removed, after which the bark was ground into fine powder and each sample placed in a glass-stoppered bottle.

The method of estimation was based upon the conversion of the glucoside into hydrocyanic acid and a volatile oil; second, upon the distillation of the hydrocyanic acid to separate it from the bark; and, third, upon the estimation of the hydrocyanic acid. Two methods were used. The details of the operations are as follows:

First Method.—Ten gm. of the drug were placed in a small flask, about 100 cc. of water were added, corked tightly, macerated for 12 hours, and connected with a large condenser. A moderate heat was then applied and the distillate conducted into a solution of potassium hydroxide, the distillation being continued almost to dryness. About 150 cc. more of the distilled water were added through a glass-stoppered thistle tube, and distillation continued as before. This operation was repeated not less than four times to secure the absolute removal of all the hydrocyanic acid from the drug, after which the condenser was thoroughly rinsed to remove any adhering hydrocyanic acid. The amount of acid was then estimated volumetrically, by titrating the slightly alkaline solution of potassium cyanide with decinormal silver nitrate solution.

The second method of estimation was as follows: The drug was macerated and distillation continued as in the first method, but this time the distillate was conducted into a solution of silver nitrate. An insoluble silver cyanide was formed. The precipitate was allowed to settle, the supernatant liquid decanted through small counterpoised filters, the precipitate transferred to the filter, washed, dried and weighed.

The glucoside was estimated without decomposition, as follows:

Five gm. of the drug were placed in a Soxhlet's apparatus, extracted with absolute alcohol for six hours, and the alcoholic extract evaporated to a syrupy consistence. An excess of ether was added, precipitating all the glucoside, together with some coloring matter and resin. The precipitate was washed with ether, on the filter, and treated for a short time with 100 cc. of boiling distilled water. The solution was allowed to cool. The glucoside in solution was filtered, the filter washed with a little hot water, and the washings and filtrate mixed. The solution was evaporated to dryness in a weighed porcelain dish, and again weighed; the increase in weight represented the glucoside.

In order to test the accuracy of the above method, and to ascertain the number of distillations necessary to obtain all of the acid, the distillates were collected separately, and the acid in each estimated, with the following results:

First distillate, 17.15 per cent. of hydrocyanic acid; second distillate, 11.2 per cent.; third distillate, 5.25 per cent.; fourth distillate, 1.05 per cent.; fifth distillate, none.

To verify the above a number of experiments were made by adding a known quantity of hydrocyanic acid to previously exhausted bark and to other drugs like cinnamon. These were subjected to distillation under exactly the same conditions as in the preceding case, with the following results:

First distillate, 56 per cent. of total acid added; second distillate, 32 per cent.; third distillate, 8 per cent.; fourth distillate, 2.8 per cent.; fifth distillate, none.

In no case could all of the hydrocyanic acid which was mixed with the powder be recovered. The loss was about 1 per cent.

ASSAY OF BARK.—Average results of several estimations upon each sample of the bark:

Thick Bark.

First method, No. 1, 0.35 per cent. of hydrocyanic acid; No. 2, 0.345 per cent.; No. 3, 0.34 per cent.; No. 4, 0.323 per cent.; No. 5, 0.348 per cent. Second method, No. 1, 0.319 per cent.; No. 2, 0.323 per cent.

Thin Bark.

First method, No. 1, 0.24 per cent. of hydrocyanic acid; No. 2, 0.264 per cent.; No. 3, 0.27 per cent.; No. 4, 0.268 per cent. Second method, No. 1, 0.229 per cent.; No. 2, 0.238 per cent.

Yield of amygdalin (or allied substance). Thick bark, average 4.12 per cent. Thin bark, average 3.16 per cent.

Of the two methods given for the estimation of the acid the first is the more accurate and satisfactory. Much care is required in manipulating the precipitate of silver cyanide in the second.

The yield of hydrocyanic acid as above stated is more than twice that previously reported. J. S. Perot (Am. Jour. Ph., Vol. XXIV., 1852, p. 111) found from

0.0478 to 0.1436 per cent. We believe that the result is due to the improved method of estimation, as numerous experiments proved that only about half of the acid was obtained during the first distillation.

The above results appear to furnish to the query a negative answer.

Ann Arbor, Mich., June 15, 1895.

WHAT IS THE PURE ACONITINE OF COMMERCE?

By Alfred R. L. Dohme.

As the result of some experiments made some time since on the value of titration with volumetric acid solution as a means of assaying alkaloidal drugs and galenical preparations, a titration of the various well-known pure alkaloids was made in order to substantiate the theory that each cubic centimeter of decinormal acid used in the titration represented so much (a quantity equal to its molecular weight) of each of these alkaloids.* Whereas this work substantiated the theory beautifully, it led to the conclusion that one at least of the alkaloids examined was either not pure or at least very prone to decomposition. This alkaloid was aconitine. As mentioned in that article, it was decided to examine more carefully the aconitines of the market and endeavor to detect if they were or were not pure substances. All the available makes of this market were procured and examined, and the results will follow below. Dr. Martin Freund, of the University of Berlin, who is now engaged in unraveling the mystery of the constitution of aconitine, and is hence perhaps the best-posted man on the subject, was appealed to, and his reply intimated the possibility of a decomposition during the process of titration due to the combined action of heat and dilute acid on the alkaloid. This was not the case, however, as heat was not applied during the process of titration in case of aconitine, and in all the experiments tabulated below no heat was applied. Before discussing the results let us inquire as to what aconitine is liable to contain as contaminations. Aconite root contains the following alkaloids combined with aconitic acid:

$$\begin{array}{l} CH_2{-}COOH \\ | \\ CH{-}COOH \\ \| \\ CH.COOH \end{array}$$

Aconitic Acid

Aconitine—$C_{34}H_{47}NO_{11}$—rhombic tables, insoluble in water, melting point 197--198° C.

Apoaconitine — $C_{34}H_{45}NO_{10}$ — crystalline—melting point 185--186° C.

Aconine — $C_{28}H_{41}NO_9$ — amorphous — melting point 130° C.

Picroaconitine and picroaconine are the same, respectively, as aconitine and aconine.

Pseudaconitine — needles—$C_{36}H_{49}NO_{12} + H_2O$—melting point 104--105° C.

Pseudaconine—amorphous—$C_{27}H_{41}NO_9$ —soluble in water—melting point unknown.

Aconitine and pseudaconitine are different, because the former yields on saponification benzoic acid and aconine, while the latter yields on saponification veratric acid (dimethyl-protocatechuic acid) and pseudaconine. . Aconine, apoaconine and pseudaconine are decomposition products of the corresponding aconitines. This chapter is, however, quite dark yet and statements conflict very much, so that, as in the case of ergot, every new investigator finds a new alkaloid in the drug and gives it a new name. When Dr. Freund gets finished with this drug it is probable that we will know something definite about it. In order to be able to report upon the aconitines of the market a sample of each was procured in an original package, including the products of Messrs. Rosengarten & Sons, Powers & Weightman, Mallinckrodt Chemical Works, Merck, C. F. Boehringer & Soehne and Duquesnel, of France. The color of these products varied from a pure white to a dark cream color, and in consistency from a flaky amorphous to a granular crystalline. They were tested as to their melting points with the following results:

I.,* melting point, 105--107° C.; II., melting point, 180° C.; III., melting point, 91--109° C.; IV., melting point, 83--97° C.; V., melting point, 183--184° C.; VI., melting point, 195° C.

I., II., V. and VI. are hence probably made up of one substance, but III. and IV. are unquestionably a mixture of several substances. They were then titrated with decinormal sulphuric acid, 1 cc. of this being regarded as representing 0.0645 gm. of aconitine according to the formula for aconitine established by Dr. Freund, which is $C_{34}H_{47}NO_{11} = 645$. If these products were pure aconitine they should have yielded the same amount of this alkaloid as was weighed off and taken to be titrated. In no case was this found to be true, but instead the following observations were made:

I. yielded 10.06 per cent. more aconitine than was weighed off; II., 10.7 per cent.; III., 11.4 per cent.; IV., 11.3 per cent.; V., 11.8 per cent.; VI., 11.4 per cent.

This indicates that in all the products there is contained some substance whose molecular weight is less than that of aconitine, and is probably hence a decomposition product of aconitine. The remaining alkaloids of aconite root are too little known to enable one to devise a reliable method of determining them or the aconitine, and as they may all be contained in the sample under examination, and may accompany the aconitine present throughout all its decompositions and changes, all methods of assay can at best be approximations until we do know more about them. Assuming that aconitine, i. e., acetyl-benzoyl-aconine, alone of all the aconite alkaloids is saponified into aconine, benzoic acid and acetic acid by alkalies, an attempt was made to saponify all the samples under examination by means of alcoholic potash, and then collect the benzoic acid upon a weighed filter. For each molecule of benzoic acid formed one molecule of aconitine is to be regarded as present, the calculation being—

Molecular weight benzoic acid (122): molecular weight aconitine (645):: weight in grams of acid found: weight in grams of pure aconitine present.

Knowing the amount of aconitine originally taken for assay, the percentage of pure aconitine can be determined. Thus in case of our products:

I. Aconitine taken—0.519 gm. and benzoic acid found—0.60 gm., equivalent to 61.1 per cent. pure aconitine.

II. Aconitine taken—0.791 gm. and benzoic acid found—0.095 gm., equivalent to 63.5 per cent. pure aconitine.

III. Aconitine taken—0.4365 gm. and benzoic acid found—0.063 gm., equivalent to 76 per cent. aconitine.

IV. Aconitine taken—0.398 gm. and benzoic acid found—0.058 gm., equivalent to 77 per cent. aconitine.

V. Aconitine taken—0.4135 gm. and benzoic acid found—0.068 gm., equivalent to 87 per cent. pure aconitine.

VI. Aconitine taken—0.5680 gm. and benzoic acid found—0.083 gm., equivalent to 77.2 per cent. pure aconitine.

It has been averred by a recent investigator of aconitine that the benzoic acid obtained as a result of the saponification of the aconitine is derived from an intermediate product, benz-aconine, between aconitine and aconine, and that the acetic acid is derived from the crystallized aconitine, thus making the determination of the acetic acid a means of assaying the drug. Let me ask him—may not other alkaloids of aconite root besides either aconitine or benz-aconine be present that might yield acetic acid, and thus be counted as aconitine? At any rate, a standardized solution of alcoholic potash was freshly made and used for the saponification experiments, it being supposed that this would neutralize and hence determine both acids combined, and then by subtracting the weight of benzoic acid actually weighed, as given above, the amount of acetic acid would be determined. This is correct in theory, but does not work in practice, which may be due to certain additional alkaloids present as impurities or to a more deep-seated change in the molecule due to the action of the potassium hydroxide. The results:

1. Aconitine taken 0.519 gm.; added 15 cc. alcoholic potash (10 cc. of which represent 20.4 cc. decinormal sulphuric acid); diluted with alcohol. There were required 22.41 cc. decinormal sulphuric acid to neutralize the excess of alkali. These 22.41 cc. = 11.98 cc. potash solution. Hence 15 — 11.98 = 4.02 cc. potash solution were used to saponify the aconitine taken. These 4.02 cc. potash solutions represent 0.04796 gm. KOH. The benzoic acid formed during the saponification was filtered off and weighed and found to weigh 0.060 gm., and required for saponification 0.0273 gm. KOH. Hence for saponification of the acetic acid are required 0.04796 — 0.0273

* New England Druggist, January, 1895.

* These numbers have no special reference to the order in which the products are enumerated.

gm. = 0.02066 gm. KOH, equivalent to $\frac{645 \text{ (molecular weight aconitine)} \times 0.02066}{56 \text{ (molecular weight KOH)}}$ = 0.238 gm. pure aconitine;

whence 0.519 gm. : 0.238 gm. = 100 : x and x = 40.3 per cent. pure aconitine.

II. Took 0.791 gm. aconitine, and by similar process to above found 76.3 per cent. pure aconitine.

III. Took 0.4365 gm. aconitine, and by similar process to above found 139.8 per cent. pure aconitine.

IV. Took 0.398 gm. aconitine, and by similar process to above found 41.3 per cent. pure aconitine.

V. Took 0.4135 gm. aconitine, and by similar process to above found 144.6 per cent. pure aconitine.

VI. Took 0.5680 gm. aconitine, and by similar process to above found 143.8 per cent. pure aconitine.

These results, deduced from the amount of acetic acid neutralized by the standardized alcoholic potash solution just given, show conclusively that this is not a reliable method of assay, for every sample examined was tested and found not to react acid to litmus, thus precluding the possibility of there being any free acid present to neutralize any of the potash and increase the percentage of acetic acid, i. e., of aconitine present. The benzoic acid method also is unreliable, as it is not probable that sample IV., which melts at 83°--97° C. (while pure aconitine crystals melt at 197°--198° C.) should contain as much as 77 per cent. of pure aconitine, and besides benzoic acid being volatile, some of it may escape by sublimation while being dried. From the results obtained the following conclusions may be drawn:

I. That none of the aconitines of the market examined are pure aconitine of melting point 197°--198° C. (Freund).

II. That no two of them are the same.

III. That no two can be regarded as sufficiently alike to enable a physician prescribing them to expect the same results from the same prescription compounded at different pharmacies, or at any rate of aconitines of different makes.

IV. That in no case can the physician expect to get the therapeutic effects of pure aconitine.

V. That sample 1 probably contains pseudaconitine principally; that sample 2 probably contains apoaconitine principally; that sample 3 probably contains apoaconitine and some aconitine; that sample 4 probably contains either a different substance from any above enumerated as existing in aconite root, or a decided mixture of substances that would much depress the melting point of any aconitine were it present; that sample 5 probably contains fairly pure apoaconitine; that sample 6 is purer probably than the others, but is nevertheless impure to a slight degree, as it is cream-colored and should be white, and although it melts close to the melting point of pure aconitine, still yields the same results on titration as the others do.

VI. That until we know more about the remaining alkaloids and constituents of aconite root, no reliable method of assay of the root or the active principle aconitine can be devised, and that neither of the methods above tried is to be considered as reliable.

VII. That if aconitine is to be considered an official chemical by the U. S. P., some effort should be made to so establish its identity that a physician may get the effects of aconitine when he prescribes the same, and always get the same effects whenever he prescribes it.

Baltimore, July 11, 1895.

THE CONTINENTAL METHOD OF EMULSIFICATION APPLIED TO EVERY-DAY DISPENSING.*

By Walter T. Taylor.

By way of introduction I will say that it is to be deplored that more attention is not given to this method of emulsification, which, my experience teaches me, is the very ideal method. Time consumed in dispensing is certainly a question of much moment; in the saving of this, the Continental method will accomplish much. No matter what the substance is that is to be emulsified or suspended, it can be more quickly accomplished and with more uniformly better results than by the generally practiced English method.

In the preparation of the compound emulsions, no apprehension need be felt of spoiling an emulsion once formed. In the event of its homogeneity being destroyed by the addition of other substances, it can be (I might say invariably) reclaimed, as I will endeavor to show by a recital of some experiments touching this point.

As to the method itself, these are the essentials:

1. Finely dusted (powdered) gum arabic. The granulated will not do.

2. A Wedgewood mortar with large flat-bottomed pestle, preferably a No. 5 for emulsions of 8 ounces or under, even as low as ½ ounce.

Place in the dry mortar the powdered gum arabic; triturate to break up all agglutinated masses; add the oil or other liquid, and mix well; then add at once water to the extent of twice the amount of gum, and triturate until emulsion is complete.

For the fixed and volatile oils (and in the case of volatile oils the intervention of a fixed oil is neither necessary nor desirable) the proportions giving best results are: Oil or other liquid, 4 parts; powdered gum arabic, 1 part; water, 2 parts.

It must not be understood that emulsification cannot be accomplished unless these proportions are strictly adhered to. For instance, one drop of oil of turpentine can be just as completely emulsified after triturating it with 4 or 8 drams of gum arabic if water is added in the above proportions. On the other hand, the more viscid of the fixed oils—for instance, castor oil—do not require as much. Eight parts of the latter can be completely emulsified with 1½ parts of gum; in fact, with strictly prime No. 1 gum, 1 part could do the work. Again, any amount from 1½ to 2½ parts of water to 1 of gum may be added; the only precaution necessary is to add at once. The proportions given are easily remembered and will never fail.

For oleo-resins, chloroform, terebene, creosote and such other organic substances, the proportions found to be best are: Liquid to be emulsified, 4 parts; powdered gum arabic, 2 parts; water, 4 parts. Where the prescription will permit, a larger proportion of gum would be advisable, especially when, as is generally the case, these emulsions are very dilute.

Creosote carbonate can be completely emulsified in the above proportions, but as it tends to be decomposed, the intervention or 1 or 2 parts of a bland fixed oil is desirable, as follows: Creosote carbonate, 1 part; oil of sweet almond, 2 parts; powdered gum arabic, 1 part; water, 2 parts. Dissolve the creosote carbonate in the oil, and proceed as before.

Two parts of gum to 8 are sufficient.

Salol and camphor in combination may be readily emulsified by first rubbing 1 part of each together in a mortar until completely liquefied, adding 1 part of gum, and proceeding as above.

Salol itself may be likewise emulsified by heating to the melting-point (107° to 110° F.) on a water-bath, and proceeding with proportions as for salol and camphor, using a mortar and pestle which have been heated, also slightly warm water. The emulsion of virgin wax used by some prescribers years ago is readily prepared in the same manner.

The resin contained in resin-bearing tinctures, myrrh, asafœtida, etc., can be emulsified with these proportions, and it will bear the addition of large volumes of water, etc., without precipitation, even after standing a considerable length of time. Such large quantities of gum are necessary, not for the suspension of the resin itself, so much as to allow the addition of a volume of water equal to the volume of alcohol contained in the tincture, thus overcoming the tendency to precipitate the gum.

Alcoholic solutions of camphor, menthol, etc., may be treated successfully in the same manner.

I have not attempted to give working formulas for the finished emulsions. Syrup and flavoring may be added as desired; in the case of essential oils for the latter purpose, it is advisable to mix them with the other substances before emulsifying.

Outside of the field of emulsion I would call attention to the application of this process to the suspension of insoluble substances (bismuth, etc.) in mixture. No matter what the proportion of gum to other substance, if the underlying principle of this method be used, it will give better results than other processes.

A summing up of the points in favor of the Continental method shows:

1. That it gives more uniform and better results.

2. It has a wider range of adaptability.

3. It saves time.

4. It calls for the exercise of less skill.

* Read at the last meeting of the Louisiana Pharmaceutical Association.

PHARMACY.

A NOVELTY.—Any one in search of a real novelty for the approaching season would do well to consider the following, which has been patented by Mr. S. H. Sheldrake, of Gipsey Hill, Surrey. He proposes to increase the nourishing properties of ale and stout, and of course of their non-intoxicating imitations, by introducing into the liquor during the course of manufacture calves' heads or feet, bullocks' heads, shins of beef, etc., and a small quantity of quinine. As fancy titles the following may commend themselves: "Shin ale," "Calves'-feet beer," "Bullock's head stout." More æsthetic names would be "Shin-ade," "Bullockine," "Calva," "Feetawater," and so forth. The last named, however, has to a morbid mind perhaps an unpleasant ring. (M. W. Trade Review.)

ARMY PHARMACISTS IN ITALY.—By a royal decree, dated March 31, the rank of pharmacists in the Italian army has been defined in such a way as to insure the proper privileges and promotions to the officials. The ranks to which the various grades will correspond are the following: Pharmaceutical inspector, lieuenant-colonel; pharmaceutical director, major; chief pharmacist, first class, major; chief pharmacist, second class, captain; pharmacist, first class, captain; pharmacist, second class, lieutenant; pharmacist, third class, sub-lieutenant. According to the Bollettino Chim. Farm. (Br. & Col. Dr.), there are at present in the Italian army 41 pharmacists of the rank of sub-lieutenant, 30 of the rank of lieutenant, 27 of captain, 7 of major and 2 who rank as lieutenant-colonels.

DATES AS A RAW MATERIAL FOR SPIRIT MANUFACTURE.—(Zeits. für Spiritusind, Jr. Soc. Chem Ind.)—Mesopotamian dry dates are, according to Lebuy, worthy of consideration as a raw material for the manufacture of spirit. According to his analysis, they have the following mean composition: One hundred parts by weight consist of 85.1 parts of pulp and 14.9 of kernel. The pulp consists of cane sugar, 0 per cent.; dextrose, 66.07; starch, 1.28; nitrogenous bodies, 2.97; fat, 1.03; gummy bodies, 4.26; cellulose, 4.97; mineral salts, 1.96, and water, 17.46 per cent. According to this analysis 100 kilos would yield 37–38 liters of 90° alcohol. Lindet, in commenting on this analysis, says that though these Mesopotamian dates contain no cane sugar, yet he has found in the flesh of Tunis dates 23 per cent. of dextrose along with 38 per cent. of cane sugar.

ENGLISH AS SHE IS WROTE IN JAPAN.—The Daily Chronicle says that the following advertisement of a tooth paste was widely circulated in English ships in Japan: "In the East there was no good sanitary tooth paste that was sure to cure and safe to use, so our company resolved to prepare a good natured paste and successed. The efficiencies of this paste are as following: Firstly, to strengthen and preserve the nature of the tooth; secondly, to tight the tooth with thingams; thirdly, to defend a hemonhage arisen by frictrir; fourthly, to take away the offensive smell of the mouth; fifthly, to difend the putrifaction of tooth and so prevent the carious one. Any one who uses this paste will certainly discover that it is avery worndrful and valuable nature, by this practice. To use this paste it is necessary to vinse the mouth with walir aftr sabling the tooth carefully by the tooth brash." (Br. & Col. Dr.)

PICTET'S GAS.—M. Pictet having observed that an addition of carbonic acid to sulphurous acid seemed to materially increase its powers of disinfection, requested Professor d'Arsonval to investigate the value of this admixture and report thereon. (Ph. Jr.) M. d'Arsonval has communicated to the Société de Biologie the results of his experiments. He finds that CO_2 and SO_2 in the proportion of four of the former to six of the latter combine chemically to form a gas (which he calls Pictet's gas) possessing marked antiseptic properties and extraordinary powers of diffusion. Thus, cultures of typhoid and cholera were placed on rags between the leaves of a book which was enveloped in cloth and exposed to the influence of the gas. In the space of an hour the germs were found to be entirely destroyed. Pictet's gas had also been fatal to microbes, which were still living after their treatment with sulphurous acid.

ELECTROLYTIC CHLORATE.—In Le Moniteur des Produits Chimiques M. Desire Korda gives a sketch of the application of electricity to chemical manufacturing processes, referring particularly to the manufacture in Sweden and Switzerland of chlorate of potash, which, so far, is the only important alkali product made by electrolysis. M. Korda thinks that it is only a question of a few years before the entire alkali industry will be revolutionized. The United States, he believes, will then become the leading manufacturers of chemicals; while in Europe the industry will have its chief centers in Switzerland, Southern France and Sweden—the countries where powerful and cheap water power is in close proximity to large consuming markets. The Swiss chlorate of potash factory has been at work for nearly five years, the motive power being a waterfall 70 meters high. As yet, of the total yearly European output of about 8,000 tons of chlorate of potash, over 5,000 tons are contributed by the United Alkali Co. The electrolytic process in use in Switzerland is based upon Gall and Montlaur's process, in which concentrated solution of chloride of potash is decomposed in a double vat, divided by a diaphragm, but so connected to insure regular changing of the liquid from the negative to the positive compartments. The electrolized solution is heated to from 45° to 55° C., thus changing hypochlorite into chlorate. The cathode is of iron or nickel, the anode of platinum or of iridio-platinum. The current is equal to 50 amperes per square decimeter of electrode.

CREOSOTAL OR CREOSOTE CARBONATE taken internally becomes decomposed in the presence of the intestinal juices. The gastric juice has no effect on it. Carbonic acid and creosote are set free; but this disassociation takes place very slowly, which explains its non-irritating effect on the gastro-intestinal tube. Absorption also occurs slowly and continuously. This slow decomposition and absorption take place throughout the entire length of the small intestine; whence follow the following very great advantages: 1. The intestine is not overburdened or irritated. 2. Creosote in a nascent state is spread over the entire mucosa. Being one of the most powerful antiseptics that we possess, intestinal antisepsis is effected and gastro-intestinal troubles associated with decomposition are remedied. Creosote is eliminated by the lungs and the kidneys. This is indicated as regards the lungs by the characteristic odor of the breath. The urine frequently has the same smell, and chemical analysis shows it to be present in the form of sulphur combinations. The dose of creosote carbonate in bronchial or general pulmonary diseases varies with the age of the patient and the severity of the disease. For children 15 to 90 grains daily, in divided doses, is proper. Adults can take from 1 to 4 drams daily, in divided doses, or more. These are not maximum doses; they may be still further increased without hesitation. Creosote carbonate is best administered pure; but it may be given in capsules, or mixed with 4 to 12 parts cod liver oil, or as an emulsion of ½ to 2 teaspoonfuls beaten up with the yolk of an egg, diluted with water, sweetened and some aromatic added, and administered in several doses.

SIMPLE METHOD OF DETECTING "POIVRETTE" IN GROUND PEPPER.—D. Martelli. (Staz. Sper. Ag. Ital., Analyst.)—Several methods other than microscopical ones have been proposed for the detection of "poivrette" (ground olive stones). Thus, Gillet (Bull. Soc. Chim.) used tincture of iodine (6.5 gm. 1 in 120 cc. 90 per cent. alcohol), which colored pepper brown or dark chestnut, while olive-stones became bright yellow. Chevreau (Rep. Pharm.) does not consider this reliable and employs a mixture of 1 part aniline with 3 parts acetic acid, which colors "poivrette" a light yellow. Jumeau (Journ. Pharm. Chim.) used a mixture of 5 gm. iodine in 100 cc. of a mixture of alcohol and ether, the colors produced being the same as with Gillet's test. Pabst (La Pratique des Essais Commerciaux-Matiéres Organique, Halphen) tests by adding a little of a solution of dimethyl-paraphenylene-diamine; after a short time the ligneous particles foreign to pepper become carmine-red, while pepper at most is superficially tinged pink.

The author proposes the following test: Digest for two or three days 1 gm. of phloroglucol in 50 or 60 cc. of hydrochloric acid sp. gr. 1.1, and decant the clear solution. To about one-half gm. of the sample of pepper add enough of the reagent to cover it, and heat cautiously till fumes of hydrochloric acid begin to come off. "Poivrette" and like substances (e. g., ground-up shells of almonds, walnuts, nuts, etc.) give a very intense cherry-red color, which is sharply distinguishable by the naked eye from the yellow or faintly red-brown color of the pepper. On adding to the mass a little water and decanting the liquid a violet-red powder is left, which consists almost entirely of "poivrette," etc., stained by the reagent. (Analyst.)

B-DIGITOXIN. — Purified digitalin, prepared in the manner described in Arch. d. Phar. by H. Kiliani in a previous paper, is distinguishable from all other digitalis products met with in trade, inasmuch as it is, according to the experiments of Prof. Boehm, the only one which produces the typical action on the heart without having any deleterious accessory effects. (Ph. Jr.) Notwithstanding that great advantage, purified digitalin has not hitherto been very widely adopted in medical practice, because statements have repeatedly been made, on the basis of clinical observation, to the effect that digitalin has failed to produce the same beneficial results as the infusion of digitalis. Prof. Boehm has on this account been led to conjecture that the leaves of foxglove may contain another kind of heart poison, and he therefore induced Prof. Kiliani to make further investigation of the constituents of the leaves with the object of elucidating this point. The investigations, conducted by them conjointly, have led to several astonishing conclusions, and in the first place to establishing the very important result that the mixture of glucosides obtained from the leaves is altogether different from that obtained from the seed. Digitonin, which is present in such large proportion in the product from foxglove seed, has not hitherto been detected at all in the leaves, neither have the leaves been found to contain the substance described in a previous paper as digitalinum verum. On the other hand, however, the mixture of glucosides obtainable from the seed in the usual manner does not contain any digitoxin. For the present the results described relate only to the preparation and characters of a heart poison, which is neither identical with nor closely related to Schmiedeberg's digitoxin. The substance was obtained in a crystalline state to the extent of about 0.1 per cent., and it was to be found to be a glucoside, though in other respects it resembles Schmiedeberg's digitoxin so closely that Kiliani proposes to name it for the present *B*-digitoxin. He has ascertained that digitoxin prepared according to Schmiedeberg's method also yields sugar when treated with acids, so that it may turn out to be identical with the substance now obtained by Kiliani.

NEW REMEDIES AND CHEMICALS.

PARADIPHENOL.—Synonym of hydroquinon.

SULFINIDUM ABSOLUTUM.—Pure, 100 per cent. of absolute saccharin, or saccharin freed from para acids.

ALPHANIZON.—A paste for removing spots, introduced by Falk, of Vienna. It consists chiefly of alcohol and nitrobenzol.

ANTINOSIN.—Name given to the sodium salt of nosophen (tetraiod-phenolphthalein). Soluble in water, producing a blue color.

CUPRATIN.—A copper-albumen combination similar to ferratin, prepared by Filehne, and described by him in the Deutsche Med. Wochenschr.

CHLOROBROM.—A mixture of equal parts of chloralimide and potassium bromide. Used as a hypnotic, especially in the treatment of the insane.

PANGADUINE.—Name proposed for the collective alkaloids of cod liver oil. A crystalline solid, soluble in alcohol and in a mixture of water and glycerin.

DERMATIN.—A new skin-protecting preparation used in dermatology, and consisting of from 5 to 7 parts of salicylic acid, 7 to 15 parts of starch, 25 to 50 parts of talc, 30 to 60 parts of silicic acid, and 3 to 9 parts of kaolin, according to the strength desired.

LAIFAN.—A Chinese remedy against neuralgia. It is, according to the Ph. Post, a crude borneol containing water, probably identical with Ngai camphor described by Flückiger, and obtained from Blumea balsamifera. It comes into commerce in the shape of a thick paste, showing numerous crystals, put up in earthen pots containing about 6 ounces.

ARGONIN.—Name given by Liebrecht, in an article in the Ther. Monatsh., to a new combination of silver with casein and an alkali. It is prepared by adding a solution of silver nitrate to one casein in any alkali, and precipitating by alcohol. The precipitate, after drying, presents the argonin in the shape of a fine white powder. It is thought to have a future as a bactericide, etc.

POLYSTICHIC ACID.—An acid recently extracted by Poulsen, of Copenhagen, from a fern, Polystichum spinulsum. Assays of the other ferns have not, thus far, found the substance. It appears as yellow, needle-like crystals, melting at 123° C., and having the formula $C_{22}H_{24}O_9$. Its physiological properties, etc., have not yet been determined.

LUTEOL.—A quinoxalin derivative, introduced by W. Antenrieth. It is oxychlordiphenyl-quinoxalin, crystallized out of alcohol, and appearing as fine woolly, yellowish needles, which melt at 246° C. Luteol is soluble in ether, slightly so in alcohol, and insoluble in water. Used as a reagent and indicator in alcoholic solutions, being more delicate in certain directions than litmus or phenol-phthalein.

(Collected by Nat. Drug.)

WANTED, A SALESMAN.

Manufacturers and jobbers when in need of good salesmen will find that a "Want Ad." in the Era will bring them many good replies. There are plenty of bright, active and capable drug clerks seeking such positions, and thousands of drug clerks are constant readers of the Era "Want Ads."

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Queries.

This department is not conducted for the benefit of anonymous correspondents and non-subscribers. A. B. C., G. W. W., C. W. L., Pharmacist and C. C. P. will understand why their queries remain unanswered.

Formulas Wanted.

(W. M. G.) wants formulas for "Burnashine" and "Solarine."

Spirits Thymol Compound.

(A. R.) See reply to query No. 5,682, Nov. 1, 1893, Era, p. 408.

Elixir Pepsin with Lactic Acid.

(E. E. S.) See answer to a similar query in April 11, 1895, Era, p. 463.

Compound Syrup of Hypophosphites (N. F.)

(Subscriber.) See reply to a similar query in March 28, 1895, Era, p. 399. Also formula, April 11, 1895, Era, p. 461.

To Remove Chocolate Stains from Table Linen.

(B. F. C.) No special process can be given. Try washing with warm soapsuds and lye to remove the grease and if necessary treat the stain afterward with chlorine or javelle water.

Liquid Roach Exterminator.

(E. E. S.) The Era Formulary gives this one:

Thymol	2 parts
Salicylic acid	2 parts
Alcohol	200 parts
Dissolve, and perfume the mixture with	
Oil of lemon	1 part

This preparation makes no stain and is said to kill roaches and vermin immediately. The odor is not unpleasant and is quickly removed by airing the room.

Compressed Tablets.

(A. A. A.) There is no one book containing exclusively formulas for the preparation of compressed tablets. The nearest you can come to it is to obtain the instructions and working directions from the manufacturer of the particular kind of machine you employ. In a general way this subject has been discussed in the Nov. 15, 1894, Era, pp. 446 and 447, and in the Aug. 1, 1895, Era, p. 143. We suggest also that you write to the manufacturer of your machine and inform him of your difficulty. He may be able to help you.

Cement for Iron and Rubber.

(G. H. I.) The Scientific American "Cyclopedia of Receipts" gives this: Powdered shellac is softened in ten times its weight of ammonia, whereby a transparent mass is obtained which becomes fluid after keeping some little time. In three of four weeks the mixture is perfectly liquid, and when applied, it will be found to soften rubber. As soon as the ammonia evaporates the rubber hardens

again—it is said, quite firmly—and thus becomes impervious both to gases and liquids. For cementing sheet rubber, or rubber material in any shape, to metal, glass and other smooth surfaces, the cement is highly recommended.

Roach Powder.

(H. A. S.)

1.) Borax ....10 ounces
Sugar .... 3 ounces
Cocoa powder.. .... ½ ounce

2.) Naphtalin ..... 2 parts
Powdered angelica root.200 parts
Melilot .. .. 50 parts
Oil of eucalyptus..... 5 parts

3.) Insect powder ..... 50 parts
Tartar emetic.. ..... 1 part

Mix and blow into the cracks in the floor with a powder blower. The sample powder you say you sent has not been received. For a liquid preparation, see elsewhere in this department.

Effervescing Bromide Compound.

(E. E. S.) We cannot give you the formulas for the proprietary preparations. Most of these compounds are constructed on the type of the effervescent bromide of potassium of the National Formulary, with such additions of caffeine, acetanilide or similar remedies as each manufacturer may elect. A typical preparation is the following:

Acetanilide ..... 8 grams
Tartaric acid .....35 grams
Sodium bicarbonate ...40 grams
Potassium bromide ....15 grams
Sugar .....30 grams

With the exception of acetanilide, this formula is almost identical with the National Formulary preparation referred to above.

To Keep Bread from Becoming Moldy.

(Subscriber.) See that it is well baked and then stored in a cool, well-ventilated place. An authority on the chemistry of foods cautions breadmakers against cooling loaves too rapidly after they have been taken from the oven. He says that much of the souring of bread is doubtless due to a lack of care in cooling. Owing to the high water content, and the large amount of nitrogenous substances and sugar which bread contains, it is, especially while warm, a good soil for the development of various kinds of molds and bacteria. A loaf of bread hot from the oven, taken into a poorly ventilated room filled with people, will become sour in the course of two or three hours.

Water Gas.

(Subscriber.) When steam is forced through retorts containing red-hot coke, charcoal or anthracite, there are produced hydrogen, carbonic oxide, carbonic dioxide and a small amount of light carbureted and of sulphureted hydrogen gases. The carbon dioxide and sulphureted hydrogen may be removed by lime, or lime and oxide of iron. The remaining gases, principally hydrogen and carbonic oxide, may be used for heating purposes, or they may be made available for illuminating purposes. These constitute "water gas." For illuminating purposes it is generally enriched with vapors of various hydrocarbons, as benzole, naphtha, acetylene, etc. Many hundred patents have been issued to inventors for making this kind of gas.

Cheap Essence of Peppermint.

(M. J. H.) Aside from the preparation made according to the regular pharmacopœial process, there are various other formulas which produce preparations which can hardly be called essences at all, their strength depending wholly upon the elasticity of the manufacturer's conscience. A preparation which can be largely diluted with water is made as follows:

Oil of peppermint..... 1 ounce
Alcohol ..... 2 ounces
Carbonate magnesia ...½ ounce
Water ..... 6 ounces

Mix the oil and magnesia intimately, put them in the filter, pour on the alcohol and afterward the water.

Formulas for soluble essences of ginger may be found in the April 18, 1895, Era, p. 491.

Toothache Gum.

(L. W.)

1.) Paraffin .. .. 94 grains
Burgundy pitch ....800 grains
Oil cloves,
Creosote, of each.... ½ fl. dr.

Melt the first two ingredients, and when nearly cool add the rest, stirring well. This may be made into small pills or sent out in form of small cones or cylinders.

2.) Chloral hydrate, powdered .... 5 grams
Opium, powdered..... 6 grams
Mastic, powdered.....10 grams
Venice turpentine .....24 grams
Beeswax .. ..60 grams

Melt the mastic, Venice turpentine and beeswax together, introduce the chloral and opium and stir until plastic. Roll out into rods or form into pellets.

Lituary Electutery.

(W. B. D.) wants to know what is meant by the above name, taken from a family recipe which was brought from England years ago.

We don't know, but we imagine it is a case of bad spelling and that some kind of an electuary is wanted, probably the old-fashioned "electuarium lenitivum" or electuary of senna, a formula for which appears in the Edinburgh Dispensatory, American edition of 1818, as follows:

Senna .....8 ounces
Coriander seeds .....4 ounces
Liquorice root, bruised.3 ounces
Figs,
Pulp of prunes,
Pulp of tamarinds, each ½ pound
Refined sugar .....2½ pounds

An electuary is a form of medicine composed of powders or other ingredients incorporated with honey, syrup or some conserve and made into the proper consistence. A number of electuaries were official in the Pharmacopœias of long ago, but to distinguish a kind of preparation the name is no longer used in either the British or United States Pharmacopœias. Electuaries are now classed under confections, of which there are but two official in the U. S. P., viz., confection of rose and confection of senna.

Powdered Flavoring Extracts.

(M. & W.) The oleosaccharates or oil sugars are of the character you mention. They consist simply of sugar flavored with volatile oil or some other volatile aromatic substance, a general formula for which may be found in the National Formulary under the title "Oleosacchara." The German Pharmacopœia directs that 1 gm. of volatile oil be added to 50 gm. of sugar in moderately fine powder, and the mixture thoroughly triturated. In France oleosaccharates are made double this strength. Oleosaccharate of vanilla may be prepared from 1 part of finely cut vanilla and 9 parts of crystallized sugar (rock candy), triturated to a fine powder. Sometimes a mixture of vanillin and coumarin is employed. A formula of the latter character may be found in the Jan. 3 Era of the present year, p. 15.

Balsam de Maltha.

(Nameless.) Balsam de Maltha or balsam di Malta—the spelling of the name varies—is an old-time name for a preparation closely resembling compound tincture of benzoin, which is now usually dispensed when the former preparation is wanted. An old recipe book gives the following formula for preparing it: Powdered benzoin, 3 ounces; balsam of Peru, 2 ounces; powdered aloes, ½ ounce; rectified spirits of wine, 1 quart. Put all the ingredients in a bottle and digest them for a week or two; then strain the balsam; or it may be used by taking the clear liquid from the top as wanted. This authority states that it may be used externally or internally, and that it "is said to ease the colic, cleanse the kidneys and heals internal ulcers."

Dick gives the following formula: Gum benzoin, 2 ounces; gum aloes, 1 ounce; alcohol, 2 pints.

Liquid Face Powder.

(H. A. S.) If you mean by this title a powder held in suspension in some liquid medium try some one of the following:

1.) Zinc oxide ..... 2 ounces
Glycerine .. .. .. 1½ fl. ounces
Water ..... 1½ fl. ounces
Tincture balsam
Peru .... 2 minims
Tincture storax .. 2 minims

2.) Bismuth oxychloride .... 6 drams
Glycerine .. .. ½ fl. ounce
Alcohol .. .. ½ fl. ounce
Essence cassie ...15 minims
Essence violet ... 5 minims
Essence tuberose..15 minims
Water ..... 2 fl. ounces

A preparation which contains a "powder" in solution and often used is the following:

Magnesium sulphate...60 grains
Rose water.... .....12 ounces
Orange flower water.. 4 ounces

Or this one:

Sodium borate ..... 1 dram
Boracic acid.....20 grains
Any perfumed toilet water .... 1 pint

Cleaning Fluids.

(Nameless.) We cannot give a formula for the proprietary article. Many of these preparations contain the "so-called" deodorized benzine either singly or in combination. Here is a typical formula:

Benzine, deodorized.... 1 quart
Alcohol ..... 1 ounce
Bay rum,
Oil wintergreen,
Ammonia,
Chloroform,
Ether, of each.....⅛ ounce

A number of similar formulas have been given in previous volumes of the Era. Consult the indexes.

Satisfactory results have been obtained from the use of the following pastes or benzine emulsions:

1.) Cocoa soap .....5 grams
Ammonia ....0.8 cc.
Solution of potassa.....0.4 cc.
Water, enough to make 0.30 cc.

Dissolve the soap, with the aid of heat, in 10 cc. of water, add the ammonia and potassa solution and sufficient water to make 30 cc. To this saponaceous cream carefully add in small portions at a time 5,000 cc. of benzine.

(2.) Dissolve 12 parts of soap in 20 parts of boiling water after cooling somewhat, add 3 parts strongest ammonia water. Stir, and add little by little sufficient deodorized benzine to make 100 parts. The result is a gelatinous paste that is very efficacious in removing grease. It may be perfumed, if desired, with a little oil of wintergreen or bergamot. All soaps do not give equally good results. The best are obtained from soaps containing an excess of alkali.

Breath Perfume.

(C. A. A.) We cannot give the formula for the proprietary article. Those given below are formulas for typical preparations for cachous, pastilles, etc., some one of which may possibly answer your purpose:

1.) Mace .....216 grains
Cardamom .....154 grains
Vanilla .....283 grains
Cloves ..... 77 grains
Orris root .....309 grains
Musk ..... 15 grains
Oil neroli ..... 20 drops
Oil cinnamon .... 30 drops
Oil lemon ..... 40 drops
Oil peppermint .. 60 drops
Extract licorice ...q. s.
Chocolate ..... 3⅓ av. ounces

2.) Extract of licorice... 3 ounces
Oil of cloves..... 1½ drams
Oil of cinnamon.....15 drops

Mix and divide into 1 grain pills and silver them.

3.) Extract of licorice..... 3 ounces
Water ..... 3 ounces

Dissolve by heat in a water bath and add

Catechu ..... 1 ounce
Gum arabic .....½ ounce

Evaporate to the consistence of an extract and add in powder ½ dram each of mastic, cascarilla, charcoal and orris, remove from the fire and add oil of peppermint ½ dram, essence of ambergris and essence of musk each 5 drops; roll it flat on an oiled marble slab and cut it into very small lozenges. Or it may be rolled into small pills and silvered.

4.) Roasted coffee .....75 parts
Wood charcoal .....25 parts
Boracic acid .....25 parts
Sugar .....60 parts

Pulverize the ingredients separately, very finely, mix and add sufficient vanillin to perfume to the taste. Finally, add sufficient gum arabic mucilage to make a mass. Divide into pastilles, lozenges or little pills.

Cultivation of Opium in the United States.

(G. L. A.) Opium is not produced in this country upon a commercial scale. It has been tried experimentally in a number of the States, notably Tennessee, Virginia, California and Minnesota. The results obtained by the producers in the three last-named States are given in the U. S. Dispensatory, last edition, page 981. The Agricultural Department at Washington has always taken considerable interest in this subject, and you may be able to obtain information relative to it from the Secretary. In answer to a query from a Georgia correspondent the Superintendent of Gardens and Grounds at Washington writes (see Report Department of Agriculture, 1887): "So far as climate is to be considered the poppy plant will grow in Georgia, and, indeed, in most of the United States, and seed can be easily secured and the plants are easily raised. The soil should be very finely pulverized on the surface, and the seeds sown in shallow drills, or rather mere marks. The seeds are very minute and should be mixed in fifty parts of dry sand, then sand and seed sprinkled thinly on the surface and covered simply by passing a roller over them. These drills may be two feet apart, and when the plants appear they are thinned out so that they will be from six to eight inches apart. It is highly improbable that it can be profitably produced in this country, as may be gleaned from the details of collecting the juice. When the seed pods are properly matured the milky juice is obtained by making incisions in the pods with small lancets. This requires great care, so that the incision is not made through the entire substance of the pod; the surface only is scarified. The cutting being performed in the afternoon, the opium is allowed to exude and remain on the pod until next morning, when it is scraped off, drop by drop, and thus collected in a small cup. Successive incisions are required to secure complete exudation. It is thus seen that the process is slow and tedious, and it is stated that the average pay of the operators does not reach 10 cents a day. The factory operations in preparing the article for commerce are also tedious and complicated, involving much manual labor, which is cheaply procured in Asiatic countries."

This opinion is in accord with many other authorities who uniformly state that very fine opium may be raised in the United States, but the high price of labor forbids its profitable production upon a commercial scale.

In the Report of the Department of Agriculture for 1870 appeared full directions for the culture and gathering of opium.

Luminous or Phosphorescent Paint.

(C. D. S.) Why did you not relate the facts contained in your last communication before? If you had done so your query would have received immediate attention.

The following are some recipes for the preparation of luminous paints:

For orange luminous paint, 46 parts varnish are mixed with 17.5 parts prepared barium sulphate, 1 part prepared India yellow, 1.5 parts prepared madder lake and 38 parts luminous calcium sulphide.

For yellow luminous paint, 48 parts varnish are mixed with 10 parts prepared barium sulphate, 8 parts barium chromate and 34 parts luminous calcium sulphide.

For green luminous paint, 48 parts varnish are mixed with 10 parts prepared barium sulphate, 8 parts chromic oxide green and 34 parts luminous calcium sulphide.

A blue luminous paint is prepared from 42 parts varnish, 10.2 parts prepared barium sulphate, 6.4 parts ultramarine blue, 5.4 parts cobalt blue and 46 parts luminous calcium sulphide.

A violet luminous paint is made from 42 parts varnish, 10.2 parts prepared barium sulphate, 2.3 parts ultra-marine violet, 9 parts cobalt arsenate and 36 parts luminous calcium sulphide.

For gray luminous paint, 45 parts of varnish are mixed with 6 parts prepared barium sulphate, 6 parts prepared calcium carbonate, 0.5 part ultra-marine blue, 6.5 parts gray zinc sulphide.

A yellowish-brown luminous paint is obtained from 48 parts varnish, 10 parts precipitated barium sulphate, 8 parts auri-pigment and 34 parts luminous calcium sulphide.

Luminous colors for artists' use are prepared by using pure East India poppy oil, in the same quantity, instead of the varnish, and taking particular pains to grind the materials as fine as possible.

For luminous oil color paints, equal quantities of pure linseed oil are used in the place of the varnish. The linseed oil must be cold pressed and thickened by heat.

All the above luminous paints can be used in the manufacture of colored papers, etc., if the varnish is altogether omitted and the dry mixtures are ground to a paste with water.

The luminous paints can also be used as wax colors for painting on glass and similar objects, by adding, instead of the varnish, 10 per cent. more of Japanese wax and one-fourth the quantity of the latter of olive oil. The wax colors prepared in this way may also be used for painting upon porcelain, and are then carefully burned without access of air. Paintings of this kind can also be treated with water glass.

If you wish to read up on the phenomena of luminosity as applied to paint, see Dec. 15, 1893, Era, p. 573.

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MISSOURI'S PATENT MEDICINE TAX.

St. Louis, Aug. 26. (Telegram.)—As predicted, some fifteen of the largest drug companies of this city have combined to test the validity of the new law requiring them to pay a license tax of $25 for the sale of patent medicines. Suit was filed in the Circuit Court in this city Saturday afternoon asking for a court of equity to interfere and restrain the city collector from attempting to collect the license imposed by the new law in question, and from doing anything in the way of seizing and selling their property for the non-payment of the tax, which, it is alleged, he has threatened to do. The litigants are the C. F. Simmons Medicine Company, the Meyer Bros. Drug Company, the Prickly Ash Bitters Company, the Dr. J. H. McLean Medicine Company, the Phenique Chemical Company, the Peacock Chemical Company, the Sultan Drug Company, the Rio Chemical Company, the Moffit-West Drug Company, the J. S. Merrill Drug Company, the Richardson Medicine Company, the Battle & Company Chemists' Corporation, Morley Bros., P. A. Spangler, and the Collins Bros. Medicine Company. In their petition the plaintiffs assert that they object to paying the tax because in their judgment the act violates the State Constitution, in that it seeks to endow the State University out of taxes or licenses collected from the manufacturers of patent medicines, which is clearly class legislation, and that the real object of the measure is not set forth in the title.

The matter to which the above telegram refers is discussed in the following special correspondent's report:

St. Louis, Mo., Aug. 22.—Prof. C. M. Woodward, president of the State Board of Curators, has called attention to a very important law passed at the last session of the General Assembly, which applies to the manufacturers and venders of patent medicines, and which seems to have been generally overlooked. The section in question appears in the act providing for the endowment of the State University and for the endowment of free scholarships of merit therein in each county. Briefly, the law levies extra taxes on a variety of people which is intended to go as a fund for the purpose mentioned. Section 3 applies to the manufacturers and venders of patent medicines, and is as follows:

Every manufacturer of medicines or remedies commonly known as patent medicines shall pay a license tax of $25, and every traveling vender of such medicines or remedies shall pay a license as now provided by law; and every such traveling vender shall take out a license in every county in which he vends such articles. Every manufacturer or vender failing to pay the license tax provided by this section shall be deemed guilty of a misdemeanor, and upon conviction thereof be punished by a fine not to exceed $100; and all such fines shall be paid into the fund hereafter provided.

Under the old law the traveling vender was obliged to pay a license of $2 for every six months, but he was privileged to vend in any county in the State. Now he will have to pay a similar license for every county in which he vends, and there are 115 in the State. Professor Woodward's assertion that he would have the law strictly enforced has stirred up the interested parties, and something of a wail has gone forth. The traveling salesmen regard the law as a clear case of class legislation. They contend that it operates against many hard-working men who are anxious to make an honest living as agents and manufacturers in a small way, who may in time become large manufacturers if not crushed by class legislation such as they claim this is. Many are of the belief that the law is unconstitutional, and a movement is on foot to have a test case made as soon as possible.

The Shaving Stone Fraud.

Several weeks ago the Era called attention to the fact that one J. W. Adams, acting for a concern calling itself the European Specialty Co. of Bridgeport, Conn., was selling in this and other cities so-called "shaving stones." A number of Harlem druggists were caught by the sellers of these stones, one of them neatly turning the tables on the salesman by stopping payment on the check he gave. The stones were absolutely worthless, of course, and what bona-fide sales were made had to be canceled later by the purchasers returning the articles in disgust. It was evident, too, that the salesmen had confederates who would call at the drug stores and purchase stones.

During a recent trip to Boston the Era man found that these shaving stones were prominently displayed on many drug store counters. He asked the druggists why they bought the worthless things, and the general answer was that they had proved to be very good sellers. When asked if they didn't know they were assisting in fooling the public they only laughed and referred to the big wholesale house in Boston from which they secured their supplies. The Era representative saw the man in charge of the department that handled the stones at the wholesale house, and he said they were very quick sellers, the demand being quite considerable. Of the propriety of putting such things on the market he had nothing to say.

Now word comes from Washington that the Post Office Department has issued a fraud order against the European Specialty Co., and sent an officer to Bridgeport with a warrant for Adams' arrest. Adams heard of the officers' coming and left town. It is said that he is now hiding in Jersey City, receiving his mail under an assumed name.

Mr. Holden Banqueted.

On the evening of Thursday, the 8th inst., a complimentary dinner was given in London by the traveling representatives of Messrs. Burroughs, Wellcome & Co. to Mr. A. E. Holden, representative of Messrs. Fairchild Bros. & Foster, of New York. A characteristically humorous menu was prepared. The evening was a most convivial and friendly one, and many excellent songs, etc., were rendered by the members of the little party, eighteen in all, who sat down. In proposing the toast "Our Guest," Mr. C. C. Weld, speaking on behalf of all the above-mentioned firm's travelers, said how glad they all were to greet Mr. Holden on this side, and how pleased they were to find that he combined with his high business abilities such a genial and amiable spirit. They had enjoyed Mr. Holden's visit among them very much indeed, and hoped that he might soon be with them again. They wished him and his firm the greatest possible success. Mr. Holden in an eloquent reply spoke of the many kindnesses he had received at the hands of the representatives of Messrs. Burroughs, Wellcome & Co., whose hospitality he would never forget. He only hoped that at some time or other it would be in his power to repay the great courtesy and friendly attentions they had shown him during his brief stay in England. Going among them as a total stranger, he was more than agreeably surprised to meet with such a hearty welcome and to receive such cordial support in all directions. He would carry back to America the liveliest recollections of a most delightful trip.

German Druggists Have a Good Time.

The botanical section of the New York Deutscher Apotheker Verein had a very enjoyable trip recently to Mt. Vernon. The members were received at the station by George F. Rieffiin, salesman for Sharp & Dohme, and went immediately to his home, where Mrs. Rieffiin welcomed them. In the party were Sidney Faber, George Thum, C. E. Kessler, H. Imhof, Dr. G. Pfingsten, Victor Kostka, W. L. Schultz, Otto Lenz, C. Schleussner, J. C. Heidingspelder, W. Faber, E. A. Platt, G. Mueller, W. C. Koehler, H. Orlewitz, O. Alexander, G. Leinecker, Dr. Gray, C. Corinth, G. Gregorius, Jr., and others. The party inspected Mr. Rieffiin's house and grounds and at 1 o'clock did justice to the dinner provided by the lady of the house, who received many compliments on her excellent cooking.

At half-past 2 o'clock the botanical excursion began, and lasted for three hours. Then a bee-line was made for Mr. Rief-

flin's house and Mrs. Riefflin's larder again. In the evening the party turned from botany to cards and enjoyed many a rubber until the last train for New York was ready at the station. The excursion was voted a grand success.

Chicago Trade.

Chicago, Aug. 26.—Wholesalers assert that trade is more than usually good for this season of the year. The slowness complained of in the city trade is due to two causes, viz., the panic of last year and the reaction from the unnaturally high standard attained during the World's Fair. Now, however, merchants are looking with renewed confidence upon the rapidly brightening trade prospects, and the drug trade, in common with other lines, is receiving its share of the impetus. Orders are now coming in strongly, while those who a year ago were contemplating an assignment as the only solution of their difficulties are now reaching out for new worlds to conquer. As an illustration of the strengthening tone in the drug trade the instance of the two drug stores in Lockport, Ill., which recently burned down, may be cited. Immediately after their stores were destroyed the proprietors sent orders to Chicago for new stock and fixtures, proposing to start again at once. In an interview with a member of one of the wholesale houses that gentleman said that Western trade is especially encouraging, the outlook in the Western and Northwestern States being better than it has been for several years past. Early crop indications are becoming a verity and a total failure would now be impossible. Of course these indications cannot be reckoned upon to perform an immediate action in the trade, but people are beginning to come out of the woods and to find that the bugaboo of financial depression was a ghost more easily laid than had been predicted by the fearful.

Goings On in St. Paul.

St. Paul, Minn., Aug. 26.—The St. Paul pharmacists are of course disappointed at the failure of their representatives at Denver to secure the next A. Ph. A. convention for this city. They are not surprised at the result, however, as Montreal was on the ground in much stronger force, and the coveted honor was partially promised to the Canadian city a year ago. An effort may be made to secure the next convention of the National Wholesale Druggists' Association for this city, though no movement has yet been started with this end in view.

C. P. Noyes, of Noyes Bros. & Cutler, is taking a vacation somewhat out of the ordinary. He is accompanying Vice-President Winter, of the St. Paul, Minneapolis & Omaha Railroad Co., on an inspection tour of the company's Nebraska division in his private car.

Fred J. Lenz, late of Minneapolis, is now clerking for Jos. Kehrer, of Jordan, Minn., who had the great misfortune to lose his sight some years ago, but still actively pursues his business.

J. A. CONSTANTINE. ISAAC SHERMAN. S. SCOTT PRATHER. JOHN M. BULL.

LOUISVILLE DRUG CLERKS ORGANIZE.

The Louisville Registered Drug Clerks' Association is the name of a new society recently organized in Kentucky, whose object is to advance the interests of registered drug clerks, to promote sociability and good-fellowship among its members, to increase their knowledge by lectures and discussion of subjects pertaining to pharmacy and its branches. The officers of the association are: J. A. Constantine, president; John M. Bull, vice-president; Isaac Sherman, secretary, and S. Scott Prather, treasurer. These gentlemen are all in active business, Mr. Constantine being with J. W. Fowler, Mr. Bull with E. Y. Johnson, Mr. Sherman with J. A. Flexner, and Mr. Prather with J. B. Baird, all well-known druggists of Louisville. The association will meet frequently, and its members propose to see that that part of the Pharmacy law which requires all drug stores to be in charge of registered pharmacists shall be enforced.

M. W. Kelly, of Lake Crystal, has sold out his drug store to Ernest Ramsdale, who formerly was in the drug business at Fairmont for years, but who lately has been Mr. Kelly's clerk. W. S. Cobb, who relieved Mr. Ramsdale as clerk, has returned to Minneapolis.

Henry Heinzel, a well-known pharmacist of this section who left Minneapolis to go to West Superior, is now running a store at Green Bay, Wis.

Eugene Hesselberg, who for a long time conducted the St. Louis drug store in Minneapolis, is now in Chicago, but with longings hitherward, it is said.

W. T. Gilmore is now temporarily running the drug store at Lindstrom for Dr. Landeen.

R. C. Trudgen, who learned the business with W. E. Lowe, of this city, and went to Texas a couple of years ago, has returned, and is now at Shell Lake, Wis., employed in a drug store there.

NEW YORK AND VICINITY.

——Druggist Brown, of Madison, N. J., has been in town.

——Peter V. Lynch returned from Europe last week on the Germanic.

——W. R. Warner arrived from London last Friday on the Columbia.

——R. H. Land, Jr., of Perrin & Land, Augusta, Ga., has returned home after a very pleasant stay in New York.

——C. W. Snow, of Syracuse, has been in town on business.

——Thomas Tyrer, president of the Society of Chemical Industry, will sail for this country on Sept. 28.

——Among others from the West who have been spending a week or two in New York recently was Daniel Daugherty, of St. Louis.

——R. S. Johnston, of Merck & Co., came in from a Western trip last week. He will attend the Denver convention of the N. W. D. A.

——Brent Good, of the Carter Medicine Co., returned last week from Europe on the Britannic. Miss Good accompanied him.

——John G. Froatz, of Breen & Froatz, corner of Seventh Avenue and 135th Street, has been spending his vacation up among the Catskills.

——F. W. McConnell, Sharp & Dohme's Brooklyn city salesman, will spend this week up the Sound in the guise of a modern Ike Walton.

——J. S. Procter, druggist at 2001 Olive Street, St. Louis, called at the Era office Aug. 26, on his way to Boston to attend the Knights Templar Conclave.

——Henry Miles, of Lyman, Sons & Co., Montreal, writes that he will be among the Canadians who will go to the Denver N. W. D. A. Convention.

——Manager J. A. Sangston, of the New York office of the Low Art Tile Co., has been spending a few days in Boston, visiting the company's factory.

——Manager McCowan, of the Northern New York and Eastern Pennsylvania branch of the Matthews soda apparatus concern, has been seeing friends in this city.

——George Merck is spending his summer at Lake Hopatcong. T. R. L. Loud is at Far Rockaway, and John Queeny enjoys his spare time on Staten Island.

——E. A. Sayre, of Seabury & Johnson, has been visiting Boston for a few days. E. L. Benjamin, of the same office, has returned from his two weeks' outing at Delaware Water Gap.

——Among recent callers at the Era office was William H. Brown, of Irving Park, Chicago. Mr. Brown is a Knight Templar, and was on his way to the big meeting in Boston.

——Maximo Diaz, a Florida pharmacist, has been in this city for a couple of weeks with his wife and children. Mr. Diaz is the proprietor of two drug stores in Key West and Tampa.

——John J. Molloy, of McKesson & Robbins, is enjoying two weeks' recreation at Great South Bay. He makes his headquarters at Centre Moriches, and is having great sport blue fishing.

——Manager Flammer, of Keasbey & Mattison, is going to Maine for his two weeks' outing. A. N. Cox, of the same firm's New York force, has gone to Branchville, N. J., in the "wilds" of Essex County.

——John Bachelder, of Perry's World Pharmacy and the Pharmaceutical Club, has gone to Boston on his annual vacation. He expects to visit the White Mountains, and may possibly take in Bar Harbor.

——Albert B. Baltzley, the druggist at the corner of Seventh Avenue and 134th Street, reached Massillon, O., on his wheel last Saturday night, after a pleasant trip. He was accompanied by his brother, and both will return awheel after a few days' stay.

——Oscar J. Lache is acting as relief clerk in drug stores of Orange and neighboring towns in New Jersey. He says it pays better than regular clerking, and gives him time to go out on the "bike" once in a while.

——Howard England, who was manufacturing clerk for Alexander Hudnut for over ten years, and who was later in charge of Perry's laboratory, is proprietor of a neat drug store at Elizabeth Avenue, Elizabeth, N. J.

——C. E. Hollister, druggist and proprietor of several drug stores in Detroit, Mich., was a caller at the Era office Aug. 15. He was accompanied by his wife and had been spending a few weeks rusticating at his old home in Connecticut.

——"Charlie" Ruggles, whom all the trade on the Pacific Slope know well as a hustling salesman, is in New York in the interests of his specialty, Dr. Henley's Celery, Beef and Iron, with whose virtues he proposes to acquaint residents in this section.

——Henry Hasenohr, 466 Grand Street, is enjoying his vacation with his family in the Catskills. Mr. Hasenohr is a well-known druggist on the east side, having been in business there for the last thirty years. He is also school trustee in the Thirteenth Ward.

——John F. Doty and Eugene Herbert, manufacturers of druggists' specialties at No. 241 Greenwich Street, under the style of the Atlas Rubber Co., have made an assignment to John Behrens, giving a preference to the Mattson Rubber Co. for whatever amount may be due it.

——Every now and then there is talk among the members of the Drug Trade Club of getting up a fishing party for some Saturday afternoon. Most of those who would like to go on such an excursion find they cannot get a Saturday for which they have no previous engagement.

——Two Georgia drug men have been in town this week, Theodore R. Wardell, of Bainbridge, Ga., and E. J. Hausberger, clerk for A. L. Tischer, of Augusta. Mr. Wardell is an old Confederate soldier, and can tell many an interesting story of his service in the recent unpleasantness.

——Down on Surf Avenue, Coney Island, there is quite a rivalry among the dispensers of soda water. One of the dealers has a big sign which reads: "My patrons can suggest any combination of syrups they think they would like, and no extra charge will be made for the experiment. Invent your own beverage."

——The Connecticut Witch Hazel Co. has removed its New York offices to No. 15 Jay Street, and has appointed Fred. Fear & Co., of that address, its selling agents for the United States. Charles J. Evans, who has had charge of the sales department of the company, will fill the same position with the selling agents.

——Charles Kuehne, the Jersey City Heights druggist, is an ardent disciple of printer's ink, through which agency he has been made known to the entire population of that big city. His great "ad." is about his corn cure. Mr. Kuehne is spending a brief vacation with his family at Cold Spring Harbor, on the north shore of Long Island.

——On account of their intention to deal in a general line of paper and not to confine themselves to toilet paper exclusively, the C. C. White Toilet Paper Manufacturing Co., of New York, have changed their name to the C. C. White Paper Manufacturing Co., and the capital stock of the concern has been increased to $50,000.

——All New Yorkers and Brooklynites who travel over the Fulton Ferry are familiar with the neat little drug store on the ferry house. It is called the Berri Pharmacy, and is owned by a corporation, of which Thomas B. Rutan is the president and W. D. Cornell treasurer. The company was organized on March 8, 1895, but has not paid expenses. Stephen W. Linington has now been appointed receiver of the concern.

——Henry Leutz, a clerk in the drug store at the corner of Wyckoff and Nevins Streets, Brooklyn, was arrested last week on the charge of having stolen $3 from a child. The clerk had been asked by Lottie Cummings, of No. 246 Wyckoff Street, to change a $5 bill. Leutz gave her change for $2, claiming that was the denomination of the bill she gave him. Justice Tighe, of the Butler Street Court, found that the weight of testimony was against the clerk, and made him pay a $20 fine.

——The police of Brooklyn are looking for a man named Weathersby, who used to be a drug clerk at Dr. J. O. F. Hill's pharmacy, on Surf Avenue, Coney Island. It appears that a colored man went into the store last Friday and ordered a drink of some sort. The clerk, who is alleged to have been intoxicated, gave the man a mixture of brandy, soda and aromatic spirits of ammonia as a joke. The next morning the victim was found near the Sea Beach Palace, and no amount of shaking would arouse him. He was taken to the police station, where a surgeon managed to bring him to consciousness. Weathersby was immediately discharged by Druggist Hill and left the island.

HERE AND THERE.

——Cigar and drug stores at Springfield, O., will hereafter be closed on Sundays.

——The much-talked-of dime-in-the-slot-telephones for Chicago are in and work admirably.

——The American Cut Rate Drug Store, New Orleans, suffered heavy loss from fire Aug. 13.

——Eugene Carrol, formerly a druggist at Painesville, O., committed suicide at Willoughby, that State, Aug. 5.

——The Thomas Drug Company, formerly of Naperville, Ill., have opened a new store at 47 Wells Street, Chicago.

——Rudolph S. Vitt, secretary of the St. Louis Drug Clerks' Society, has gone on a pleasure trip to Memphis, Tenn.

——Druggist L. C. Smith, Macomb, Mo., is being sued by the city for $5,000, for illegally selling liquor. A test case.

——P. W. Laidley, a drug clerk of Charleston, W. Va., shot and killed himself, it is claimed accidentally, Aug. 13.

——Geo. Patricks, of San Antonio, Tex., has accepted a position with the Rio Grande Pharmacy of El Paso, Tex.

——H. V. McDonald, druggist at Murdock, Neb., on Aug. 12, shot and killed a burglar who was trying to enter his house.

——Druggist Jos. Dickson, of Pittsburg, Pa., on Aug. 12, was struck by a cable car and was seriously, perhaps fatally, injured.

——Richard O. Matchette, druggist, of Bourbon, Ind., had his thigh broken a few days ago by being thrown from a carriage.

——A clerk in C. A. Young's drug store at Battle Creek, Mich., has been arrested for stealing goods and money from the store.

——Jere. J. Hallisey, druggist, Nashua, N. H., has completed a two weeks' vacation at Old Orchard Beach, where he enjoyed himself amazingly.

——F. E. Purcell, a leading Populist politician, has been arrested, charged with burglarizing the drug store of Dr. Nealy, at Lansing, Kan.

——The firm of Renz & Henry, Louisville, Ky., was dissolved Aug. 14, Frank A. Henry, Jr., becoming sole owner and proprietor and assuming all obligations.

——Dr. Philander Jacobs, proprietor of the Temple Drug Store at Jackson, O., severely sprained his ankle Aug. 13, and will be confined to his room for some time.

——W. W. Curtis, of Sharp & Dohme, is in Chicago for a few days from the Southern States. He declares prospects for the fall trade are encouraging in the South.

——S. C. Suydam, druggist at Baldwinsville, N. Y., while carrying his bicycle down stairs a few days ago, slipped and fell to the bottom, being quite badly bruised.

——Mac H. Webb, prescription clerk for W. A. Irvin & Co., El Paso, Tex., came very near losing his hand from blood poisoning caused by cutting his hand on a prescription bottle.

——A public sale of the contents of Tumbleson's drug store, Pratt Street and Broadway, Baltimore, which recently went into the hands of a receiver, began on the 20th inst.

——A patent medicine peddler secured lodgings at the house of a farmer near Zanesville, O., a few nights ago. He was missing in the morning, as was also $560 belonging to his host.

——Miss Fannie Ellis, clerk in Barnes' drug store, Malden City, Mass., had her clothing destroyed by the bursting of a bottle of nitromuriatic acid. Fortunately she escaped personal injuries.

——Dr. Henry R. Dorr, a well-known physician of Worden, Ill., where he has been in practice for nearly 25 years, is charged with violating the Pharmacy law and with selling poisons not labeled.

——The prohibitionists in Arkansas are making a strong fight against the liquor interests, and on Aug. 5 three druggists of Texarkana were convicted and fined $200 and costs for the illegal sale of liquor.

——A machine recently put into the drug store of Hackett & Son, Roanoke, Ind., for lighting purposes, leaked and an explosion of the gas took place, quite severely burning Charles Hackett and R. W. Jamison.

——Fred Reh, keeper of a small drug store at Washington, D. C., was charged with selling liquor without a license. When officers came to arrest him he disappeared and has not yet been captured.

——Louis E. Nietz, prescription clerk for many years with F. A. Poole, of Rochester, Minn., was taken to St. Mary's Hospital a few days ago, and his leg was amputated at the knee joint. The limb had been badly diseased.

——Druggist Sol. Hoge, Macon, Ga., is sued for $5,000 by E. W. Klatt, for alleged mistake in dispensing a vesicating plaster when a belladonna plaster was requested, thereby causing serious injury to plaintiff's wife.

——Dr. A. G. Elliston, who shot and killed Druggist Dickerson, of Elliston, Ky., as reported last week, was defended in his trial by Col. W. C. P. Breckinridge. The judge held Elliston in the Circuit Court in the sum of $15,000.

——Mr. W. H. Torbert, of Dubuque, Ia., was called from the A. Ph. A. meeting at Denver by the serious illness of his mother, who has since died. Mr. Torbert lost a brother a few weeks ago. The entire drug trade sympathizes with him in his sorrow.

——M. L. Shetty, druggist, of Taylorvill, Ill., while en route to the Denver meeting of the A. Ph. A., was taken ill and wished to leave the train at a small Kansas town. He jumped off before the train came to a stop, fell under the wheels and had his right hand crushed.

——E. T. Webb, of Jackson, Mich., is spending the month of August at his summer resort on Bois Blanc Island opposite Cheboygan, Mich. Mr. Webb and his brother own a little village on the island, which they call Pt. aux Pines, and spend alternate months there managing the resort.

——John S. McCready, of R. W. McCready Cork Co., Chicago, was married Aug. 14 to Miss Grace L. Webner, at the residence of the bride's parents, Mr. and Mrs. J. T. Webner, 997 Warren Avenue, Chicago. After Oct. 15 the newly wedded pair may be found at 317 Washington Boulevard.

——Ignatius Kingman, a prescription clerk at Mussetter's drug store, St. Paul, was severely burned while compounding an explosive. His right hand was practically roasted. He was removed to his home after his injuries had been attended to by a physician.

——Druggist Edmund O. Streett, whose store is at the northeast corner of Charles Street and Mt. Royal Avenue, Baltimore, has brought suit against the mayor and city council, claiming $5,000 damages for alleged destruction of property in consequence of an overflow from a sewer and surface drainage.

——The old soldier caught smuggling opium in a horse collar at Detroit in July, and who gave his name as Albert M. Hall, turned out to be Maximillian Halle. The old fellow was discharged on his own recognizance with the understanding that he would appear again if notified—practically a suspension of sentence.

——A few days ago a large quantity of phosphorus in the wholesale establishment of Calhoun & Co., New Haven, Conn., became ignited, and being close to a barrel of benzine, a serious fire was threatened. W. W. Sperry, a clerk, broke through the flames and carried out the burning material, though being nearly suffocated by the poisonous fumes.

——Mrs. Baird, wife of a prominent local farmer at Old Monroe, Mo., is in jail for having killed Sam Elston, a druggist, for supplying her husband with whisky. Elston did not heed Mrs. Baird's warning not to give her husband any liquor and she went to Elston's place of business and shot him in the back with a revolver, killing him instantly.

——Edward W. Burch, proprietor of the drug store, 624 Knoxville Avenue, Peoria, Ill., was found dead in his bed a few days ago. He had been accustomed to use chloroform to induce sleep, for he was troubled with insomnia, and the evidence is that he took an overdose. He was a young man, 24 years of age, in good circumstances, and a graduate of the Northwestern University. He was unmarried.

——Of the twenty-six Detroit druggists accused of selling phenacetine not protected by patents and copyrights, nineteen have offered to settle with Mr. E. N. Dickerson. The only question now is to agree on the amount. Several have filed affidavits as to where they got the drug, and these affidavits show that it was mostly from small peddlers. Not an ounce came from any of the large drug firms. The amounts bought were small, the two largest being six and two pounds, respectively. If the remaining seven druggists will not agree to a compromise their cases will be tried in the November term of court.

43d ANNUAL MEETING

AMERICAN PHARMACEUTICAL ASSOCIATION,

DENVER, COLORADO, AUGUST 14-21, 1895.

(*Continued from page 251, Aug. 29.*)

THIRD GENERAL SESSION.

Saturday Morning, Aug. 17.—In the absence of President Simpson, Mr. Remington was selected as chairman. The minutes of the eighth session of the council were read and approved. The seventeen gentlemen recommended for membership at the last session were invited to complete their applications and become members. Secretary Kennedy announced ten applications recommended by the council, and same were posted in the usual manner. There being no further business before the association, the convention adjourned to give way to the Scientific Section.

SCIENTIFIC SECTION.

First Session—Saturday Morning, Aug. 17.—The Scientific Section was called to order by Chairman A. R. L. Dohme, with C. B. Kauffman as secretary.

Mr. Good occupied the chair while Chairman Dohme delivered his annual address. This paper will be published in a subsequent issue. The report recommended the development of the departments of pharmacology and physiological chemistry in the colleges; that the proceedings of the association be made more valuable and interesting to pharmacists; the appointment of a committee of three, consisting of the permanent secretary, chairman of the Scientific Section and chairman of the Committee of Revision of the U. S. P., to be a committee on pharmaceutical research, to undertake the direction of work of research and investigation in the various branches of pharmacy, and annually report to the association.

Mr. Sayre moved the address be referred to the Committee on Publication, and that a committee be appointed to consider the suggestions contained. Carried.

The chairman then resumed the chair and requested the report of the Committee on the Subject of Indicators appointed last year, which committee consisted of Messrs. Kebler, of Philadelphia, Caspari, of Baltimore, and Dohme, of Baltimore, and which committee has increased its members by the services of Professor Prescott, of Ann Arbor, and Professor Lloyd, of Cincinnati.

Mr. Caspari stated that the report of this committee was rather voluminous and would take up too much time. Therefore he gave an abstract of the report.

It was moved and carried that the thanks of the association be voted to this committee for the work done by them; that the committee be continued; that the report be referred to the Committee on the Revision of the Pharmacopœia, and that this section recommend to the association the allowance of a reasonable amount for the payment of the expenses of this committee in the way of materials used for their investigations.

The chairman selected as the Committee on the President's Address L. E. Sayre, A. B. Prescott and J. U. Lloyd.

Nominations of officers being in order, Mr. Ryan nominated for chairman S. P. Sadtler, of Pennsylvania. Mr. Good placed Mr. Dohme in nomination. For secretary Mr. Hallberg nominated the present incumbent, G. B. Kauffman, Ohio. There being no further nominations made, the matter was closed until the next session, and the section proceeded to the reading of papers.

Papers.

The first was a report on the "Examination of Elm Bark, Flax Seed and Mustard for Starch," by J. U. Lloyd, Cincinnati. After discussion by Messrs. Fennel, Lloyd, Ebert, Hallberg and Sayre, the section listened to the next, "A Method for the Estimation of Starch in Powdered Elm Bark," by W. B. Day, Chicago. Both papers, on motion, were received and referred to the Publication Committee.

Mr. Whelpley called attention to the evidence of the progress that is being made in the determination of adulterations. A few years ago considerable reflection was cast upon papers presented to the various pharmaceutical associations on account of the fact that the investigators did not distinguish between admixtures and adulterations. Now we are paying more attention to the point of determining whether the presence of the substance is fraudulent or accidental.

Mr. Sayre: "I remember very well a few years ago, in Philadelphia, where it became necessary for me to buy at the very lowest market price a large quantity of ginger for the purpose of making a tincture in a large quantity, and I thought at that time that as I had a confidential friend in the business, I could buy the pure article of him and at a low price. I went into the establishment and found a young man there in charge of the grinding, and asked him if I could get from him an absolutely pure ginger. 'Well,' he said, 'the fact is, we don't make it; we have a "perfectly pure," the "strictly pure," and the "grocer's pure." Now,' he says, 'the "perfectly pure" contains so much impurities, the "strictly pure" contains so much impurities, say 10 per cent., and the "grocer's pure" contains so much impurities, which was the lowest grade, but the "pure" we have not got.' Now, it seems to me that we are working in the right direction. If we are to be looked upon as the dispensers of pure drugs, it seems to me we ought to fortify ourselves by such methods as we are now pursuing, and we must look to this association and to this section for work on that line. And in the same direction I want to say, as a member of the Committee on the Investigation of Powdered Drugs, a subcommittee of the Committee on the Revision of the U. S. P., there is in that field a very large amount of work to be done. We are able to see to-day, under the microscope, whether a substance is powdered senna or powdered digitalis, although they look the same and smell the same."

Mr. Sayre read a paper on "Taraxacum Root and Taraxacin," and Mr. Dohme one in answer to the question "What Is the Pure Aconitine of Commerce?" After a brief discussion of this paper Mr. Whelpley read a paper prepared by E. S. Bastin on "The Structure of Our Cherry Barks," which was followed by "Assay of Wild Cherry Bark," by A. B. Stevens, Ph. C., and J. N. Judy, Ph. C. The following paper was then read and referred to the Committee on Publication: "Query 8.—What Percentage of the United States Pharmacopœial Pepsins of the Market Come Up to the Pharmacopœial Requirements?" By C. C. Sherrard, Ph. C., and J. L. Tegarden, Ph. C.

Mr. Hallberg: "I see there is another paper very similar to this on the same subject. I hope it will not be read except by title. The subject of pepsin is one we are having altogether too much of and I don't think the importance of the subject justifies so much time. No medical man of any particular standing nowadays uses pepsin, and I think that as pharmacists we spend entirely too much of our time investigating the subject, and I for one do not care to hear anything more on the subject."

Mr. Sayre: "I hope that no cold water will be thrown upon this investigation. If we discourage it in this section it seems to me we will check the progress of science. I don't think there is a more interesting field for investigation than physiological chemistry, and the nearer we can come to an understanding of what pepsin is, the nearer we can come to the solution of many questions we are aiming to solve at the present time. What is pepsin? If we could only settle that question to-day, it would be the greatest discovery of the age almost. And I say let us encourage these people and not come up here after they have presented a paper upon a subject and say it is useless. Let the committee determine that beforehand, and if the committee finally brings it before this section we have no right to slap a man in the face for bringing up the subject."

Mr. Hallberg: "I beg to say that I do not want my position misunderstood. In the case of an investigation of drugs like taraxacum, and the investigation that Professor Lloyd and others have conducted, they are in a field of which we may know practically nothing, and they will lead to something valuable, without a doubt. In the case of pepsin, it is quite the contrary. It has reached the climax of its usefulness and popularity, and while I must say the paper presents the question very well, the succeeding paper relates only to the comparative digestive value, and I certainly, for one, am not interested in that."

Mr. Webber asked if the paper under discussion was not in reply to a query presented by this section, and being answered that it was, he said it ought to be read.

The reading of the paper was deferred until afternoon.

Mr. Ebert: "Would it not be well in sending out inquiries to state to those who wish to make investigations that if they will come to the meeting we would be pleased to have them read their papers? From those who cannot come we would be glad to receive their papers, subject to the action of the officers of this section, and if they find their papers worthy of being read to have them read; or if the author would give us an abstract of the paper then we could come here and we would listen to the reading of the papers by the authors who were present, and the questions that are put to them would bring out a great deal more in the discussions oftentimes than the papers themselves and make it much more interesting."

Mr. Mayo: "Would it not be advisable for the committee to announce beforehand when a certain paper would be ready, and to distribute at the first general session of the association copies of the papers which were to be read, so that the members who are present and interested in those matters may take those papers and look them over and be prepared to come here and discuss them?"

After some further discussion the whole matter of the presentation and reading of the papers was referred to a committee to be reported upon at the afternoon session. The section then adjourned until 3:30 P. M. of the same day.

Second Session—Saturday Afternoon.—The section was called to order by the chairman, and the minutes of the preceding session read and approved.

Mr. Sayre presented the report of the Committee on Chairman's Address, in the form of a resolution, as follows:

"Resolved, That this section appoint a sub-committee known as Special Research Committee; that this committee shall consist of three members of this association, and the chairman of the Scientific Section and the chairman of the Revision Committee, the two latter being ex-officio members. The said committee shall have charge of any special investigation which, in their discretion, is within the province of the Section on Scientific Interest. It is recommended that this committee shall receive such encouragement financially as is necessary to advance this work, subject to the approval of the council.

"L. E. Sayre,
"A. B. Prescott,
"C. L. Diehl, Committee."

The reason the permanent secretary was not included in this committee in accordance with the suggestion of the chairman was that it was felt he was already overloaded with work. The resolution was adopted, and the section proceeded to further nominations for officers. Prof. Albert B. Prescott, of Ann Arbor, Mich., was named for chairman, but declined.

Mr. Dohme: "I would like to withdraw my name in order not to establish a precedent of nominating the same chairman for a second term."

Mr. Hallberg: "It seems to me that while a one-term president is a very good thing in national political affairs, it is a very good thing to give two terms to executive officers of this section."

Mr. Ebert: "I am very glad to hear just what the chairman has said, and I approve of it heartily. There are a great many of us here who have not held any very distinctive office, and we all want to hold office some time, and I have had a hankering for it for some time myself."

There being no further nominations for chairman, nominations for secretary were called for.

Mr. Kauffman asked that his name be withdrawn. Mr. Alpers nominated Mr. Ebert, and Mr. Ebert nominated Mr. Alpers, and Mr. Eliel was nominated by a member.

Mr. Simon: "If I understand correctly, we have but one nominee for chairman, Professor Sadtler, and for that reason I move that the election be made unanimous and the secretary instructed to cast the vote of the section for chairman of this section." Seconded and carried.

New Officers.

Thereupon the secretary cast the unanimous vote of the section for Samuel P. Sadtler, of Philadelphia, for chairman for the ensuing year.

There being two nominees for secretary, a ballot was ordered and a vote resulted in the following count: For Mr. Alpers, 27; for Mr. Eliel, 11. William C. Alpers, of Bayonne, N. J., was declared the choice of the section for secretary for the ensuing year.

The chairman called for action on the report of the Committee on the President's Address. It was moved to add the words, "except by consent of the majority of the members present," in referring to the time of each paper being limited to fifteen minutes in its presentation, "and that copies of the papers be furnished the association at the first general session thereof." With these additions to the original resolution presented by the committee the resolution was adopted.

The Chair: "The next in order is a discussion of the report on the revision of the United States Pharmacopœia, which was referred to this session. I would like to have its chairman take this matter up. Mr. Eliel."

After discussion of the paper, section by section, which was participated in by Messrs. Remington, Dohme, Whelpley, Caspari, Sayre, Mayo and Alpers, upon motion, the entire report was referred to the Committee on Publication with instructions that a copy be sent to the Committee on the Revision of the United States Pharmacopœia.

The following paper was then read by Dr. A. B. Prescott: "Notes Upon Some Philippine Island Drugs Under Analysis for Alkaloids, etc.," which was referrred to the Publication Committee, and J. H. Beal, of Scio, O., in an elaborate and scholarly paper, attempted an answer to the question, "Is there a connection between the physiological activity of an element and its position in the periodic system?"

Mr. Alpers: "While I personally do not feel competent to pass judgment on so extended a paper as we have heard just now, I take occasion to express my thanks to and my admiration of the author of it. I have often thought of this subject myself while looking over the row of bottles behind my prescription counter and putting up compounds, perhaps, for friends of whose habits, whose lives and whose misdeeds I knew, and often the idea has flashed over my mind: Why is it that such an article will have such an action and another one will assert its action on another part of the human being? And I have often thought it was a very good subject for investigation to establish the relation between the chemical compounds, or perhaps the physiological action."

Mr. Prescott: "There are very different bodily functions, and while I agree with the reader of the paper that the initial physiological effect, medicinal effect, of an agent, is a chemical effect, we must remember that that chemical effect in different cases is brought to bear upon very different materials and processes of the body. In one case one material or substance or process of the body, and in another case another process of the body. I suppose that is what Prof. Sayre means when he says that physiological action is a vague term. Oxidation may cause a disturbance, a medicinal effect or a poison effect; deoxidation may cause a disturbance, a medicinal effect or a poison effect, according to the processes upon which that action is brought to bear. I was thinking during the reading of the paper of the nitrogen family of elements which Professor Beal referred to, and I can hardly classify them, nitrates and phosphates and arsenites and antimonites, in any order that would accord with their atomic weights. The greatest discrepancy, it seems to me, exists between the first two, the nitrates and the phosphates. Then, whether we are to consider these elements in their compounds only or to consider them as free elements, is a question. We first consider them only in their compounds, and perhaps that is the best starting point, but if the physiological effect is due to that chemical power of atomic weight in the case of the free elements, then, doubtless, it would be true that the atomic weight would be the more active."

Mr. Sherrard then read his second paper on "Pepsin," which, after being discussed, was referred to the Committee on Publication. "The Chemical Composition of the Volatile Oil from Monarda Fistulosa, Linne," was the subject of a paper by Edward Kremers, Madison, Wis., which was referred to the Committee on Publication.

Upon motion of Mr. Sayre the papers presented to the association from the University of Kansas were referred back to their authors for revision, being read at this time only by their titles.

The chairman suggested that the papers presented by himself be read only by their titles and referred to the Committee on Publication, but there being objections to that, and several members insisting upon the reading of the papers in full, they were made a special order for the first thing at the evening session upon motion of Professor Lloyd.

Thereupon the section adjourned until the evening session of the day.

Third Session — Saturday Evening, Aug. 17.—Chairman Dohme called the section to order, and after the reading of the minutes of the previous session which were approved under the motion at the previous session, the papers prepared by Mr. Dohme were read. They were: "The Assay of Ergot," "The Alkaloidal Value of Jaborandi Leaves," "A Comparison of the Best Known Methods for the Assay of Coca Leaves," "The Alkaloidal Value of Ipecac Stems."

Upon motion the papers presented by Mr. Dohme were referrred to the Committee on Publication, and the following paper was read by the author, S. W. Williams, East Orange, N. J.:

"Need of Authoritative Standards for Antiseptic Surgical Dressings."

Mr. Hallberg: "I move the reference of this paper to the Committee on National Formulary; it might also be proper, I suppose, to refer it to the Executive Committee for publication. Dr. Rice's authority here, singularly enough, is entirely one-sided. When we consider the question of antiseptic dressings we must consider primarily from the surgical standpoint; secondarily, from the standpoint of the pharmacist or analytical chemist. Dr. Rice refers only to iodoform gauze, I believe. He makes no exhibition of any except the iodoform gauze. That is where he is in fatal error. There are two kinds of antiseptic dressings. First, the surgeon desires to place on a wound or on a part of the body a bandage saturated with a solution of a certain strength to prevent inflammation. He knows that mercuric chloride, 1 in 2,000, say, will destroy bacilli. He knows that mercuric chloride and salicylic acid solution will have the same effect. Here is a question of presenting a solution of a certain strength, and the question of how large a gauze is used for the purposes of this application is of no consequence or interest to the surgeon. On the other hand, when he desires to apply a substance that is not water-soluble, a substance like iodoform, which is applied in the substance by simply dusting some iodoform on the gauze, then he ought to have it, of course, of a certain definite amount by weight. This resolves the gauze into two kinds. Gauzes that are made of water-soluble substances should be so made that when they are restored to the original condition, to the moist condition, preparatory to being used by the surgeon, they should represent a certain percentage of strength of the solution. Hence the iodoform gauze should represent a certain amount fixed on the weight, or, preferably, on the area, so that he knows that in applying a certain piece he will have so much iodoform. With reference to the chemist, it may be desirable that a method should be established whereby the percentage of strength of these gauzes can be determined, but we must not adopt that simply for the consideration of the pharmacist. The surgeon's consideration is of the first importance. I would like to see some general formulas of this kind incorporated in the National Formulary. As a matter of fact, the more we ex-

ploit these subjects the more clearly we must arrive at the conclusion that gauzes, at least the water-soluble substances, ought to be made by the pharmacist extemporaneously as needed. Dry gauzes are not a proper thing to handle, and no physician can use a dry gauze with a water-soluble substance. The pharmacist ought to make these gauzes extemporaneously by saturating these gauzes with a solution of the strength that his surgeon wants to use them, and if he should do that then there would be no necessity for the manufacturer to put them on the market and we would be saved controversies like this."

Mr. Caspari: "I beg to differ somewhat from Professor Hallberg. I fail to see that a surgeon will be in any more positive position by using a gauze or cotton which has been dipped in a certain percentage solution than he would be in using the other method. For instance, in given percentages, according to the finished product, if he uses a water-soluble substance and dips the gauze or cotton into that, if it retained that whole amount of moisture, it retains, of course, that uniform strength. But it loses a portion of that moisture, which is to be restored by moistening it again with water just before the application. Now, how do the surgeon and nurse know that they get the amount of water to produce the amount needed in a case of this kind? They do not know that they have restored that to 5 or 10 per cent. But if you know that the gauze contains so much, 1 or 5 or 10 to every 100 parts of the weight in the cotton, then you know how much you have in there, irrespective of the water you have in it."

Mr. Hallberg: "But you have to moisten it, don't you?"

Mr. Caspari: "Of course you have to moisten it, but you know that it contains that quantity of mercuric chloride. But with cotton which has been saturated with mercuric chloride solution and has been evaporated, and you moisten it for the purpose of restoring it to the original condition, you don't know whether you have it restored or not."

Mr. Hallberg: "I think you do just as much as you know in the first instance."

Mr. Caspari: "No, sir. If you base it on a certain material you know you have a certain amount and you know that 100 drams of cotton contains a certain proportion, and you can add any amount of water and that amount of mercuric chloride stays there. The water is not taken into consideration."

Mr. Hallberg: "I beg your pardon. It is the strength of the water solution that the surgeon wants. He don't care whether he uses one ounce or four ounces of cotton. It is the strength of the solution. If it is 1 in 2,000 or any other proportion, it is the amount of the water solution that is added to the material and not the material itself. The fabric cuts no figure whatsoever."

Mr. Caspari: "It does in a great many cases, most assuredly. There are very few cases where that would apply. It seems to me that in all medicated gauzes and cotton there can be but one standard and that is on the basis of the weight of the finished product, including, of course, the water and material used, if you wish accuracy. Unfortunately, ninety-nine physicians out of one hundred know nothing about percentage solutions. I say that advisedly. And there are a great many pharmacists just as ignorant. Otherwise we would not have our journals teeming with the question: What is a percentage solution? They do not seem to appreciate that a percentage solution means so many parts in a hundred. Professor Hallberg knows just as well as I do that that is a question that has been in the journals for a great many years, and it has established how indifferent physicians are to that fact. They say that a 10 per cent. article is cotton dipped into a solution of that strength and taken out. We all know that the amount of moisture will vary, and the amount of the ingredient retained by that cotton must vary still more. It depends entirely upon the expression how much will be lost by evaporation. But when we have a certain quantity of an ingredient based upon the weight of the finished product, counting, of course, the weight of the water, glycerin or oil, or whatever we have, then we can say that this contains so much of the active ingredient that we have used. Just so long as physicians continue to prescribe and pharmacists to dispense there will be a difference of opinion, I think. I doubt very much if we will be able to overcome the differences. And largely the differences are owing to the fact that manufacturers use gauzes of different weight per square yard or meter. The Pharmaceutical Era published an article calling attention to the different weights of cotton used by different manufacturers, and I think that article must have convinced every reader that the variation is great. I cannot see how any one can depart from the maxim that percentage preparations require a certain quantity, based upon the weight of the finished product. Of course, if we have cotton gauzes moistened with water, glycerin or oil, we must take that into consideration in figuring the percentage."

Mr Good: "I want to indorse Professor Hallberg's position in this matter. I think it is absolutely correct. To speak of a certain amount of cotton as the antiseptic seems to me the height of absurdity. What you wish to apply is to take the moist gauze and apply a certain strength of solution. You apply that solution, so much of a 10 per cent. solution, we will say: the cotton is simply the fabric which you use in carrying that solution to the wound. That is all it is. If you make a corrosive sublimate cotton on the basis 10 or 1 per cent., 1 part of corrosive sublimate to 99 parts of cotton, what you apply to the wound is absolutely pure corrosive sublimate, and the cotton cuts no figure, and you will find you will do considerable damage. It is necessary to have the moist gauze, and what you apply is this solution, whatever it is, and the cotton cuts no figure, but simply helps to apply it. I am impelled to take this position in this matter. You can take iodoform and you can calculate the iodoform gauze on the basis of 10 or 50 or 1 per cent., and it doesn't make any difference what you apply, if it is pure iodoform, because it does no harm. The weight of the fabric cuts no figure—you can touch it to the wound—but it is simply the thing that I use in conveying the iodoform to the wound."

Mr. Remington: "I have kept entirely out of this controversy that has been going on in the journals, for I was able to see, I think, two sides to this question in the beginning, but I think I now see a little further into this subject. It has gotten beyond the mere question of the pharmacist making gauzes for himself. Those gauzes are in great demand and very largely used by physicians and surgeons, and when they were originally prepared undoubtedly the intention was to prepare them in the simplest possible manner. They were largely prepared for hospitals, in many cases by the hospital attendants and nurses, and the easiest way to prepare them was to dip the gauze into those various solutions. But they have gotten now to be a commercial product; various firms manufacture them; competition has come in, and it seems to me that the time has arrived for us to get on a solid, substantial basis. The question of these moist gauzes is very largely a question of evaporation. They may be made of different strength and the manufacturer puts a label upon his preparation, but when they get into the hands of the physician and surgeon they will not be the thing which they were originally. There is no solid basis to get upon in this matter, but to have the finished product contain, either according to area or according to weight, a definite amount of the medicating material, and until we get on that basis we will have no solid ground to stand upon. Professor Hallberg when he makes these solutions knows what they are, but it is a commercial question now. It has gotten out into the broad field of competition and it has prompted some manufacturers to label their goods a certain thing and others a certain thing, and the physician and surgeon do not know what that is. But when we get on the basis of the finished product, representing a definite amount of medicating material, we have reached solid ground, and until we do we will never be on safe ground. Now let the manufacturer, if he chooses, put on his label what the equivalent is. Let him say that this is made from a 10 per cent. solution, if he chooses to satisfy the ordinary demand, but let him put upon the box or container exactly how much 100 gm. of that gauze represents in medicating material. Let it be there, then we will be on a safe basis altogether."

Mr. Prescott: "The term in this publication has been used, 'finished dressings.' Is there any better term than that? If a water solution of mercuric chloride is the proper finished dressing, so be it. I have no objection to that. I still say if it is to be sold as a finished dressing it should be sold with the percentage of mercuric chloride in it stated. You may say that is not the finished dressing we are talking about, that is not what ought to be used and not what surgical dressings are. Well, that is a surgical question, whether a dry dressing of mercuric chloride should be bought and sold and used. I have nothing to say on that; but whatever it be, as finished dressings, whether the solution is to be applied by the nurse and moistened as Professor Hallberg says it ought to be—and I think that would be the best practice as a rule—or whether dry chloride, it manifestly ought to be stated upon that finished dressing. It may be that a dry dressing of mercuric chloride is not the proper thing to use. That may be. That is a surgical question. But if they do have it they should have, it seems to me, the definite percentage stated and proper directions given as to the amount of water to be used with it."

Mr. Stewart: "I was figuring here on a piece of paper for my own satisfaction, but Professor Prescott having raised a similar point I ask for information more than anything else. If you take an ounce of cotton and a grain of corrosive sublimate and 2,000 grains of water, you have preparation No. 1; if you take an ounce of cotton and a grain of corrosive sublimate and 1,000 grains of water, you have preparation No. 2. Now, if you evaporate 1,000 grains of water from No. 1 it would be No. 2. Now, if the directions were furnished in such a way so that so much water could be added to make the finished dressing of the required strength, wouldn't that cover the point of Professor Prescott's remarks?"

Mr. Snow: "I would ask whether in the preparation of corrosive sublimate dressings precaution is taken concerning the nature of the water used. We are all familiar with the effect of the

use of alkali water in giving results entirely unsatisfactory, and I wish to know whether that is taken into consideration, and if the dressing is not going to be entirely modified by the nature of the water used."

Mr. Alpers: "Those who have followed this question in the pharmaceutical journals for the past six months know that this whole thing is the outcome of the rivalry between two manufacturing firms. I do not say that this identical paper has been read by me in the journals, but I have seen all the statements at different times. If we consider only the large authority read on No. 2, of course we think that No. 2 has the preference, but we have not heard from both sides, and we ought to wait for the other side, as it may outweigh this one. So far as the question of dressings is concerned, I could never get it through my head that the weight or area of the material could have anything to do with it, and I cannot think so now. For instance, take a square inch of gauze which is to represent 1 to 2,000 mercuric chloride. They will weigh this square inch, and this square inch must contain 1 to 2,000 mercuric chloride. Now, if I take a heavier weight and put 1 to 2,000 I get a good deal more to the square inch because different gauzes would contain quite a different amount. There is no certainty at all. But we must start with a certain kind of gauze that weigh so much per square inch. I cannot see how any dressing that is based on a water solution can be measured except by making that solution and dipping the gauze into it. And all the physicians I have consulted—although they are not prominent names, but honest and successful practitioners in their locality—have this view. They prepare their solution of a certain strength and dip the cotton into that solution and apply it. Then they are sure that they get a solution of 1 to 2,000 on the patient. Of course, it is quite a different thing when dry powder is applied. It is immaterial how much there is on the part; they just sprinkle it on the wound and then put the cotton on it. I cannot get it through my head that such materials as those can be measured by the square inch or by the weight."

Mr. Good here introduced Dr. Jackson, of Denver, formerly of Philadelphia, and Dr. Jackson was allowed the privilege of the floor for the purpose of giving the views of a physician and surgeon upon this subject.

Dr. Jackson: "I can assure you the discussion has been really very interesting to me, and it seems to me a matter of importance to the surgeon as well as to the pharmacist, and I think the large number of surgeons who have responded to the request of the author of the paper indicates a wide interest in the subject. As to reaching a decision on the question, it seems to me that the answer of Surgeon-General Sternberg on page 3 of the paper is probably the nearest approach to it. He says: 'Dry surgical dressings should be prepared in accordance with proposition No. 2. Wet dressings should be prepared by immersing gauze or other porous material in a standard solution of antiseptic agent.' Now, I think there are two entirely distinct uses for surgical dressings, which, if they were brought out clearly, would perhaps bring about an agreement between the two pretty distinct sides which there seems to be to the discussion. Surgical dressings are used sometimes to medicate a wound; they are used more generally as an efficient barrier against infection from the outside. When used to medicate a wound I think usually they would come under the head of wet dressings; that is, dressings prepared from a solution and never having been dry, and of course they would be prepared in a solution of standard strength. As they are used as a barrier against infection from without, they are commonly applied dry, and more generally not applied immediately to the wound, but with some inner dressing between them, and only become active as the moisture or discharges from the wound soak into the dressing and liberate the antiseptic substance with which it is charged. It seems to me that if we use a dry dressing, a preparation which gives the definite amount of the drug in the finished product is the proper thing to come from the manufacturer to the pharmacist and from the pharmacist to the surgeon. That, then, if such a preparation were desired to be utilized for a wet dressing, of course, the thing to do would be to add a definite amount of water to it." (Applause.)

Mr. Hallberg: "I want to say that Dr. Jackson gave the absolutely correct modern acceptation of the theory of septic as well as antiseptic solutions. You can make no general rule. There is a septic and an antiseptic side. For one purpose the dressing is better applied dry, and for the other purpose it is necessary to have a solution of standard strength. My position here, I notice, is exactly that of Surgeon-General Sternberg, and it cannot be successfully disputed by any one who gives sufficient thought to the subject."

Mr. Williams: "I quite agree with Professor Hallberg in that surgeons should have their say in this matter, and that is why I wrote to so many of them. And having got forty out of forty-four to indorse No. 2, I consider it is satisfactorily settled from the surgeon's standpoint that the surgeons of the United States very largely indorse No. 2. Now, I have written to some of the more prominent surgeons who have taken the other side begging them to give their arguments in the matter, and have been only able to get the return card of a registered letter. They do not seem to be desirous of giving arguments on that side of the question, as far as I have been able to find out. I explained that I was seeking opinions and not indorsement.

"So much for the surgeons. Now in regard to percentage solutions which Professor Hallberg speaks of, I have only to say, if the solution is a dressing let us speak of it as a dressing, and let the label say this gauze is saturated with a solution which contains a certain percentage of antiseptic. But that has not been the custom anywhere heretofore. And I may say as a fact that the prominent advocates of No. 1 have changed their views and are now stating that a certain iodoform gauze, for instance, 5 per cent., consists of 5 parts of iodoform and 95 parts gauze, a complete flop since this discussion was inaugurated.

"Now, in reply to what Professor Good said in regard to the cotton and gauze being merely the vehicle for conveying the antiseptic to the wound, I would like to treat that from a commercial standpoint and say, if I go into Professor Good's store and ask for a pound of antiseptic cotton—we will say it is expensive antiseptic—he charges a certain amount. That price is supposed to represent principally 10 per cent. of the weight of that cotton of the particular medication, but according to Professor Good's idea, neither he nor I knows how much that pound of cotton contains. It seems to me there is a difficulty there from a commercial standpoint. There is no telling how much there is in a pound of cotton or 5 yards of gauze; we are absolutely in ignorance of what we are buying. Also, we do not know exactly how much iodoform or salicylic acid, if we want to consider water, soluble substances, there is there.

"In regard to the degree of moisture in dressings, it is a fact that many antiseptics require a certain amount of moisture to make them active. If we make them wet over and above the amount of moisture to make the antiseptic active, that simply tends to satisfy the absorptive qualities of the dressing itself. The value of these dressings in very many cases is their absorptive quality. If you fill them with water, how are they going to take up any more?

"In regard to what Mr. Snow said relative to the reduction of corrosive sublimate, of course distilled water should be used. It is a fact that ordinary cellulose has the effect of reducing corrosive sublimate, particularly the wood gum, and, as we all know, corrosive sublimate is readily reduced by discharges from the wound as well. In fact, I do not think that corrosive sublimate stands where it did a few years ago as an antiseptic.

"In reply to Mr. Alpers, in regard to calculating the weight of antiseptic to the area, as he put it, I should say he has figured weight to weight, and not weight to area, as he put it. In the case of cotton you cannot figure it weight for area, because you do not know how much a yard would amount to, but this statement of 'grains per square yard' means that a yard of cotton contains so many grains of antiseptic, no matter how much the yard weighs; that a certain area contains so many grains of the antiseptic, or grams per meter, as the case may be.

"Now, in reply to what Dr. Jackson said in regard to applying solutions, I don't want to take up too much of your time, but I would like to refer to a letter from Dr. Carmen, of Yale University, in which he states that it is true that they do use sublimate solutions and apply them, simply saturating the gauze with it and keeping that saturated, as a poultice—that is the way he speaks of it, as extemporaneous poultices.

"In regard to what Mr. Good says I will say one word. If we take percentage we must take mathematics, for percentage cannot enter the field of surgery. We have got to find some other way of designating the surgical dressing, and the sooner we find it the better."

After further brief remarks the paper was referred to the Committee on Publication and the section listened to the reading of the report of the Committee on the Revision of the Pharmacopœia.

The next paper presented was "An Analysis of Fifty Thousand Prescriptions Collected all over this Country," by E. L. Patch, Boston, and after being read by Mr. Remington was referred to the Committee on Publication.

Mr. Hallberg announced that the Pharmaceutical Association of Illinois had a tabulated statement of 25,000 collected throughout that State, and offered them to the association to be added to the list presented by Dr. Patch. Upon motion of Mr. Good the offer was accepted, and other associations having similar data were invited to furnish them to the American Pharmaceutical Association for publication in one statement.

The following papers were then read, the latter three named being read by title and referred to the Publication Committee: "The Extracts of Cod Liver Oil," by F. E. Stewart, M. D., Ph. G., Detroit; "Cod Liver Oil," by C. C. Sherrard, Detroit; "On Chinquapins," by Henry Kraemer, New York; "Analysis of Kola," by J. O. Schlotterbeck, Ann Arbor; "Notes on Pepsin," by L. F. Kebler, Philadelphia. There being no further business before the section, an adjournment was had until Aug. 12, 1896, at Montreal, Canada.

COMMERCIAL SECTION.

Third Session—Monday Morning, Aug. 19.—Chairman Seabury called the section to order, and the reading of the minutes of the preceding session being dispensed with, a paper was read on "American Chemical Industries."

Chairman Wooten read the following report:

"Your Committee on Resolutions would respectfully report that they were organized by the selection of Thomas V. Wooten as chairman and Clay W. Holmes as secretary.

"They considered the topics presented by the chairman's address as thoroughly as the limited time at their disposal would permit, and beg leave to submit the following general preamble and resolutions:

"Whereas, The American Pharmaceutical Association has the best interests of the retail pharmacist at heart; and

"Whereas, It is self-evident that thorough organization will elevate the condition of the pharmacist as a profession; and

"Whereas, The American Pharmaceutical Associations pledges its support to any well-directed efforts made by such organizations for the accomplishment of the desired results:

"Be it resolved, That we urge it as of vital importance that permanent local associations should at once be effected everywhere to correct such abuses as exist.

"Resolved, That such local organizations should at once give their attention to the correction of the following abuses: 1. Department-store drug traffic. 2. Indirect and irregular business transacted by the jobbing trade. 3. Influencing the medical profession to return to their first allegiance. 4. Turning of the traffic of manufacturing pharmacists to its legitimate channel as indicated in the resolution adopted at forty-second annual meeting and printed on page 78 of the Proceedings of that year.

"Resolved, That the secretary of this section be instructed to send a copy of the resolutions adopted to the president and secretary of all State organizations and to such local associations as may be known to exist.

"For the committee:

"(Signed) THOMAS V. WOOTEN,
"Chairman.
"CLAY W. HOLMES,
"Secretary."

Upon motion of Mr. Corcoran the report of the committee was adopted.

The Chair: "The next question is the elevating one of free alcohol. I do not think it is necessary for the chairman to make any remarks on this subject because I am of the opinion that nearly everybody is agreed, but if you deem it pertinent or proper at this time to put yourselves on record, it might be well for us to pass some resolution giving the consensus of our judgment on that question at the present time. You all know that it is in a state of great uncertainty. Congress having made no appropriation whatever. They have made no regulations for this rebate, and as I stated in my address, it seems to me to be a wise thing not to attempt to debate this question now, but I do think we should put ourselves on record, even if we may not be united on what should be done."

A motion was made that while the section was awaiting the arrival of Mr. Thompson to report the result of the special committee's visit to Washington last year, the privilege of the floor be granted to Mr. N. Hayes, manager of the Universal Trade Association, to explain the methods of that institution.

Universal Trade Association.

Mr. Ebert: "If we take this action without any comment I fear that the next issue of the trade circular published by that association will contain in large type the following: 'The Commercial Section of the American Pharmaceutical Association tendered to our manager the privileges of the floor, but on account of some unforeseen accident he was unable to be present; therefore the druggists of this country can see in what estimation our plan is held.' There are some gentlemen present who have a pretty good idea of the workings of this institution, and we ought to ask them to give us an explanation of the same."

Mr. Cook: "In reply to what Mr. Ebert has said, I move that the record be completed by stating that the gentleman was not present and did not appear and therefore the section passed on to the next business."

Mr. Mayo: "I believe he has been given notice that he would be expected to be here to-day, and that would place the onus of his absence upon himself."

The Chair: "The chairman has thrice notified him, so he cannot plead ignorance of the fact that he was invited."

Mr. Mayo: "Something of that nature ought to appear in the Proceedings so that, as Mr. Ebert says, the journal that represents his concern cannot place the matter in an improper light before the druggists of the country."

Mr. Holmes: "A representative of the Universal Trade Association came to Elmira, N. Y., and called on all the druggists and invited them to have a meeting, and the president of the local city association considered it advisable to call a meeting. He did call such a meeting and I was invited to be present. The gentleman succeeded in gathering together some five or six of the druggists, I think, perhaps seven or eight out of something like forty, and when they had all come together the meeting was called to order and the gentleman was asked to explain his plan. He talked about an hour and a half, and the gist of it was this: That a few gentlemen in Detroit had resolved themselves into officers of an organization; that they had formed a stock company and gone down to West Virginia to have it incorporated; that they had deposited there $10,000, in accordance with the laws of West Virginia—that is what he said, I don't know about the truth of it—and that they had started out to get all the druggists interested in this way. A man was to subscribe for one share of stock at $5, or he could subscribe for twenty shares if he wanted to, and at the same time he was expected to subscribe $1 for their talking machine, the Retail Druggist. I looked over a copy of this paper and I should judge it to be worth about 10 cents for 1,000 years. Then he stated that in every city they went to he got all the names, and he had a list from Buffalo that really had on it the names of a large number of druggists, some of them prominent ones. He took especial pains to show these prominent ones. He also showed a resolution of the local organization of Buffalo indorsing this plan and asked the Elmira local society to indorse it. Well, some one made a motion to accommodate the gentleman; one man voted for it and the president declared it carried and he got the indorsement. I assume that that is the same kind of an indorsement he got from the other societies. Five men voted for forty druggists, the best of whom were not present; and he carries that indorsement to the next town and works the same scheme. There wouldn't anybody subscribe for stock that night because I put a few questions to the gentleman and opened the eyes of those that were there, but he went around the next day and got five or six subscribers who paid $5 apiece. I certainly think that this section or the American Pharmaceutical Association would be going far beyond their duties if they were to indorse in any particular this matter of the Universal Trade Association. I think the gentlemen who are connected with it are reputable men; at least, I know two of them personally and they are very reputable men. If they had the resolution of any organized body of pharmacists back of them authorizing the incorporation of this body I would think differently, but they have no indorsement whatever. You can see for yourself what is in it. It is all personal so far as I can see, and I should hesitate very much before I gave up $5 for a share of stock in such an organization as that."

Mr. Carter: "In Indianapolis we had a meeting of the local association, and we refused to indorse the plan of the Universal Trade Association because we did not care to put money into it, and the sentiment of the druggists was that they would not indorse a plan that they would not invest money in."

Mr. Goetz, of Chicago, then made a lengthy statement of the personnel of the officers of the association as they had been found during an investigation, showing them to consist of people outside of the drug trade and entirely without financial backing, excepting such money as they received through the efforts of the representatives sent out, and the matter was finally referred to a committee consisting of Messrs. Goetz, of Chicago, Corcoran, of Kansas City, and Cook, of New York, with instructions to prepare a resolution and report at this session of the section.

Free Alcohol.

Mr. Thompson, chairman of the committee appointed the preceding year to present resolutions to the Secretary of the Treasury on the question of free alcohol, made his report, which was adopted.

Mr. Fennel moved that this section reaffirm its action of last year on the question of free alcohol, as expressed by the following resolution:

"The American Pharmaceutical Association at its forty-second annual meeting, now being held at Asheville, N. C., having carefully considered the recent action of Congress in enacting legislation exempting alcohol used 'in the arts or in medical or like compounds,' from internal revenue tax, as prescribed by Section 61 of 'An act to reduce taxation,' etc., known as the 'Tariff Bill' of the last Congress, and being convinced of the impossibility of regulating and controlling the use of alcohol in the broad sense in which such exemption might be construed, therefore earnestly and unitedly protest against any interpretation of such section, except as follows, to wit:

"That the payment of rebate on the internal revenue tax on alcohol under Section 61 of said act be confined to alcohol used in the manufacture of those products in which the alcohol is so changed as to lose absolutely its chemical and physical properties, including the classes of chemical compounds known as the ethers, chloral and chloroform."

The matter was referred to a committee of three to report upon at this session. The Chair appointed as such committee, Messrs. Fennel, Cook and Hechler.

The committee appointed in the matter of the consideration of the Universal Trade Association made a report which was slightly amended, then adopted, as follows:

"Your committee appointed to take into consideration the discussion on the

subject of the plan of the Universal Trade Association beg leave to report that we believe it was originally designed for a money-making scheme, which we condemn. However, we are disposed to believe that there may be some merit in the plan, but we would caution the retail druggists of the country to let the plan alone until it shall be in the hands of representative pharmacists, and the manufacturers approve of and consent to put the plan into operation."

New Officers of the Section.

Mr. Geo. J. Seabury, of New York, and Leo. Eliel, of Indiana, were nominated, but Mr. Eliel refused to accept the nomination. Upon motion the secretary was instructed to cast the ballot of the section in favor of Mr. Seabury for chairman.

For secretary Clay W. Holmes, of New York, was nominated, the nominations closed, and Mr. Holmes declared the unanimous choice of the section for secretary.

For members of the Executive Committee, after numerous nominations and declinations, the secretary was instructed to cast the ballot of the section in favor of Messrs. E. L. Scholtz, Denver, W. M. Sempill, Chicago, and George McDonald, Kalamazoo.

The committee appointed to report a resolution on the question of free alcohol made the following report:

"Your committee appointed to consider the resolution of Mr. Fennel and the substitute offered by Mr. Thompson, beg leave to report that they believe that this section should indorse and reaffirm the action taken at the Asheville meeting."

Upon motion of Mr. Ryan the report of the committee was adopted.

Upon motion of Mr. Mayo the resolution on alcohol passed last year and as read in this meeting was reaffirmed.

Mr. Corcoran offered a resolution that the Section on Commercial Interests should request the council to allow that section at least two sessions at all future meetings of the association. Carried.

It was moved and adopted that the council be requested to set aside the sum of $200 for the use of this section during the coming year, that the section may use so much of that sum as is found necessary to carry out the plans suggested at this meeting.

The vote was reconsidered and the secretary instructed to refer the matter to the general meeting of the association, and ask that $200 be set aside for the purposes named in the original motion.

Thanks of this section were returned to the retiring officers, and the section adjourned until the next annual meeting.

FOURTH GENERAL SESSION.

Monday, Aug. 19.—On motion the four members proposed at the last session of the council as members of that council are invited to become members of the association.

Mr. Hallberg offered an amendment to the by-laws (by request), viz.: Chapter 6, article 2, adding thereto the words "And the secretaries of the sections shall be ex-officio members of the council." Moved that the same take the usual course.

SECTION ON PHARMACEUTICAL EDUCATION AND LEGISLATION.

First Session—Monday Aug. 19.—Motion to adjourn and join the Section on Commercial Interests was put and lost, whereupon Chairman Good read his annual address, which was referred to a committee of three, to report at a later session. Secretary Hallberg then read his report, which dwelt principally upon poison laws, etc., and in the discussion which followed Professor Prescott said: "I desire to call attention to the importance of this matter just reported upon, that of the registration of the sale of poisons by pharmacists. I think the American Association ought to give serious and continued attention to that matter. It is a matter of considerable difficulty, I am aware, and embarrassing in many cases, but the difficulty and embarrassment ought to be overcome by prudent, sensible provisions of State laws, and all States ought to have laws to this end. I think that professional pharmacy is in some disgrace in various communities of various States through failure to register the sale of poisons when cases of suicide by insane persons or of attempted homicide occur, and it is for the interests of pharmacy especially, in its need of legal regulation, that the pharmacists of the country should look well to their duty in this regard."

Messrs. Alpers, Alexander, Remington and others also spoke of the importance of these matters and of the ease with which poisons are procured in those communities were registration of poisons was not a law, and upon motion the chairman appointed Messrs. Prescott, Remington and Alexander as a committee to present resolutions regarding the registration of poisons.

The nominations for president and secretary were then in order, and the names of Professor Hallberg and Professor Beal were placed in nomination. For secretary Professor Hurty's name was suggested by a member. Professor Hurty thanked the association, but declined on the ground of his inaptitude for such a position, and Professor Bartley was then placed in nomination.

Mr. Sheppard then read a paper on the "Requirements for Graduation," he taking the ground that a practical store experience of at least three years should be had before graduation. Professor Oldberg (in the absence of the author) read a paper by Professor Nagelvoort. Subject, "The Better Education of Pharmacists."

Secretary Hallberg objected to a statement in the paper about pharmacy as a trade being a failure. If meant in a pure business sense, it was correct; but if the drug trade was regarded as similar to that of the artisan and mechanic, involving manipulations of skill and experience, then the statement was wrong, and ought to be qualified.

Professor Oldberg explained that the commercial trade of the druggist was meant; the efforts to establish trade rules and combination, for instance, to prevent the cutting of prices and such matters would never mend the ills from which we suffer.

Professor Prescott: "I have listened with a great deal of interest to the paper of Mr. Sheppard, and I may be permitted, perhaps, to add a word which, it seems to me, may do something toward a settlement of the whole proposition respecting it. On the one hand, apprenticeship before college; on the other hand, the college before the apprenticeship. It will be observed that Mr. Sheppard claims with some emphasis that the college student who has had apprenticeship is at an advantage over one who has not had apprenticeship. And it will be observed that he leaves the statement regarding those two relations right there. I will not contest that statement of Professor Sheppard. I have been inclined to make it myself. I think that the student with the apprenticeship has some advantage in the school. It is not always favorable. The results seem sometimes to be the other way. About half the students in our school have had apprenticeship, and half have not. They are in the same work, recitation and class every day during both years. In cases where the students have had apprenticeship, their high-school work has been interrupted. They have not that discipline of study which the other students who have come directly from the high schools possess. At the same time, I am not quite sure that on the whole those students who have had apprenticeship are in a somewhat more advantageous position than those who have not. I am not quite sure of that, but I should not object to it very strongly. I wish now to call attention to the converse of this question. I do not speak from my own experience. I speak from the experience of the majority of the six or seven hundred graduates of our school as to the advantage of the college course before apprenticeship, and they all say a year of apprenticeship after the college course is worth more than two or more than three years of beginning experience without previous college course."

Mrs. Miner, speaking from the standpoint of the retail pharmacist, said: "My experience for ten years in employing clerks has been that those who have received a practical experience in a retail drug store from one to two years before attending a college or school of pharmacy, and then spend a year in the store between college terms, have been to me the most satisfactory employees by far."

Professor Simon: "I have always taken very good care not to put my name on a diploma of the Maryland College of Pharmacy without being convinced that the man was fully capable of attending to the duties of a pharmacist. Yet for years past I have done so reluctantly for the reason that there are things in the diploma over which we have no control whatever, of which we know nothing, and that is the practical store experience. What I object to is to certifying in our diploma to a practical store experience, because it does not mean simply to fill prescriptions, but it means a great deal more, somewhat pertaining to the commercial side of the question. It pertains as to how to meet a customer, and, perhaps, how to put up a neat package and all those details. As colleges of pharmacy we should not place ourselves on record as testifying to anything over which we have no control, and that is the position which I occupy in this matter, and for which reason I cannot altogether agree with my friend Mr. Sheppard."

Mr. Alpers strongly advocated apprenticeship before taking a college course, but would not make it obligatory, and also criticised Mr. Sheppard's remarks concerning the Ph. G. degree, to which the latter replied that he merely made a plea for keeping that degree just as it always has been. "If we have a new department, let us have a new title. The old degree always represented two things, namely, schooling and practice. Let it still represent two things, schooling and practice. It seems to me that the work of the past of pharmacy has been good, and that the title of graduate in pharmacy practically represents the work of the fathers who are now dead, and it is good enough to have a prominent place in pharmacy education. I may be somewhat sentimental in the estimation of the value of that degree. I know from the hundreds of men throughout the United

States that hold that degree and value it highly, and it has always represented just those two things, and I hope we shall let it always represent those two things. There is plenty of room for another degree if we choose to have it."

Mr. Remington asked Dr. Simon if the only objection to the apprenticeship requirement was its connection with the diploma, to which Dr. Simon replied: "It is my main objection. I am not at all opposed to the experience. In fact, I think it is a good thing, but I am opposed to certifying on the diploma to the fact, and I heartily agree with Mr. Sheppard that it might be well to leave the degree of graduate in pharmacy to the combined necessities of store experience and college experience. But for my own part I would recommend to the school I represent to drop the title of graduate in pharmacy, because, as I have stated before, I very reluctantly place my signature to anything over which I have no control and of which I have no possible knowledge."

Mr. Caspari: "It was stated that college professors were not in a position to argue the matter properly, because they had had no experience in the drug stores themselves. I beg to take exception to that, for I have had some experience in a drug store. I served twenty-six years behind the counter. I hold the degree of graduate in pharmacy, and I am also a teacher, so I claim that probably I can speak on this subject in a disinterested manner. It has been stated that the experience before college attendance should be made a necessary requisite for the degree of graduate in pharmacy. Friend Sheppard holds very firmly to that. That was all good in the days when experience was experience, but it has entirely fallen through during the past five or ten years; and all those who are familiar with the drug business of to-day must admit that the apprenticeship of four years in the drug store of to-day counts for nothing. Four years' experience in the drug store of to-day cannot compare with six months' work in the laboratory of a well-conducted school of pharmacy. The better schools of pharmacy cannot afford to make their instruction any the less effective in that respect. They must each operate a dispensing pharmacy, and they can teach them how to wash bottles and all the matters alluded to. If the fathers of pharmacy, as they have been called here to-day, could return to us and see the condition of affairs, look into the schools of pharmacy and the practical teaching there given, they would with one voice say that the school of pharmacy of to-day is the place where the young men learn the practical details of the business, and not in the stores. As the stores cannot give it, the colleges have been compelled to give it, and therefore we do not think that we should be held down by such requirements as four years' service or presence in a drug store, because that is all it amounts to, or that the very uncertain experience, if it may be termed so, should be made a requisite for degree. I claim that the degree of pharmaceutical chemist means more than graduate of pharmacy to-day. It has a higher meaning attached to it."

Professor Sayre related the experience of the University of Kansas in obtaining proofs of the practical experience of students and of the efforts to have the State Board of Pharmacy take such responsibility, with the result that when the student has passed a practical as well as a theoretical examination in the university a diploma is given him, and that means the work of the university, and that alone.

Mr. Hurty believed that in advocating experience before entrance to college, pharmacy is occupying a position at the tail end of the general proposition of education, and said: "Our colleges start at the bottom and commence to teach pharmacy, just as if the student had never seen the interior of a drug store. They commence to teach weights and measures, etc. Why do colleges do that if they place so much stress on experience? Why don't they take a start at the point where the other fellow left off? Why make him go over the same thing after he has had four years' experience? I am very sure in my mind that we will come to the time when the university will have to go on in this way; they will go on extending the time. They are doing it all the time, and they will go on extending the requirements for entrance, and I do not believe that any resolution of this society can govern the great State universities, which are not in business for revenue at all, but exclusively for education, and do not depend for their support at all by patronage. They will go on in this line."

Mr. Whelpley said: "Rather than throw practical experience overboard we had better endeavor to improve our methods and departments by the character of practical experience, and, by the way, the laws of several States are assisting us in that end, and doing good work by superintending or keeping count and specifying the conditions under which an apprenticeship shall be served. Illinois is one of the foremost in that line; so that here we are starting out in the direction of better controlling practical experience, and another class of teachers are throwing overboard the practical experience at the very time when they should remain and take advantage of the progress made in that direction. Many arguments have been advanced, but there is one that I have not seen mentioned, which I believe is a valid one as far as it goes, one that we should carefully consider. Every profession, every trade, every occupation is overcrowded. We find people giving up the occupation that they have prepared themselves for. Now, I feel that whenever a young man adopts a course in a college of pharmacy without any knowledge of the drug business he cannot determine until he has spent his money, his time in the college, and then entered the drug store whether he is a fit man to be a pharmacist or not, and I feel that it is a duty of the colleges of pharmacy to better the condition of pharmacy by giving the apprentice every opportunity of understanding just what he is coming to before he has gone so far that he will not give it up."

After further discussion by Professors Oldberg, Hallberg, Sayre, Fennel, Remington and Dr. McGill, a motion to refer the papers to the Committee on Publication was finally carried and the section adjourned.

Second Session—Monday Afternoon, Aug. 19, 1895.—The secretary read the names of the nominees for chairman, Messrs. J. H. Beal, of Scio, Ohio, C. S. N. Hallberg, of Chicago, and for secretary, Messrs. J. N. Hurty, of Indianapolis, Ind., and E. H. Bartley, of Brooklyn, N. Y. Upon Mr. Beal withdrawing his name for the chairman and several of the candidates for secretary doing likewise, the secretary of the section cast the vote of the section for Mr. Hallberg for chairman for the ensuing year and J. H. Beal for secretary.

The secretary presented in synopsis a continuation of the secretary's report covering registration statistics, showing, with two or three exceptions, the number of candidates for registration and the number that have been registered by every board of pharmacy in the United States. He said: "We could get no returns whatever from the State of New York, and the local boards we did not endeavor to get returns from. Maryland; the law applies only to Baltimore and we have no returns from Maryland; the law applies only to Baltimore enacted this spring; Pennsylvania we could not get any returns from, but just before leaving for the meeting one member of the board finally succeeded in getting a few statistics; Texas it was impossible to get any returns from because there is a board of pharmacy for every judicial district of the State, but though I have written to various pharmacists of Texas and to the Secretary of State, and to a number of other persons, I have never been able to obtain any information whatsoever regarding the Pharmacy law of Texas; the same applies to Idaho—the Pharmacy law has just been enacted; in Wyoming the law has been a dead letter for the last five years. We therefore have as a summary the following: Total number of candidates for registration as pharmacists, 5,273; for the fiscal year 1894-95, 945. We have estimated the proportionate number from the places that have not been heard from, and by estimating them at 1,500 we have a total of 6,773. A little more than 50 per cent. have been registered from the candidates that have applied for registration, 3,500 in round numbers for the year in all the States. The registration of assistants is incomplete because there are comparatively few States as yet that have this second grade. On the question of registration of apprentices there are only two States with this law, Arkansas and Illinois, to go in effect January, 1896, and two States where their qualification is the age of eighteen, Arkansas and New Hampshire, 21, and Oklahoma."

The secretary's report was received and referred to the Committee on Publication.

Concluded next week.)

—The secretary of the Illinois State Board of Pharmacy on Aug. 15 visited the State's Attorney's office to make arrangements to have the cases of those found violating the new law taken up and brought before the grand jury.

—O. W. Moon, whose store at Lockport, Ill., was destroyed by fire on Aug. 10, has purchased an entire new stock of drugs of the Fuller & Fuller Co., Chicago, and will start anew as soon as the store can be made ready for occupation. C. H. Bacon, of Lockport, Ill., who was also burned out in the fire which recently devastated that place, has purchased a new stock of Morrisson, Plummer & Co.

—A correspondent writes that Jos. Zellers, of Charleroi, Pa., called on Druggist Carruthers of that place asking for a salve to heal a sore leg. Carruthers, who had taken a term at medical college, but was not a registered physician, informed Zellers he was suffering from impurity of the blood, and insisted on prescribing for him, and prevailed on him to take a concoction of his own, giving him an eight-ounce bottle of medicine to take inwardly. Zellers took a few doses of it and was seized with symptoms of arsenical poisoning. It took the combined efforts of three physicians to bring Zellers back from a state of extreme danger, resulting, as they supposed, from the use of the medicine. The bottle and remainder of the contents is now in the hands of the constable, and there is talk of legal action being taken against Druggist Carruthers.

WISCONSIN PHARMACEUTICAL ASSOCIATION

The fifteenth annual convention of the Wisconsin Pharmaceutical Association was held in Concordia Hall, Sheboygan, Aug. 13-15. Druggists from all parts of the State were in attendance, and taken as a whole the meeting was one of the most successful and pleasant that the association has ever held.

The exercises began Tuesday, the morning session being devoted to registration of members and general business. At 2 o'clock the regular programme began with an address of welcome by Max R. Zaegel, of the local society. Mr. Zaegel extended a warm welcome to the association. He said the number and aggregate value of prizes to be offered exceeded those offered at any previous meeting. Mayor Born followed with a cordial welcome on behalf of the city, handing President Hollister the key of the city, an article four feet long and covered with gold leaf.

The President's Address.

After receiving the key of the city President A. H. Hollister, of Madison, proceeded with his annual address. He said in part:

I would commend to your notice and ask for your indorsement of the following resolutions emanating from the Chicago Retail Druggists' Association, and would suggest a committee of three be appointed to take the same into consideration and confer at once with A. E. Ebert, Esq., State and Polk Streets, Chicago, and that the necessary expenses of such committee be paid by the association.

It must be evident to every retail druggist that the United States law imposing a liquor tax of $25 is unjust, unfair and a gross imposition, and we cannot be too active in showing our opinion of its odiousness. We must stand together in meeting all the questions that touch upon our material prosperity and work for every project that tends to protect our interests and to advance our success.

After reference to the legislation of the past winter and the improved lines upon which it had been prosecuted, he spoke a good word for the department of pharmacy at the State University. He referred to the list of dead for the year and reported that the finances of the association were in a better condition than ever before. The report was referred to a committee. The officers and the various committees then made their annual reports, Treasurer W. P. Clarke reporting a balance of cash on hand $187.41. The Executive Committee reported the deaths of several members of the association during the past year, as follows: Herman Dettloff, Chippewa Falls; Robert Cunradi, Sauk City; M. A. Sawyer, Boscobel; John A. Dadd, Milwaukee. In the matter of legislation the committee reported that

Considerable had been accomplished and a very satisfactory condition exists. The druggists of Wisconsin are to be congratulated that our State board has matters relating to their business so well in hand and is acting with such promptitude and efficiency; especially is this true in its effort to rid the State of its grocery and dry goods druggists. The association should lend its support to the board in every consistent way. We would also recommend that more attention be paid to the

F. W. THIEMAN, President-Elect.

northern part of the State by this association. There are many good men there who would be glad to embrace an opportunity to become members were they even slightly encouraged. Some of these northern pharmacists imagine they are not wanted because the W. P. A. has paid them but little attention. We would suggest that at least one meeting be held in some city accessible to the druggists of the northern portion of the State and if necessary send out some workers to get them interested. They are certain to become, as a rule, active and desirable members.

The following delegates were reported from the Minnesota Pharmaceutical Association: F. M. Parker, Red Wing; John Von Rohr, Winona; J. R. Springstad, Dodge Center. From the National Wholesale Association: James McCord, of La Crosse. Secretary Heimstreet made his report for the past year, showing that the association in numbers, interest and finances was in better shape than ever before. The dues are now $2 per year and there are 412 names upon the books.

Second Day.

The morning session began by the election of several applicants to membership. The Insurance Committee made a report, but no action was taken, and the matter dropped for the present. The Committee on President's Address reported favorably on his suggestions. Mr. Sauerhering offered a resolution in regard to higher standing of pharmacists in the army and navy. A. A. Pardee read a report on trade interests. A resolution was adopted condemning the action of certain parties in demanding exorbitant prices for chemicals on which they hold a patent. Professor Kremers, of the Pharmacy Department of the State University, read an article regarding pharmaceutical education. Various other papers were read. The report of the Board of Pharmacy occupied a good share of the afternoon session. Following is a brief abstract of the report:

Five meeting were held the past year, at which 22 persons were granted certificates by registration, they having passed their examination in other States; 261 applied for examination; 68 received licentiate and 89 assistant certificates; 104 were rejected; 1,946 persons have been registered first grade, and 761 assistants. Of this number we have lost by death, removal, etc., 697 first grade, leaving 1,249 first-grade certificates. Of the assistants 459 are gone from same causes, leaving 302 assistant certificates. The total number of registered pharmacists in Wisconsin is 1,551.

This report, especially that part referring to the prosecutions of the board, elicited considerable discussion. President Hollister was directed to forward a telegram of congratulation to the A. Ph. A., then in session at Denver. Mr. Bock, of Sheybogan, then addressed the association in regard to the changes in pharmacy in the last twenty years.

Third Day.

After the announcement of the "prize winners" the following officers were elected: President, F. W. Thieman, Sheboygan; first vice-president, Henry Reunzel, Milwaukee; second vice-president, Joe Hammel, Medford; secretary, E. B. Heimstreet, Janesville; treasurer, W. P. Clarke, Milton; local secretary, David Taylor, Stevens Point. Stevens Point was chosen as the place of next meeting, and the second week in August, 1896, as the time.

Entertainment and Exhibition.

The entertainment features of the meeting were unique, and "carloads" of prizes were distributed to winners of the various contests. The programme was carried out substantially as given on page 183 of the Aug. 8 Era. Exposition Hall was well filled with the displays of leading manufacturers of pharmaceutical preparations and specialties.

Ladies' Auxiliary.

The ladies turned out in goodly numbers, the association making its headquarters at the Foeste Hotel. Wednesday morning the ladies were taken in carriages through the city, returning to lunch at noon. In the afternoon a regular session was held. Mrs. Lena Rollmann, as president, read her annual address. Letters were read from absent members. The only question that seems to puzzle the ladies is an overplus of money, which they do not seem to know what to do with. At the session Thursday morning the following officers were elected: President, Mrs. R. Washburn, Palmyra; first vice-president, Mrs. Henry Rollmann, Chilton; second vice-president, Mrs. E. D. Pardee, Wausau; secretary, Mrs. A. O. Jerman, Milwaukee; treasurer, Mrs. A. E. Meiding, Milwaukee.

Eight new members joined at this meeting, making the total membership fifty-one.

—The New Mexico Pharmacal Association meets at Albuquerque, Sept. 17, coincident with the Territorial Fair. B. Ruppe, Albuquerque, is the temporary secretary.

—E. O. Kaye, druggist, of New Richmond, Wis., must pay $62 for leaving his store in charge of an unregistered clerk.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ARKANSAS.

Fort Smith.—The Crescent Drug Store, sold to M. P. Van Zandt & Co.
J. K. Kimmons, sold to W. O. Caldwell.
Newport.—E. R. Goodwin, sold out.
Russellville.—J. W. Wells, sold to R. D. England.

CALIFORNIA.

San Francisco.—Augusto Airaldi, 51Sa Union St., failed.
Stenfer Chemical Co., incorporated.
J. H. Widber, deceased.
Widber's Pharmacy, cor. Market and 3d Sts., removed to 14 Ellis St.

CONNECTICUT.

Hartford.—F. S. Calhoun & Co.'s drug store, damaged by fire.
Hawthorn.—R. J. Westermayr, Water, near Mill St., new store.

DELAWARE.

Wilmington.—N. C. Lackland, 1001 Adams, sold to J. C. Mecannon.
Dr. J. H. Morgan, 10th and Poplar, sold to Walter G. Coverdale.

GEORGIA.

Cave Springs.—Frank Wright, sold to the Watts Drug Co.; reported by error in issue Aug. 8 as Watts & Bowman.

ILLINOIS.

Aurora.—John E. Bevier, deceased.
Chicago.—Frank Andre, attached.
The Columbia Pharmacy, 1910 W. Lake St., new store.
C. R. Conley, 48th and Kedzie Ave., new store.
M. Kunze's drug store, damaged by fire.
Highland Park.—Enterprise Drug Co., sold one of their stores to George B. Cummings.
Lockport.—C. H. Bacon & Co., damaged by fire.
O. W. Moon, damaged by fire.
Maywood.—M. J. Welch, new store.
Peoria.—Edw. W. Burch, deceased.

INDIANA.

Decatur.—E. M. Schmuck, sold to C. T. Bergman.
London.—C. A. Means, sold to O. O. Teter.
Millersburg.—E. J. Finebout, sold to T. P. Stiles.
Staunton.—McClintock & Co., sold to Myron A. Boor.

INDIAN TERRITORY.

Ardmore.—Frame, Green & Co., new store.

IOWA.

Belmond.—Kenefick Bros., now T. H. Kenefick.
Centerville.—W. B. Shaw & Co., sold to A. Kauffman.
Ida Grove.—Johnson Bros., now Barney Johnson.
Jesup.—W. P. Raymond, now Cheesboro's Drug Store.
Le Claire.—A. J. Davenport, sold to James Dimond.
Murray.—F. W. Sells Drug Co., sold to Hasty-Toley Drug Co.
Sigourney.—J. E. Graff, sold out.
Sioux City.—H. J. Nienstadt, now Nienstadt Pharmacy (Inc.).

KANSAS.

Erie.—W. A. Howard's stock resold to Jas. Lemon.

KENTUCKY.

Blackford.—Wallace & Brown, new store.
Louisville.—Renz & Henry, now F. J. Renz.
Morganfield.—Hughes & Evans, now Evans & Waller.

LOUISIANA.

New Orleans.—American Drug Store, damaged by fire.

MAINE.

North Anson.—Bodfish drug store, dam- Dr. E. C. Andrews.
Portland.—Bartley McDonough, deceased.

MASSACHUSETTS.

Pittsfield.—Arthur Smith, deceased.

MICHIGAN.

Alpena.—Dougald McDonald, Chisholm and 10th Sts., sold to J. Charles Wood.
Caseville.—G. B. Cornell, sold to Dr. D. G. Austin.
Climax.—Pierce & Lee, now Lee & Riley.
Frederic.—Fred. H. Osborne, removed to Grand Marais, Mich.
Mackinac Island.—Gallagher & Pauly, new store.
Marlette.—S. H. Warner, sold to F. J. Erwin.
Montgomery.—Alward's drug store, damaged by fire.
Owosso.—Gould's drug store, removed to Oakley.
Pickford.—N. D. Morrish, opened branch store.

MINNESOTA.

Brooten.—L. O. Langaard & Co., sold out.
Duluth.—Nelson & Qually, sold to D. Shesgree & Son.
Granada.—F. E. Hart, sold out.

MISSISSIPPI.

New Albany.—J. W. McCarley & Co., sold to A. B. Henderson, Jr.

MISSOURI.

Chillicothe.—C. D. Vincent, now Vincent Bros.
Kansas City.—Rowell Weed Pharmacy, incorporated.
Quitman.—J. W. Jackson, now Jackson & Holt.
Rea.—Fisher & Son, sold stock to J. W. Silvers.
St. Joseph.—Fred Scheibe, deceased.
St. Louis.—The Cooper Pharmacy Co., failed.
The Imperial Chemical Co., incorporated.
Dr. Kessler's drug store, 3745 Cass Ave., damaged by fire.

NEBRASKA.

Fairbury.—Whitaker & Weisel, now George P. Weisel.
Waco.—Gairdner & King, sold to Robert Beckord & Co.

NEW HAMPSHIRE.

Charlestown.—M. N. Roote, sold to Dr. Young.

NEW YORK.

Buffalo.—Jeffrey & Gotshall, now the Lyman & Jeffrey Drug Co.
Ceres.—O. P. Coon, damaged by fire.
N. Y. City.—Ferry Pharmacy Co., foot of Fulton St., East River, receiver appointed.
Port Jervis.—T. R. Anderson, now T. R. Anderson & Co.
Syracuse.—Willis Thompson & Co., new store.

NORTH DAKOTA.

Fargo.—E. A. Hollishead, new store.

OHIO.

Clarksburg.—J. G. Bell, assigned.
Dayton.—W. C. Fouts & Co., Joslah Fouts, deceased.
Lancaster.—F. B. Price, assigned.
Mt. Cory.—W. S. Flick, new store.
Painesville.—Eugene Carroll, deceased.

PENNSYLVANIA.

Altoona.—Jos. A. McKee, assigned.
Beltzhoover.—W. J. Forrest, new store.
Ellwood City.—Palace Drug Store (H. C. Birchard, propr.), new store; will open Sept. 10.
Mt. Carmel.—H. Klenk & Co., now Williams & Montelius.
Scranton.—T. Jones, sold to Dr. Finberg.

RHODE ISLAND.

Natick.—John A. McQuade & Co., John A. McQuade, deceased.
Newport.—James J. Essex, deceased.
Providence.—George H. Havens, Westminster, cor. Franklin, new store.

SOUTH DAKOTA.

Frederick.—A. E. Pettengill, sold out.
Sioux Falls.—Florence Drug Co., incorporated.
Wessington.—Edwin G. Wheeler, deceased.

TENNESSEE.

Greenville.—Miller Bros., new store.
Memphis.—Jones Drug Co., Main and Union, sold to Bestoff Pharmacy.
W. V. Spinning & Co., 2d and Jefferson Sts., new store.

TEXAS.

Georgetown.—W. J. Flanagan & Co., sold to Fleager & Whittenberg.
Houston.—J. E. Hertz, assigned.
Iowa Park.—E. Edwards purchased half interest in Palace Drug Store; style of firm will be J. F. Greenlee & Co.
Malakoff.—Gribble & Wise, now H. A. Wise.
Moulton.—Bartek & Hampil, now C. W. Hampil.
Richmond.—McCloy & Parnell, now Dillard & Parnell.
San Antonio.—Jones & Virden, sold to O. P. Birmingham.
Whitewright.—Howard & McGaughy, now Howard & May.

UTAH.

Payson.—Francis & Co., dissolved.
Provo.—Smart & Co., dissolved.

VERMONT.

McIndoe Falls.—E. P. Gordon, new store.
St. Albans.—Brainerd's drug store, damaged by falling building.

VIRGINIA.

Petersburg.—W. F. Spotswood, cor. Sycamore and Bank, sold to George P. Gatling.

WEST VIRGINIA.

Charleston.—P. W. Laidley, deceased.
Mt. Hope.—The Dickinson Drug Co., sold to the Mt. Hope Drug Co.
Ravenswood.—H. C. Howard, sold to H. B. Hoyt.

WISCONSIN.

Milwaukee.—The George L. Baldauf Co, incorporated.
Sheboygan.—Otto Look, 1502 N. 13th St., new store.

ONTARIO.

Port Dover.—John McBride, sold to R. M. Taylor.

PRINCE EDWARD ISLAND.

Charlottetown.—Central Drug Store (A. W. Reddin, Phm. B., propr.), new store.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS

Issued August 20, 1895.

544,699 and 544,700.—Moritz Ulrich and J. Bammann, assignors to Farbenfabriken, vormals Fr. Bayer & Co., Elberfeld, Germany.—Blue dye and making same.
544,855—Charles Klauberg, New Haven, Conn.—Tumbler washer.
544,912—Niels R. Finsen, Copenhagen, Denmark.—Making hæmatin albumen.
544,933—Albrecht Schmidt, assignor to Chemische Fabrik auf Aktien, vormals E. Schering, Berlin, and Farbenfabriken, vormals Fr. Bayer & Co., Elberfeld, Germany.—Citrate of ethenylethylenamidin and obtaining same.
544,934—E. Hippolyte Sérullas, Fort de l'Eau, Algeria.—Extracting and purifying gutta-percha.

TRADE-MARKS

Registered August 20, 1895.

26,962.—Chewing gum. Doscher Bros., Cincinnati, O. The words "Dark Horse."
26,964.—Chartreuse Cordial. Ignazio Giraud, Pavia, Italy. The word "Gra-Car."
26,965.—Gin. Netherlands Steam Distillery Co., Ltd., New York, N. Y. The word "Steinhäger."
26,966.—Pure Extract of Malt. The Maltonic Co., Bath, Me. The word "Maltonic" in capitals of the double-letter form, printed in red.
26,971.—Powder for Toilet and Nursery Purposes. Henry Tetlow, Philadelphia, Pa. The words "Swan Down."
26,973.—Ozonized Vegetable Oils. The Ozone Co., New York and Brooklyn, N. Y. The word "Therapol."
26,974.—Liniments for Wounds of Horses and Cattle. Abraham G. Cox, Carlisle, Ind. The representation of a disk bearing the heads of a horse and a steer in perspective.
26,975.—Specific for use as a Disinfectant, Deodorizer, Wash, Germicide and Headache Remedy. The Imperial Hygenique Fluid Co., New York, N. Y., New Haven, Conn., and Newark, N. J. The word "Hygenique."
26,976.—Cough Sirup. Hettie Short and Joe Short, San Angelo, Tex. The representation of a square inclosing a monogram of the letters "T E X."
26,977.—Remedy for Diseases of the Blood. Hot Springs Medical Co., Alexandria, Va., and New York, N. Y. The compound word "Para-Blood."
26,978.—Pills. Wm. Albert Sites, Baltimore, Md. The abbreviation and words "Dr. Lanier's Silver."

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

There is an even 100 per cent. profit in handling Stearn's Electric Paste. Your customers will want it, because it is a "sure thing" in exterminating rats, cockroaches and other vermin. Your jobber has it.

The Amick Chemical Treatment includes remedies for consumption, asthma, hay fever, catarrh, bronchitis and laryngitis, which are put up in packages to last one month. The cost to patients for one month's treatment is $15, and the price of single bottles is $5.

C. B. Smith & Co., Newark, N. J., make a specialty of a non-secret emulsion of cod liver oil, and a cough mixture of syrup of tar, tolu and wild cherry. These will soon be seasonable, and special inducements are offered upon them. Send for price list.

"Worth Reading" is the title of a little booklet issued by the Tyer Rubber Co., Andover, Mass. The reason for its title is because it describes fourteen articles which every druggist should have in stock. It is also worth sending for.

"Perfect in every respect" are convincing words if the objects to which they are applied bear out the assertion. The Conestoga Cork Works, Lancaster, Pa., are willing to send samples to show that the words are fittingly applied to their corks.

It is better to practice economy in pill boxes than in pills. E. N. Rowell Co., Batavia, N. Y., have nothing to say about the latter, but they do say most emphatically that their sizes 20, 24 and 28 bronze pill boxes at 45 cents per gross cannot be beaten for quality. Remember this the next time you need pill boxes.

Magnetic Cough Drops, with "B. F." stamped on each drop, will suit your customers. They are made on purpose to suit, and the manufacturers have tried to make them a little bit better than any other kind on the market. Write to Bunte, Frank & Co., Chicago, for prices.

A box prescription scale sensitive to 1-10 grain at $9 and a counter scale with marble top, 15 pounds capacity, for $10 are two bargains offered by Robert Stevenson & Co., Chicago, on their famous Dearborn Scales. They are guaranteed to be perfect in every particular.

Chloro-naptholeum is a concentrated disinfectant put up in six-ounce bottles for household use. The contents of one bottle make five gallons of disinfectant. It is the cheapest preparation upon the market, one gallon when made up ready for application costing but 1½ cents. Samples and literature will be sent upon application to the West Disinfecting Co., 206 East Fifty-seventh Street, New York.

Don't think of building a new store or repairing an old one without investigating the metal ceilings made by A. Northrop & Co., Pittsburg, Pa. They are artistic and permanent, and can be laid over old plaster or wood ceilings. Send stamp for illustrated catalogue of designs.

Fritzsche Bros., 34 Barclay Street, New York, have a novelty for perfumers in "Neroli, Schimmel & Co.," a synthetic oil of orange flowers, identical with that distilled from the flowers. It is put up in one, four and eight ounce and one pound bottles. Correspondence regarding it is invited.

Narcoti Cure costs $3.50 per bottle and retails for $5, giving the retailer a profit which is worth working for. It is a remedy for the tobacco habit, and money is refunded if it fails. It will sell under such a guarantee. It can be ordered from the jobbing trade, and advertising will be sent by the manufacturers, the Narcoti Chemical Co., Springfield, Mass.

The druggist cannot sell carpets very handily, but he can sell floor wax, which is the same thing with some people. The dancing season will soon be at hand, and such an article will be in demand. It is a good idea to remember that W. H. Bowdlear & Co., 36 Central Wharf, Boston, make floor wax, and their prices will be of interest now.

The Brooklyn College of Pharmacy commences its next session on Sept. 30 in its new and commodious building, which will give it greatly increased facilities. The entrance examinations will be held on Sept. 27 and 28. Wm. L. Harloe, clerk of the college, will furnish prospectus and particulars upon application. His address is 329 Franklin Avenue, Brooklyn, N. Y.

The druggists who wishes to do his best in the toilet-paper business must know all about the various brands upon the market and their prices. This will include a study of the catalogue of the Morgan Envelope Co., Springfield, Mass., which will be sent upon application. Their specialties are the King Package, Springfield Oval, Pyramid Oval, Air Line and Diamond Perforated.

There are, perhaps, dozens of people right in your neighborhood who would buy an aquarium if they only knew where to buy it. There are, perhaps, lots of druggists who would handle such articles if they knew of the profit in them. This matter can be settled by reading the announcement of Whitall, Tatum & Co., in this issue. It tells why and how.

Coffee with the flavor and aroma of the finest, fresh roasted berry is what your customers will want at the hot-soda fountain this winter. The Oriental Tea Co., 87 Court Street, Boston, make a condensed coffee which will just suit. One spoonful makes a cuptul, and it costs $2.45 per gallon in jugs, or $2.25 per dozen in small bottles. All jobbers have it.

Acetanilid and cocaine are two products which the dispensing pharmacist should be sure about. Much of the doubt can be removed by specifying the brands of manufacturers who cannot afford to make anything but the best, and it is therefore safe to specify the acetanilid of Hofman & Shoetensack and the Zimmer brand of cocaine. R. W. Phair & Co., 14 Platt Street, New York, are American agents for both.

The Purdue School of Pharmacy offers superior advantages for a systematic training in both dispensing and manufacturing pharmacy and for advanced study in chemistry. In addition, the expenses of living are exceptionally low; $160 for the full school year of seven months usually covers everything necessary for the student. Write for catalogue to Arthur L. Green, Lafayette, Ind.

The thirty-sixth annual session of the Chicago College of Pharmacy begins Oct. 8, 1895. The course comprises two terms of twenty-eight weeks each, and the facilities for obtaining situations in Chicago, as well as the recent modifications or changes in the matter of conferring the Ph. G. and Ph. C. degrees, are of interest to prospective students. For particulars, address the actuary, 465 State Street, Chicago.

It is time to begin figuring upon a soda-water business for the winter. The first thing is the apparatus, and the same arguments advanced in favor of the Low Art Tile fountains for summer dispensing apply to their apparatus for winter use. They are just as handsome and artistic, and will delight the eyes of customers just as much. Send for catalogue showing designs in natural colors to Low Art Tile Co., 952 Broadway, Chelsea, Mass.

The recent rapid strides toward prosperity, as evidenced by the necessity of larger quarters and increased manufacturing capacity, on the part of the Searle & Hereth Co., of Chicago, show that the demand for their products is on the increase, that more druggists are handling them and more physicians prescribing them. There must be something in quality and prices which attract these two classes. As far as prices are concerned, a postal card will bring you some interesting information.

Johnson's Belladonna Plaster is made to suit the medical practitioner. This policy has given it a reputation for efficiency, and has resulted in an enormous sale, over 1,000,000 being sold in 1894. This demand has enabled the manufacturers to greatly economize in manufacturing and handling the raw material. Thus the best belladonna plaster that can be made can be sold at $10 per gross, with discount on quantity, and the retail druggist can make a good profit on it. This plaster is one of the specialties of Johnson & Johnson, and their illustrated book on belladonna shows the interest they take in this particular drug. Every pharmacist should have a copy. It will be sent free upon application.

You might as well handle trusses, or if you are already in the business, you might as well handle more. It is an easy matter to get your physician interested, and the general public too, if you handle the best truss and let them know it. I. B. Seeley & Co., 25 S. Eleventh Street, Philadelphia, make that kind of a truss, and make the kind of advertising which tells people all about it. Write to them for their book and samples of their truss business aids.

"Old Prentice" whisky is old-fashioned hand-made, and the method of distilling it is one of those which have helped to make the reputation of Kentucky whisky. It is offered to the drug trade direct from the distillery by the distillers, J. T. S. Brown & Sons, of Louisville, Ky. The purity and identity of the article are thus assured. A sample of it will be sent you if you want to handle one of the best products made and desire to test it before buying.

During the holiday season the druggist expects to do a little extra business in perfumes, but if he is one of the kind which looks ahead, he will be educating people now to buy the right kind, that is, a kind that has some profit in it—not sold just for the fun of selling it. Wing's Perfumes, made by F. F. Ingram & Co., Detroit, Mich., are elegantly put up, fine in quality, and assortments of them are offered at prices which afford a good profit. A trial order now will show you the desires of your customers for holiday perfumes.

Among the changes of representatives and territories which have just been announced in James W. Tufts' force are the following: W. L. Harkness, formerly of Washington, is to canvass Indiana; E. J. Noonan is to assist D. T. Lee in the Carolinas, Georgia and Florida; E. Feldman is to assist F. L. Ballou in the Northwest; C. C. Nott is to cover Kentucky, Tennessee and Alabama; John Zehrung, who has been so long with Mr. Tufts, has severed his connection; the partnership of Adams & Niles, who have held the Chicago agency since the death of the late lamented W. P. Adams, has been dissolved; Burton Adams, associated with B. F. Stoneberger, will look after Iowa, while H. Scarborough, with S. W. Silsbee and E. A. Collins, will attend to the wants of the trade in Chicago; S. S. Randell, formerly of Chicago, will travel in Wisconsin and Northern Michigan; Ellsworth & Adams, of New York City, have separated, J. S. Briggs coming from Indiana to assist A. S. Ellsworth in the city trade, and W. E. Adams is to canvass New York State. The silver-plated-ware trade of this house has grown to such an extent that H. E. Feldman will devote his whole time to this branch of the business exclusively. R. H. Thomas has had Washington added to his old field of the Virginias and Maryland, and has an assistant, his brother, W. J. Thomas, thus making the third of the family in the canvass of Mr. Tufts.

That doctor and that druggist who can best fix up medicine to make it easy to take will stand the best show of having plenty of such fixing to do. It is a matter between the doctor and the druggist, and both ought to know about Konseals, the rice flour wafer capsules for dispensing powders. They are easily soluble and easy to take; also easy for the pharmacist to dispense. It is therefore, to the interest of the latter to investigate Konseals by writing to J. M. Grosvenor & Co., 105 Milk Street, Boston.

The Buffalo College of Pharmacy begins its next session Oct. 29, 1895, and closes May 5, 1896. The course embraces twenty-six weeks. The regular course for which the Ph. G. degree is conferred allows students to divide their time between college and store, the instruction being given during the afternoon and evening of alternate days. An advanced course for which the Phar. M. degree is conferred covers the regular course in time and study, the extra study and instruction being given during forenoons. For announcements, address Dr. John R. Gray, secretary, 246 Seventh Street, Buffalo, N. Y.

The Wm. S. Merrell Chemical Co. are pushing to the front their Green Drug Fluid Extracts, in competition with the low-grade commercial qualities with which the market is flooded. It is said with truth that "history repeats itself," and in no direction is this saying more strongly verified than in the return to cheap remedies regardless of their quality. Is it not a striking commentary on the integrity of official products that prices on the fluid remedies, in which alcohol is a principal item of expense have been so largely reduced, when this leading element of cost has increased fully 15 per cent. in price?

Antiseptic Gauze.

The subject of gauze dressings, and especially a consideration of what is the proper standard for gauze, has recently been very much discussed. A very readable summary of the question is contained in a monograph of twenty-four pages issued by Johnson & Johnson, in which is discussed gauze cloth, its nature and use; quality required for surgical dressings; comparison of gauze used by various manufacturers and hospitals; authoritative processes and formulas as given by surgical authorities used in hospitals; authoritative works, including those for the manufacture of Linton Moist Gauze; standards for gauze as discussed by leading authorities, including Lister's standard, and a discussion of the finished basis and a standard strength based upon the strength of the solution adjusted definitely to the measure and weight of the gauze; with opinions of various surgeons as to a proper standard. The book also contains a discussion of moist and dry dressings, and an explanation of the so-called "comparative tests" for gauze.

The Ball Nozzle Syringe.

A decided improvement has been made in vaginal and irrigating syringes through the adoption of the famous ball-nozzle principle, the ball being held in place from the inside, and the liquid being delivered in a thin, conical-shaped film, the center of which is dry. The advantage of this over the ordinary syringe perforated at the sides and below the top is obvious.

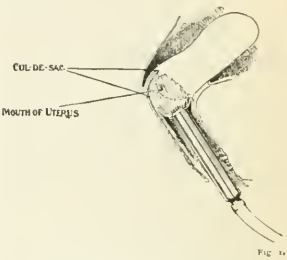

Fig. 1.

Fig. 1 illustrates the Ball Nozzle Syringe in action, and demonstrates the thorough cleansing properties of the new device.

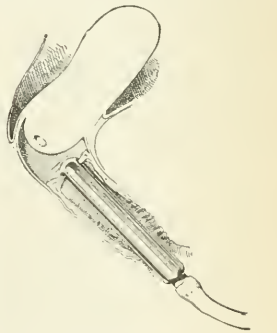
Fig. 2.

Fig. 2 shows the ordinary syringe in action, and demonstrates clearly why it does not do the work desired of it. No doubt a large proportion of vaginal troubles come from the difficulty of thoroughly cleansing that cavity, and the American Ball Nozzle Co. has succeeded in making an application of their device which will come into universal use. They have also very sensibly fixed a policy most favorable to the retail drug trade, which is invited to write for prices and full description. Address 837 Broadway, New York.

——D. A. Wenger & Co., of the Opera House Drug Store, Trinidad, Col., have opened a branch store at 531 Commercial Street.

——J. W. Seals, of the drug firm of Williams, Seals & Co., Troy Ala., who was formerly at Selma, Ala., was severely injured a few days ago. He held a burning match near the bung hole of an empty alcohol barrel, when a terrible explosion occurred, badly burning him.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Carnauba Wax, Cod Liver Oil, Colocynth Apples, Gum Kino.
Declined: Glauber Salts.

New York, Aug. 27, 1895.

With the exception of one or two leading articles which have been moving rather freely, general business in drugs and medicinal chemicals during the past week has been chiefly of the jobbing order, the principal operators being small traders who usually buy in accordance with existing requirements only. The notable exceptions referred to are quinine and Norwegian cod liver oil, both of which show increased activity and a strong upward tendency, in sympathy with similar conditions abroad. The general situation seems to retain all the favorable features which have developed since the beginning of the current year, and the advent of the anticipated autumn demand is awaited with a degree of patience which indicates plainly that confidence in the future outlook is firmly established. There is already an improved inquiry from interior distributing centers, and the large variety of goods for which quotations are asked is looked upon as denoting the depleted condition of stocks and a desire to replenish. After a little preliminary correspondence on the subject of prices, quality of offerings, etc., together with the submitting of samples for approval, the expected active movement will undoubtedly begin. Efforts of manufacturers and legitimate dealers to deter speculators from entering the market have, in the main, been successful, and that success will have much to do with keeping affairs on a sound and healthy basis. The law of supply and demand will probably govern the majority of operations and the persistent conservatism of the consuming trade, when making purchases, can only result in a continuance of existing satisfactory conditions.

OPIUM.—This article has attracted very little attention from either buyers or sellers, and the market has ruled extremely quiet, with a surprising degree of indifference manifest on the part of those usually interested in this leading commodity. Advices from Smyrna and Constantinople are, of necessity, very meager in the absence of fresh developments there, and with dullness prevailing in all the principal markets, consumers are not inclined to purchase in excess of immediate requirements, which are very light. Prices have not changed for several weeks, and until some movement is made by large operators no important fluctuations are looked for.

MORPHINE.—Manufacturers report a fair average movement on contract orders, but the market is otherwise devoid of interesting feature and prices are nominally unchanged.

QUININE.—The active demand previously noted has shown no abatement, and the stock in second hands has been still further reduced. It now seems to be only a question of a short time when the business will be entirely controlled by manufacturers, and from present indications prices are likely to improve. During the past two weeks the London market has been gradually hardening and the fractional advances have reached an aggregate equivalent to 2 cents per ounce. No corresponding improvement has occurred here, and the comparatively wide difference between the local and foreign markets has created an export demand, and we understand that 50,000 ounces were taken last week for shipment to London. Another report has it that the purchase was made for foreign account, but that the quinine is to be simply withdrawn from the market until the buyer can realize a profit.

ALCOHOL.—The condition of the market has not improved, and while the open quotations are unchanged it is intimated that in some instances concessions have been granted. The various distilling and distributing interests do not seem to be any nearer to making satisfactory arrangements than they were before the reorganization of the old combination.

ACID SALICYLIC.—Reports regarding the position of this article are conflicting. It is claimed that efforts are being made to further depress values, while buyers of large lots are unable to fill their orders at the recently reduced quotations.

BALSAMS.—A fair consuming trade is reported in all varieties at previous prices, and the general market retains a steady undertone.

COD LIVER OIL—Has developed considerable activity, and prices of all desirable grades of both old and new have been advanced fully $2 per barrel. The tendency is still upward, and holders are looking for a further material improvement. During the past week over 100 barrels prime old oil have been secured by dealers, and the bulk of the recent arrivals of new is in strong hands, and offered sparingly to the consuming trade. It is predicted that before the active season is over $60 per barrel will be realized.

COLOCYNTH APPLES. — Prime Trieste have been again advanced 2 cents per lb, and still higher figures are expected owing to increasing scarcity and the fact that quotations abroad are yet fully 4 cents above present spot values.

OIL PEPPERMINT—Continues unsettled and irregular, with reports from the growing districts somewhat conflicting. In some sections there is evidently a shortage and distillers are consequently firm in their views, while in others the yield is said to be fully up to the average, and it is believed that the total output will be ample to meet consumers' requirements.

OIL CASSIA—Is strong and hardening, but the advance is chiefly on round lots, as single cans are available to a limited extent at $1.50.

CAMPHOR.—Foreign advices continue favorable to holders and offerings are limited to small parcels, the general opinion being that manufacturers will shortly advance quotations, owing to the materially higher prices of crude.

GUM KINO.—Whole has again been advanced 25 cents per lb by the principal holders, but powdered is without further quotable change.

CARNAUBA WAX—Is in better demand and firm with No. 2 showing a further advance of 1 cent per lb.

IPECACUANHA—Is very strong and tending upward, but the demand at present is rather light, and the business reported has been mainly between dealers.

JAMAICA GINGER—Is seasonably active and very firm, with a good business reported in both bleached and unbleached.

GOLDEN SEAL ROOT.—Several tons have been taken for export, and with the available stock reduced holders are firm in their views, but former prices are yet acceptable.

SENNA.—New crop Tinnevelly has begun to arrive, and the stringency of the market is somewhat relieved. The demand continues active and former prices are firmly maintained.

GLAUBER SALTS. — Competition between sellers has resulted in a decline of 15@25 cents per 100 lb, according to seller and size of order.

BLEACHING POWDER—Is in good seasonable demand, and with stocks of desirable brands light, prices are well sustained.

London Market Report.

London, Aug. 19, 1895.

A lifeless holiday week of small sales and little business.

ANISE OIL.—Maintaining last week's prices.

BISMUTH.—A further fall in the price of the metal has caused an all-round drop in bismuth salt quotations. In 1 cwt. quantities subnitrate can be had at 3s. 9d. per lb, subcarbonate at 4s. 1½d., and oxide at 5s. 9d.

CAJUPUT OIL.—Quoted at 2s. 8d.

CAMPHOR—Has not yet started on the down grade. July-August, c. i. f., Japanese, 185s.; Chinese, 175s. No change in the price of refined.

CASSIA OIL.—Steady at last week's rates.

CITRONELLA OIL.—Spot price, 1s. 4d. per lb.

GUM ARABIC.—Unsalable at the drug auctions, except Australian varieties, which sold at a decline of 2s. per cwt.

IPECACUANHA.—Maintaining last week's prices, and difficult to get.

KAMALA.—Likely to go higher, as supplies are said to be low.

OPIUM.—Well held.

QUICKSILVER. — A considerable quantity has changed hands at £7 per bottle, and the sale has been followed by a rise of 5s. in first and 3s. 6d. in second hands.

QUININE.—Improving, 12¾ to 12⅞d. for German brands being now the quotation and a further rise is anticipated.

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ALCOHOL BLANKS.

Section 61, Act of Congress, dated Aug. 28, 1894, provides for the refunding of the Internal Revenue tax on all alcohol used in manufacturing in the arts and in medicinal or other like compounds. Retail druggists to secure this rebate should be prepared to present accurate record and proof of such use. We have prepared for druggists' use some special ALCOHOL BLANKS for keeping a proper record of alcohol used for manufacturing purposes, with full directions for keeping the record and for preparing your claims to secure the rebates. If you are not keeping such records, *these blanks may save you a lot of money.*

If you are a subscriber to the Era, we will send you a package of these Alcohol Blanks on receipt of 16 cents to cover the expense. *To non-subscribers the Alcohol Blanks are strictly net 50 cents per package,* postpaid.

Address
THE PHARMACEUTICAL ERA,
New York.

ALCOHOL REBATES.

There is so much and increasing interest manifested by retail druggists regarding the possible refund of internal revenue tax on alcohol used for manufacturing purposes, that all manner of information relative to the steps to be taken by the druggist himself is requested and appreciated. How properly to place one's self in connection with the Collector of Internal Revenue seems to be a problem with many. The methods and forms which are being followed by the large manufacturer can with but little modification be adapted to the service of the retailer. The following is a form of preliminary notification that rebate of tax is to be claimed:

Hon. Collector of Internal Revenue:

Sir: We hereby notify you that we have used since Aug. 28, 1894, and are now using in the manufacture of .. .. at our ..... domestic alcohol, on which we claim, under Section 61 of the Tariff act of Aug. 28, 1894, a rebate of the internal revenue tax paid, and we respectfully request that you take such official action relative to inspection and surveillance as the law and regulations may require. Yours respectfully,
.....

Have the above notice copied on one of your letter heads, and insert in the space left blank the names of the various articles in which you use alcohol and on which you propose to claim a rebate of the tax; also fill in the location of your factory or laboratory.

This notice must be signed by a member of your firm or an officer of your company.

Then later a second notice is filed with the collector, which should read something like this:

Hon. Collector of Internal Revenue:

Sir: In accordance with the requirements of Section 61 of the existing Tariff act, we (or I) herewith exhibit, offer and deliver up to you the twenty stamps described in the annexed memorandum which serve to show, and do show, that the tax was paid on certain distilled spirits or alcohol purchased by us (or me) at various times from the distillers' agent as per the invoices now on file in our (or my) office.

We (or I) further request and ask that you proceed to our laboratory or factory at .... Street, in .... and there satisfy yourself by an examination of our (or my) stock books, records, sales books and other documents (or in any other manner which in your judgment the law may require) that I (or we) have used said alcohol or distilled spirits in the manufacture of ..... since the enactment of said law.

We (or I) furthermore request that you pay, remit or rebate to us (or me) two thousand dollars in full amount of the tax paid on said alcohol or distilled spirits, to which I (or we) am entitled by the provisions of said law. Very respectfully,
.....

Accompanying this notice are presented the revenue stamps which show payment of tax upon the alcohol used and on which rebate is claimed.

KEEPING THE RECORD.

A reader, who is keeping an alcohol record, asks, on another page, how he shall enter the alcohol used in making fluid extracts when but a portion of it remains in the finished extract, the greater proportion being recovered by distillation from the dilute percolates, and reserved for later use.

There should not be any great trouble here. The intent of the law is to refund tax on all alcohol used in manufacturing and which is thereby removed from the class of beverages. Proof is needed only that it is used in manufacturing and for no other purposes. If, then, you withdraw 10 pints from the package, and all this 10 pints is necessary and is used to make a fluid extract, record it and apply for rebate on the entire 10 pints, even though but a quarter of it may remain in the finished product. Of the recovered alcohol, however, you must use no portion for any other than manufacturing purposes, lest you render yourself liable to prosecution for a false claim.

POISON LAWS.

Our poison laws have always been a subject for discussion, and to the credit of the drug trade it must be said that it has, as a rule, been far from backward in demanding legislation upon the matter. With a view of presenting the subject so that all its phases would be within easy grasp, the Era has compiled an abstract of the poison laws of all the States, and this will be presented to our readers in these pages. A study of these laws discloses many interesting facts. Many of the older States display the greatest ineffectiveness in their poison laws, and are content with statutes which were enacted years ago and which are now out of date, while some of the newer States have been able to incorporate in their laws the latest views of what should constitute prudence in selling poisons. Taking an average of the poison laws of the States, it may be said that a moderately perfect poison law must include the following points: First, certain substances must be declared poisons. There is a great lack of uniformity on this point, and the errors are on the side of too small, rather than too large a list; second, the labeling of the package or container.

There is a commendable uniformity in this matter. The law of Delaware, however, does not say anything about

labeling; Illinois requires simply the name of the substance, with no indication that it is a poison. Some States, notably Michigan and Massachusetts, require the publication of an antidote, where one is known, upon the label. As a rule the requirements are: Name of substance, the word "poison," and name and address of the seller. A majority of the States require the seller to ascertain "by inquiry" the purpose for which the poison is wanted, while a few say that he must satisfy himself that it is to be used for a "legitimate purpose." In Delaware, Illinois, Maine, Massachusetts, Michigan, New Hampshire, Tennessee, Vermont, Connecticut and Louisiana these precautions are not obligatory. Third, the registration of the sale in a book kept for that purpose only. This usually includes date of sale, name of poison, quantity sold, purpose for which required, name of purchaser. There is, however, a lack of uniformity on this point. It is a misdemeanor in several States for the purchaser to give a fictitious name or address. In some States the purchaser must sign the register, and in some instances where purchaser is unknown to seller he must be introduced by some person who is known, and the name of the latter must appear upon the register. In Alabama, Florida, Illinois, Montana, Louisiana, Utah, and New Jersey registration is not required.

A great many pharmacists display a laxity in keeping a record of poison sales, through a belief that it is not a strict necessity, depending upon their own discretion or good judgment in making sales. If absolute safety could always depend upon individual good judgment, this might be proper. But the fallacy of this was demonstrated hundreds of years ago. The legal right of the community to require the keeping of records, which, in case of accident or otherwise, might help to determine certain causes is well established. Poisoning and suicide are criminal offenses, as is negligent use of poisons. If the law-making powers decide that certain things must be done to prevent the commission of such offenses, then the omission of such prescribed precautions by the druggist renders him either a criminal or a misdemeanant.

Aside from this there is a moral aspect to the question. In this the requirement that a seller "must satisfy himself" that a poison is to be used for a legitimate purpose is aptly illustrated. Legally there might be quibbling over the phrase, but morally there is no question of duty in the matter, and its inclusion in a poison law is an excellent reminder of an obvious duty.

The importance of strictly complying with all the details of a poison law cannot be too strongly urged. The druggist has no business to judge of the propriety of such laws, and in the outcry which always arises in cases of accidents with poisons, a clean record book and a clean conscience are of the utmost necessity. The mere fact that inquiries must be made before selling a poison and that its sale must be registered impresses the buyer with the necessity of caution in using it, and the same procedure is discouraging to the evil-minded.

THE DRUGGIST'S SHARE.

It may seem somewhat ridiculous to urge druggists to carefully study the actual cost of their goods, and then endeavor to sell them at a better profit to themselves, especially when the selling price of most articles seems to be regulated by what people are willing to pay for them. In one sense such an effort is, perhaps, futile, for the impossibility of raising prices above the profit at which competitors are willing to sell is admitted. But, on the other hand, a little figuring on cost might show opportunities for making profit at the other end—the buying end. Ordinarily it might be assumed that if the public is not paying as much for an article as it formerly did, there must be a reduction in the cost of making it. But this theory is spoiled by that practice which follows from another theory, viz., that quick sales with small profits are best, and this in turn is partially demolished by the fact that there is no such thing as quick sales and small profits, unless there be at the same time others who are selling slowly at large profits. There must be slowness and largeness to compare with quickness and smallness. This condition, however, does not last long enough for the purpose of a continued comparison. In the race for quick sales profits must be of the diminutive kind. When the matter is finally reduced to its lowest terms; when the issues becomes, either do business or quit, there is a pressure all along the line from manufacturer to retailer for a reduction of profits, and the last named usually gets the bad end of the bargain.

To follow the profit-and-loss business through the labyrinths of trade is an interesting study. An instance of this kind might be cited. A department store in this city issued a circular asking for "goods of this season's production and standard quality and perfect," and adds, "it is useless to offer us complete stocks unless you are willing to sacrifice prices." In due time the public is notified through the daily press that the department store has purchased all that remains of the season's production of the regular line of a certain manufacturer's goods, and they are now offered at 13, 17 and 23 cents, regular price 50, 60 and 75 cents. Assuming that the department store in this instance purchased at a sacrifice, then the explanation of lower prices for cash and quantity does not apply with its usual force. We are safe in assuming that the manufacturer's list price was cut. The same line of goods had been sold at regular prices to individual dealers competing with the department store, and the manufacturer made a profit. In selling to the department store he made no profit or little profit. It is quite obvious, therefore, that the competing individual dealers furnished the manufacturer with his only means of subsistence, and indirectly, by keeping him alive and in a good, healthy financial condition, they enabled him to stick an attractive feather in the department store cap.

But this is a diversion. Let us return to the question of making profits at the buying end of the business, since they are limited at the selling end. Do many druggists know what it cost them to do business last year? Have they footed up the amount of goods purchased during the year, and then figured the ratio which expenses, such as rent, clerk hire, fuel, light, taxes, repairs, freight, interest, etc., bear to these purchases or to amount of goods sold? Or do they simply know that they have lived somehow, and owe their jobber a certain amount? Others may have a little bank account which to them is evidence of success, and therefore do not take pains to see if that account can be increased.

It is unnecessary to say anything about purchasing as cheaply as possible; every druggist is doing his best to accomplish this end, and if he keeps a watchful eye upon his market reports he will usually know where to do his buying. Ordinarily his nearest jobber is the best, on account of transportation charges and promptness of shipment. The first thing which he might scrutinize, with an idea of pruning down expenses, is his method of ordering goods. This matter depends upon the well-kept want book, and back of this is an alertness of keeping it properly. A majority of the shipments to retail druggists who have to count cents before they count dollars are under the weights for which railroads make a minimum charge, that is, they pay this minimum charge on 50 or 100 pounds, when the same charge would transport twice or three times the weight. The same kind of charging is done by the drayman, who will haul 200 or 300 pounds as cheaply as he will 50 or 100. In one case transportation on 500 pounds costs 50 cents, while transportation upon two shipments of 250 pounds each costs $1.

Then there is the old question of cash discounts. The problem is an interesting one and may be variously stated. The man who buys $100 worth of goods every ten days and pays the full price for them in thirty or sixty days wants to save 1 per cent. on each purchase. Will it pay him to borrow $400 or $500 at 6 or 7 per cent. per annum to pay his jobber? Will the added 1 per cent. ten-day discounts pay his yearly interest and leave him a surplus?

Is the item of box and cartage which appears at the bottom of most invoices transferred to the expense account, or is it left alone, with the idea that profits on the goods invoiced will take care of it somehow? Is the item "interest on money invested" carried to the expense or profit-and-loss account, as is done by most careful business men?

All these things must be counted before the druggist can get his share. A careful counting of them may disclose instances where other people are getting too great a share and the druggist not enough.

WATCHING NIGHT CUSTOMERS.

The frequent experience of drug clerks who answer the night-bell and are assaulted and robbed while filling a prescription, even killed, as was the case with poor Eugene Ware in San Francisco, should put every druggist who is called up at night on his guard. The opportunity which a night call upon a druggist affords for robbery offers many attractions to the garroter. The attention of the druggist is usually directed to his work; the fact that a drug store is open or lighted at night is not a circumstance which is liable to arouse the suspicion of a policeman or passer-by, and the usual willingness of the druggist to respond to all calls makes matters comparatively easy for the evil disposed. The wide publication of incidents of this sort undoubtedly has a deterrent effect upon this particular method of thievery and induces greater caution on the part of possible victims. But this infrequency of occurrence is liable to lead the druggist to neglect some extra precautions in dealing with night customers. In law every man is considered innocent until proven guilty, but the night caller for drugs may soon come to be regarded as a criminal until his character is established by a searching cross-examination, and the education of the drug clerk may necessarily include a thorough drill in those tactics, which, in some frontier sections, enable one to "get the drop" on the other fellow.

Nearly every merchant takes particular care that his premises are secure against forcible entry, but there seems to be room for improvements in the means for coping with the feloniously inclined who are given free entrance and have extended to them the courtesies which obtain between seller and buyer. Some time ago a Brooklyn druggist contributed a valuable idea to the drug fraternity by using a quantity of ammonia upon a burglar whom he discovered climbing over his transom. That particular burglar will undoubtedly avoid drug stores should he determine to follow his profession upon his release from prison.

Suggestions as to what should be done in emergencies of this character are about as pertinent as advice regarding behavior during a cyclone. It is easier to give them after the occurrence than before. But a carefully arranged shower bath of ammonia water, trained to guard the approaches to the prescription case and cash drawer, which could be operated while looking down the barrel of a pistol in the hand of a drug store marauder, has certain theoretical attractions which commend it.

DO NOT STOP IT.

Edw. E. Shirley, Burnett, Okla.—Please do not stop the numbers. They are too valuable.

L. Harwood & Son, Warren, Mass.—We take three drug journals, but none we like better than the Era.

Erastus B. Lake, Shamokin, Pa.—I have been a subscriber to the Era for several years and cannot get along without it.

Evans & Waller, Morganfield, Ky.—Inclosed find check for which send your inestimable journal. We are lost without it.

PRACTICAL HINTS.

——You have put a telephone and a directory in your store and you sell postage stamps for the convenience and accommodation of the public. Do not be surprised, then, if your kindness is accepted and perhaps abused by the public. If you think it is bad policy and an expense to be so thoughtful, stop it. You are responsible for the condition which you find so burdensome.

——Druggists, as a rule, pay good money for packing cases, and then give them away to get rid of them. If they are of any value to the person to whom they are given, that value ought to be shown in money. When a stock of cases accumulates would it not be a good idea to hang out a card announcing the fact in connection with prices for the lot, just to educate the public in the right direction?

——Keep posted on new remedies, and, if possible, have them in stock in small quantities. Be ready to give your physician information about them in regard to doses and the best methods of administration. The information is sure to be appreciated, it will increase the physician's confidence in you, and will more than pay for some remedies that may stand upon your shelf unused. This means that you must not neglect your studies though you are not in college.

——Keep an agreeable temperature in your store, a comfortable chair for weary shoppers, such minor conveniences (on a table) as a free directory, all the time-tables and the morning papers; keep the store "clean as a new pin;" make things glisten and shine, says an exchange. You can then wait another year for your decorating and improvements. The public likes to go where it finds itself comfortable and welcome. Invest your money in stock this year, not in fixtures, and let your own good manners be the principal decoration of your establishment.

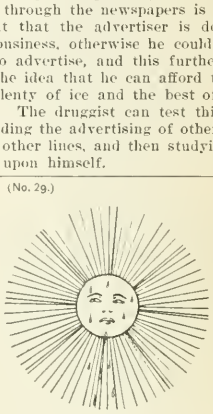
——Do not misrepresent the nature and quality of the goods you sell, nor put exorbitant prices upon them. Many a druggist has made the mistake of expecting professional or prescription profits upon tooth brushes and sundries in general, and has seen his trade in these articles diverted to the dry goods store, where they are looked upon as merchandise to be sold at merchandise prices. Behind the prescription case and in all professional capacity be a pharmacist, but back of the sales counter a merchant.

——Do not be inordinately accommodating. There is no particular reason why the whole neighborhood should use your apprentice as an errand boy, and if John Smith telephones from downtown that he will bring a friend home to dinner, he should expect to pay the ordinary tariff messenger rates for the delivery of the message. Of course, a certain amount of errand-running must be done for the accommodation of your patrons, but do not allow this feature to be pushed too far. It is not such a good thing as all that. You are not keeping shop for your health.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

So many readers of the Era have testified that it pays to advertise soda water, that another suggestion along that line seems quite proper. A superficial analysis of the feelings of the hot, thirsty and tired upon a day when the sun's aspect suggests perspiration, leads one to the belief that if the victim's memory retains even a slight remembrance of an advertisement in which ice, soda water and fruits are referred to, the sufferer will make such exertion as the weather allows to patronize the individual who has spoken to him about the matter through the advertisement. Announcing the superiority of one's soda water through the newspapers is an argument that the advertiser is doing a good business, otherwise he couldn't afford to advertise, and this further conveys the idea that he can afford to furnish plenty of ice and the best of fruit juices. The druggist can test this idea by reading the advertising of other traders in other lines, and then studying the effect upon himself.

(No. 29.)



On a hot Summer day what can be better for a tired and thirsty mortal than a judicious combination of soda water, ice and fruit juices? We make such combinations, and use plenty of ice. Our soda water is always cold, and tastes like the grape, orange, peach, strawberry, currant, raspberry, plum, pineapple, cherry, quince, cranberry, lemon, vanilla, banana, just as you choose.

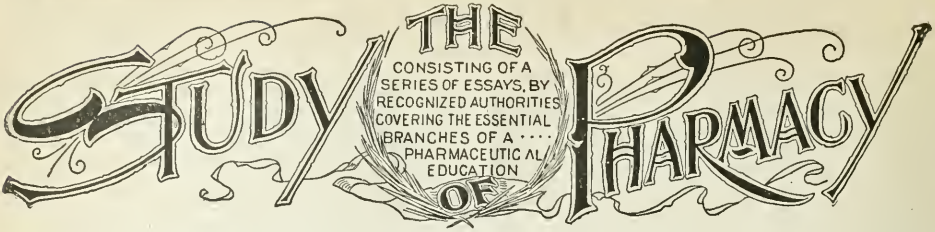
Or we can refresh you with chocolate, sarsaparilla, ginger ale, root beer and mineral waters.

KNIGHT & DAY,
Druggists.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

DRUG STORE FOR SALE.

Many druggists have found customers for their stores by putting a "Want Ad." in the Era. These ads have a large circulation among the best druggists in the country, and give advertisers good returns. The price for each insertion is 50 cents for 25 words or less; additional words 2 cents each.



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[*Continued from page 265, August 29.*]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXI. VOLUMETRIC QUANTITATIVE ANALYSIS.

By Virgil Coblentz, Ph. G., A. M., Phil. D.

Volumetric Test Solutions.

(Continued.)

(9) DECINORMAL POTASSIUM DICHROMATE VOLUMETRIC SOLUTION: $K_2Cr_2O_7 = 293.78$; 4.896 gm. in 1 liter.

Dissolve 4.896 gm. of pure potassium dichromate (see below) in enough water to make at or near 15° C. (59° F.) exactly 1,000 cc.

If the potassium bichromate is pure, it is directly dissolved as above indicated. If not, it may be standardized by making an estimation upon 0.5 gm. of pure iron (piano) wire, dissolved in dilute sulphuric acid.

When used with phenolphtalein as indicator to neutralize alkalies, the volumetric solution of potassium dichromate is decinormal when it contains 14.689 gm. in 1 liter. It is then the exact equivalent of any decinormal acid, corresponding to the amounts of alkalies quoted, for instance, under Decinormal Oxalic Acid V. S.

The dichromate is equivalent to 2 molecules of hydrochloric acid, thus:

$$K_2Cr_2O_7 + 2HCl = 2KCl + 2CrO_3 + H_2O.$$

Hence, 1 molecule of the acid is equivalent to ½ molecule of the bichromate ($K_2C_2O_7 = 146.89$). The decinormal solution, therefore, is made to contain but 14.689 gm.

When used as an oxidizing agent to convert ferrous into ferric salts, or to liberate iodine from potassium iodide, the solution just mentioned (containing 14.689 gm. in 1 liter) has the effect of a $\frac{3N}{10}$ volumetric solution, and a solution of one-third of this strength, containing 4.896 gm. in 1 liter, has the value of a decinormal solution.

Upon heating 1 molecule of the bichromate with an acid (H_2SO_4), three atoms of nascent oxygen are liberated. Thus: $K_2Cr_2O_7 + 4H_2SO_4 = K_2SO_4 + Cr_2(SO_4)_3 + 4H_2O + O_3$.

These three atoms of oxygen possess the power to convert six atoms of iron from the ferrous to the ferric state, according to the equation: $6FeO + O_3 = 3Fe_2O_3$. Therefore each molecule of the dichromate, yielding three atoms of oxygen, is equivalent to six atoms of hydrogen. Hence, we take 1-6 of the molecular weight of a decinormal solution of the bichromate (1-6 of 29.378 = 4.896), thereby reducing it to the valency corresponding to one atom of replaceable hydrogen.

As a decinormal solution, it is the equivalent of an equal volume of decinormal potassium permanganate V. S., or, in the case of iodine liberated from potassium iodide, it is the equivalent of an equal volume of decinormal sodium hyposulphite V. S. For titrating iron in ferrous compounds, it is used in the following manner: Introduce the aqueous solution of the ferrous salt into a flask and, if it is not already acid, render it so with sulphuric acid. Now add, gradually, decinormal potassium dichromate V. S. from a burette, until a drop taken out upon a white surface no longer shows a blue color with a drop of freshly prepared potassium ferricyanide T. S.

Decinormal potassium dichromate V. S. may also be used, in conjunction with potassium iodide (from which it liberates iodine) and sulphuric acid, for adjusting the titer of sodium hyposulphite (thiosulphate) V. S. and, by its means, that of the iodine V. S.

(10) DECINORMAL POTASSIUM PERMANGANATE VOLUMETRIC SOLUTION: $2KMnO_4 = 315.34$; 3.1534 gm. in 1 liter.

For the estimation of iron this solution is far more satisfactory than the decinormal dichromate solution, since the end point of the reaction is readily distinguished and does not require the use of reagents, as is the case in the latter.

Two molecules of potassium permanganate ($2KMnO_4$) in oxidation give off five atoms of oxygen, which oxidizes the ferrous of 10 atoms of metallic iron to ferric condition, thus:

$$\underset{\substack{\text{Potassium}\\\text{Permanganate}\\315.34}}{2KMnO_4} + \underset{\substack{\text{Ferrous}\\\text{Oxide}}}{10FeO} = \underset{\substack{\text{Ferric}\\\text{Oxide}}}{5Fe_2O_3} + \underset{\substack{\text{Manganous}\\\text{Oxide}}}{2MnO} + \underset{\substack{\text{Potassium}\\\text{Oxide}}}{K_2O}$$

2-10 molecule $KMnO_4$ yield 5-10 molecule of oxygen, or 1-5 molecule $KMnO_4$ yields ½ molecule of oxygen. But ½ molecule of oxygen = 1 atom of hydrogen.

Hence 1-5 of the molecular weight of $KMnO_4$ or 1-10 of the molecular weight of $2KMnO_4$ is equivalent to one atom of hydrogen; hence the normal solution of potassium permanganate should contain $\frac{315.34}{10}$ $(2KMnO_4) = 31.534$ gm. of salt.

If the normal solution contains 31.534 gm., then the decinormal solution must contain one-tenth of this, or 3.1534 gm. in the liter.

The next step is to prepare the solution. This cannot be done directly, by weighing out 3.1534 gm. of the salt, partly because the salt is but rarely absolutely pure and partly because any oxidizable matters in the water used for solution would consume some of the salt. The adjustment must, therefore, be made indirectly by means of either oxalic acid or iron. In order to do this a solution of approximate strength is first prepared.

For directions see U. S. P.

This solution is standardized by means of oxalic acid, the decinormal volumetric solution being employed. The reaction proceeds thus:

$$2KMnO_4 + 5(H_2C_2O_4 + 2H_2O) + 3H_2SO_4 = K_2SO_4 + 2MnSO_4 + 10CO_2$$

One thousand cc. of the decinormal V. S. should contain 3.153 gm. permanganate = 6.285 gm. oxalic acid; 1 cc. of the decinormal V. S. should contain 0.003153 gm. permanganate = 0.006285 gm. oxalic acid.

Hence the 10 cc. of the decinormal acid solution containing 0.06285 gm. of oxalic acid will be equivalent to 0.03153 gm. of potassium permanganate. Sulphuric acid is employed in all reactions with permanganate, in order to dissolve the separated brown manganic hydrate and to convert it into manganic sulphate, which does not impart a color to the liquid. The presence of the suspended brown precipitate of manganic hydrate would render it next to impossible to recognize the end of the reaction.

Estimation of Hydrogen Dioxide.

A weighed quantity of the solution, diluted with water, is rendered decidedly acid with sulphuric acid, and decinormal permanganate solution is run in until the liquid retains a faint pink tint after being stirred.

The reaction proceeds thus:

$$\underset{315.3}{2KMnO_4} + \underset{169.6}{5H_2O_2} + 3H_2SO_4 = 5O_2 + 8H_2O + K_2SO_4 + 2MnSO_4$$

One thousand cc. of $\frac{N}{10}$ V. S. containing

3.152 gm. of permanganate correspond to 1.696 gm. of hydrogen peroxide.

One cc. V. S. containing 0.003152 gm. of permanganate corresponds to 0.001696 gm. of hydrogen peroxide.

Estimation of Ferrous Sulphate.

The reaction proceeds as follows:

$$\underset{315.3}{2KMnO_4} + \underset{2774.2\ (558.8\ Fe)}{10FeSO_4} + 7H_2O + 8H_2SO_4 = 5(Fe_2(SO_4)_3) + K_2SO_4 + 2MnSO_4 + 15H_2O$$

That is, 315.3 parts of $2KMnO_4$ correspond to 558.8 parts of Fe or to 2774.2 parts of $FeSO_4 + 7H_2O$.

One thousand cc. of the decinormal permanganate (containing 3.153 gm. of the salt) correspond to 5.588 gm. of metallic iron, or to 27.742 gm. of crystallized ferrous sulphate. Hence, 1 cc. of the decinormal permanganate (containing 0.003153 gm. of the salt) corresponds to 0.027742 gm. of crystallized ferrous sulphate.

Estimation of Metallic Iron.

The metallic iron is dissolved in a flask containing dilute sulphuric acid under the same precautions, to avoid oxidation, as directed under potassium bichromate. The resulting solution contains the iron as ferrous sulphate:

$$\underset{558.8}{5Fe_2} + 10H_2SO_4 = \underset{1517}{10FeSO_4} + 5H_2$$

The decinormal permanganate solution is now run in, until the solution, after stirring, retains a faint pink color.

One cc. of the decinormal permanganate (containing 0.003153 gm. of the salt) corresponds to 0.01517 gm. of anhydrous ferrous sulphate or to 0.005588 gm. of metallic iron.

(11) DECINORMAL BROMINE VOLUMETRIC SOLUTION. [Koppeschaar's solution.] See U. S. P. for method of preparation.

On mixing potassium or sodium bromate with their respective bromides in presence of hydrochloric or sulphuric acid and water, bromine is set free according to the following reaction:

$$KBrO_3 + 5KBr + 6HCl = 6KCl + 3H_2O + 3Br_2.$$

In order to ascertain the normal amount of bromine present, for the purpose of standardization, potassium iodide is introduced, whereby a quantity of iodine exactly equivalent to the free bromine present is liberated. Upon estimating the amount of the liberated iodine with sodium hyposulphite, the result represents the equivalent amount of bromine:

$$\underset{2 \times 79.76}{Br_2} = \underset{2 \times 126.6}{I_2} = \underset{2 \times 247.64}{2(Na_2S_2O_3.5H_2O)}$$

$$79.76 \text{ parts} = 126.6 \text{ parts} = 247.64 \text{ parts.}$$

That is, 1 cc. of decinormal hyposulphite solution (containing 0.024764 gm. of sodium hyposulphite) corresponds to 0.01266 gm. of iodine, which in turn represents 0.007976 of bromine.

This solution is employed in the valuation of carbolic acid, depending, for its action, upon the formation of tribromphenol, in which an excess of the bromine solution is added to a weighed amount of carbolic acid dissolved in water; the excess of bromine which has not combined with the phenol is estimated as explained above; that is, the equivalent amount of iodine liberated from potassium iodide added is determined by sodium hyposulphite, the difference being the amount of combined bromine.

XXII. PHARMACEUTICAL ORGANIC ASSAYS.

The Pharmacopœia directs a gravimetric assay of opium and its preparations, also cinchona bark; a volumetric assay of extract of nux vomica and a gasometric assay of spiritus ætheris nitrosi; these will be discussed in detail.

For the general assay of various alkaloidal drugs and pharmaceutical preparations, the reader is referred to the method of Prof. J. U. Lloyd, which is published in detail in the proceedings of the American Pharmaceutical Association.

This method recommends itself to the apothecary because of its simplicity and accuracy if carefully followed. Lyon's Manual of Pharmaceutical Assaying, published by the Pharmaceutical Era, takes up in detail all of the various methods of assay that have been proposed for each class of alkaloidal drugs, hence is invaluable for its purposes. Alkaloidal assays, to be of any value, should be carried out with the greatest of care, using all precautions to avoid any possible losses in the various operations involved. No dependence should be placed upon one single assay, but upon several which give very close concordant results.

Opium Assay.

The value of opium or its preparations is placed upon the percentage yield of morphine. Of the various methods of assay that have been offered, our present official process* is without doubt the best and most satisfactory. The point aimed at in the various assay methods is to precipitate the morphine (by means of aqua ammoniæ) as entirely and in as pure a condition as possible. This will explain the various operations which are carried out in our present official process, which aim to avoid the precipitation of resin, coloring matter, etc., which impart color and weight to the precipitated morphine with correspondingly high results. The assay processes for the various preparations and for opium itself are essentially the same, hence that for the tincture is selected as the example for illustration. The text of the Pharmacopœia in this instance is quoted for sake of clearness and convenience.

Tincture of opium.....100 cc.
Ammonia water..... 3.5 cc.
Alcohol,
Ether,
Water, each, a sufficient quantity.

"Evaporate the tincture to about 20 cc., add about 40 cc. of water, mix thoroughly, and set the liquid aside for an hour, occasionally stirring, and disintegrating the resinous flakes adhering to the capsule. Then filter, and wash the filter and residue with water, until all soluble matters are extracted, collecting the washings separately."

The tincture should be slowly evaporated in a dish or beaker glass of about 150 cc. capacity, on a water-bath, and not boiled. A higher temperature will result in a partial destruction of the morphine. Before an attempt is made to precipitate the morphine, such impurities as resin and caoutchouc, with as much coloring and extractive matter as possible, should be removed; otherwise these would be carried down with the morphine precipitate, and give false results. Hence the tincture is evaporated to a small bulk (20 cc.), when the loss of alcohol causes the partial separation of the resin and caoutchouc. This is made more complete by the addition of 40 cc. of cold water, in which these are comparatively insoluble. After standing the specified time, it should be carefully filtered through a small (3 in.) plain filter, the guiding-rod being used to direct the flow of fluid without loss. The residue in the capsule or beaker is rinsed on to the filter and the washing continued until the filtrate comes through devoid of all traces of bitter taste; or better, until a few drops of the filtrate collected on a watch-glass, and acidulated with a drop of dilute hydrochloric acid, ceases to give a precipitate with Mayer's Reagent;* or with Lugol's Solution.

"Evaporate in a tared capsule, first, the washings to a small volume, then add the first filtrate, and evaporate the whole to a weight of 14 gm. Rotate the concentrated solution about in the capsule until the rings of extract are redissolved, pour the liquid into a tared Erlenmeyer flask, having a capacity of about 100 cc., and rinse the capsule with a few drops of water at a time, until the entire solution weighs 20 gm. Then add 10 gm. (or 12.2 cc.) of alcohol, shake well, add 25 cc. of ether, and shake again. Now add the ammonia water from a graduated pipette or burette, stopper the flask with a sound cork, shake it thoroughly during ten minutes, and then set it aside, in a moderately cool place, for at least six hours, or over night."

The weaker solution is first evaporated to a small volume, and the first filtrate, which contains nearly all of the morphine, is then added. In this way the injurious effect of prolonged heat is avoided. After having transferred the entire solution into a tared assay flask, by washing with a little water until the whole weighs 20 gm., we are ready for the precipitation of the morphine. This alkaloid is in solution, combined chiefly with meconic acid, and inasmuch as morphine is practically insoluble in water (1 in 4,350), it may be readily precipitated from its solution by the addition of an alkali, preferably ammonia (since soda or potassa readily dissolve this alkaloid. The ammonia water must be of 10 per cent. strength, and not more than 3.5 cc. should be added, for an excess of this, over and above that necessary to combine with the meconic acid present, will cause some of the morphine to be retained in solution. Alcohol and ether are added before the ammonia water; the volume of the former is not sufficient to exert any

*Squibb's modification of Flückiger's method.

*Prepared by dissolving 13.546 gm. of mercuric chloride and 49.8 gm. of potassium iodide in sufficient distilled water to make 1,000 cc.

solvent effect on the morphine, while its presence serves to retain the coloring matter in solution, preventing its being carried down with the morphine. The ether serves to promote the rapid and thorough separation of the morphine as well as to take up coloring matter and narcotine.

"Remove the stopper carefully, and, should any crystals adhere to it, brush them into the flask. Place in a small funnel two rapidly-acting filters, of a diameter of 7 cm., plainly folded, one within the other (the triple fold of the inner filter being laid against the single side of the outer filter), wet them well with ether, and decant the ethereal solution as completely as possible upon the inner filter. Add 10 cc. of ether to the contents of the flask, rotate it, and again decant the ethereal layer upon the inner filter. Repeat this operation with another portion of 10 cc. of ether. Then pour into the filter the liquid in the flask, in portions, in such a way as to transfer the greater portion of the crystals to the filter, and, when this has passed through, transfer the remaining crystals to the filter by washing the flask with several portions of water, using not more than about 10 cc. in all. Allow the double filter to drain, then apply water to the crystals, drop by drop, until they are practically free from mother-water, and afterward wash them, drop by drop, from a pipette, with alcohol previously saturated with powdered morphine. When this has passed through, displace the remaining alcohol by ether, using about 10 cc., or more if necessary. Allow the filter to dry in a moderately warm place, at a temperature not exceeding 60° C. (140° F.) until its weight remains constant, then carefully transfer the crystals to a tared watch-glass and weigh them.

"The weight found represents the amount of crystallized morphine obtained from 100 cc. of the tincture."

The filter is first wetted with ether, otherwise, should some of the aqueous filtrate be poured, through carelessness, on the filter, this would prevent the ether from filtering through. After the ether washings have all been decanted upon the filter, the latter is allowed to stand a few minutes until the ether has evaporated, then the aqueous fluid containing the crystals of morphine in suspension is poured, in portions, upon the filter. Crystals always remain adhering to the sides of the flask. These can be easily removed by rinsing out first with a portion of the filtrate, or, if necessary, they may be detached by means of a rubber tipped glass rod. The flask is now rinsed out with 10 cc. of water, used in portions. The U. S. P. directs that, as soon as the filter has drained, water should be dropped (not poured) over the crystals until they are free from mother-liquor; for this purpose not more than about 8 to 10 cc. of water should be used.‡ If the crystals are of a light gray or buff color, they will be sufficiently pure, but should they be of a brown, or very dark gray color, then they should be further washed with alcohol saturated with morphine, followed with ether as directed. It is important that the ether follow the morphinated alcohol as soon as the latter has disappeared from the surface of the precipitate on the filter; otherwise, the morphine introduced by the morphinated alcohol might remain in the precipitate, upon evaporation of the alcohol, and the ether would not be able to displace it. The drying is done at a moderate heat, since it is only necessary to remove the ether, when crystallized morphine will remain behind.

Tincture of opium is incompatible with solutions containing free ammonia (aromatic spirit of ammonia), solutions containing tannic acid, and other substances affecting alkaloids.

‡Water saturated with morphine—morphinated water—may be employed in larger quantities, as it does not exert any solvent action on the morphine.

Assay of Extract of Nux Vomica.

For sake of convenience and clearness, the text of the Pharmacopœia will be quoted here:

Extract of nux vomica, dried at 100° C. (212° F.), two grams (2 gm.).
Alcohol,
Ammonia water,
Water,
Chloroform,
Decinormal sulphuric acid (V. S.).
Centinormal potassium hydrate V. S., each, a sufficient quantity.

"Put 2 gm. of the dried extract of nux vomica into a glass separator, add to it 20 cc. of a previously prepared mixture of 2 volumes of alcohol, 1 volume of ammonia water (specific gravity 0.960), and 1 volume of water, and shake the well-stoppered separator until the extract is dissolved. Then add 20 cc. of chloroform and agitate during five minutes. Allow the chloroform to separate, remove it as far as possible, pour into the separator a few cubic centimeters of chloroform, and, without shaking, draw this off through the stop-cock to wash the outlet-tube. Repeat the extraction with two further portions of chloroform of 15 cc. each, and wash the outlet-tube each time as just directed. Collect all the chloroformic solutions in a wide beaker, expose the latter to a gentle heat, on a water-bath, until the chloroform and ammonia are completely dissipated, add to the residue 10 cc. of decinormal sulphuric acid measured with great care from a burette, stir gently, and then add 20 cc. of hot water. When solution has taken place, add 2 cc. of Brazil-wood T. S., and then carefully run in centinormal potassium hydrate V. S., until a permanent pinkish color is produced by the action of a slight excess of alkali upon the Brazil-wood indicator. Divide the number of cc. of centinormal potassium V. S. used by 10, subtract the number found from 10 (the 10 cc. of decinormal acid used), multiply the remainder by 0.0364 and that product by 50 (or, multiplied at once by 1.82), which will give the percentage of total alkaloids in the extract of nux vomica, it being assumed that strychnine and brucine are present in equal proportions, and the above factor being found by taking the mean of their respective molecular weights rounded off to whole numbers [(334 + 394) ÷ 2 = 364.]

As to the glass separator, the bulbed or pear-shaped form (50 cc. capacity) should be used. The extract readily dissolves in the mixture of alcohol and water, the ammonia water serving to liberate the alkaloids from the combination with igasuric acid; the chloroform added dissolves the liberated alkaloids. After the chloroform is added, the mixture should be shaken by a rotary motion in order to avoid emulsification. When the chloroform once becomes emulsionized, it is a difficult matter to bring about a separation of the fluids. After the usual number of subsequent extractions, the chloroformic solutions, upon evaporation, yield an alkaloidal residue consisting of a mixture of strychnine and brucine, assumed to be in equal proportions.

Alkaloids, being strong bases, are capable of neutralizing acids in definite proportions. Hence, the usual method of estimating alkalies by means of a standard solution of an acid can be applied to certain alkaloids with a great degree of accuracy. The reaction is as follows:

$$\underset{\text{Sulphuric Acid}}{2H_2SO_4} + \underset{\substack{\text{Strychnine}\\ 2 \times 333.31}}{2C_{21}H_{22}N_2O_2} + \underset{\substack{\text{Brucine}\\ 2 \times 393.17}}{2C_{23}H_{26}N_2O_4} = \underset{\text{Strychnine Sulphate}}{(C_{21}H_{22}N_2O_2)_2H_2SO_4} + \underset{\text{Brucine Sulphate}}{(C_{23}H_{26}N_2O_4)_2H_2\ O_4}$$

One molecule of sulphuric acid 97.82 = strychnine 333.31 + brucine 393.17 = 726.48 total.

One thousand cc. $\frac{N}{10}$ containing 48.91 = 363.24 (one half of 726.48) alkaloids.

One cc. $\frac{N}{10}$ containing 0.04891 = 0.0364 alkaloids.

Hence each cubic centimeter of decinormal sulphuric acid is equivalent to 0.364 gm. of total alkaloids.* Since the usual indicators are not sufficiently sensitive in the presence of the alkaloids, the Pharmacopœia directs the use of Brazil-wood test solution, which strikes a yellow color with acids and a pinkish color with alkalies. When operating with this indicator, it is always advisable to place alongside of the actual test-sample, on a piece of white paper, two beakers, each containing a like volume of water and indicator, to one of which about 1 cc. of the normal acid has been added, and in the other the equivalent amount of alkaline volumetric solution; with these beakers as a means of comparison, the changes of color in the solution for assay can be more conveniently fixed.

Example.—The chloroformic residue obtained from 2 gm. of extract, which has been dissolved in 10 cc. of decinormal sulphuric acid, required 28 cc. of centinormal potassium hydrate V. S. for neutralization. What percentage of total alkaloids does the extract contain?

We have dissolved the alkaloids in an excess (10 cc.) of the decinormal acid. In order to ascertain how much of the acid has not been neutralized by the alkaloids, we titrate back with centinormal potassium hydrate, and subtract the equivalent amount of the latter from the former, thus: 10 cc. of $\frac{N}{10}$ H_2SO_4, minus 1.6 cc. of $\frac{N}{10}$ KOH (which is the same as 16 cc. of $\frac{N}{100}$ KOH) leaves 8.4 cc. of decinormal acid which has been neutralized by the alkaloids. Then, if 1 cc. of $\frac{N}{10}$ H_2SO_4 = 0.0364 gm. of alkaloids, 8.4

*Assuming them to be present in equal proportions.

cc. of the acid = 8.4 × 0.0364 = 0.3057 gm. of alkaloid. Therefore, there is 0.3057 gm. of total alkaloids (strychnine and brucine) present. The percentage may be found as usual (0.3057 ÷ 2 × 100 = 15.28 per cent.), or as directed by the Pharmacopœia by multiplying by 50 (50 × 0.3057) = 15.28 per cent.

Cinchona Assay.

The U. S. P. method (Prollius) of assay for cinchona consists in macerating a weighed quantity of the powdered bark with a measured volume of Prollius' fluid, which consists of a mixture of alcohol, chloroform and ammonia water. The combination of the alkaloids which exist in the bark as cinchotannates is broken up by the ammonia water, liberating the free alkaloids, which are taken up by the chloroform and alcohol, in conjunction with some coloring matter and extractive. An aliquot portion of this filtered solution is then drawn off, evaporated to dryness and dissolved in an excess of normal sulphuric acid and water, and filtered to remove the insoluble matter. Then a sufficient quantity of normal potassium hydrate solution is added to the filtrate until the liquid has become of an alkaline reaction, whereby the total alkaloids are thrown out of solution. These are dissolved by shaking with chloroform in several portions, until no more alkaloids are taken up. The united chloroformic solutions are then evaporated in a tared beaker and dried at 100° C. This gives the weight of total alkaloids.

The proportion of quinine in this residue is estimated by a very simple process, depending on the relative ready solubility of quinine (1 to 25) and quinidine (1 to 34) in ether, while cinchonidine (1 to 188) and cinchonine (1 to 371) are comparatively insoluble. Quinidine occurs in such small quantities that its solubility is not regarded. A measured volume of the chloroformic solution of the alkaloids is poured over some powdered glass and dried; this serves to distribute the alkaloids over as much surface as possible, for facilitating the solvent action of the ether, which is added in portions and filtered off until 10 cc. are collected (marked A); then a second portion of ether is poured over the residue and a second 10 cc. are collected (marked B). These reserved filtrates are evaporated to dryness and weighed. The residue A contains the ether soluble alkaloids (quinine with little or no quinidine) with a portion of those less soluble, while the residue B will consist almost entirely of the ether insoluble (?) alkaloids (cinchonidine and cinchonine). From the amount of residue obtained from A deduct that contained in B; this gives practically the total amount of quinine in the alkaloidal residue.

Assay Process for Spiritus Ætheris Nitrosi.

The process of the Pharmacopœia is that proposed by A. H. Allen in 1885. It consists in measuring the volume of nitrogen dioxide given off by a known volume of the spirit, when decomposed by the addition of potassium iodide and sulphuric acid according to the following equation:

$C_2H_5NO_2$ Ethyl Nitrite 78.87	+	KI Potassium Iodide	+	H_2SO_4 Sulphuric Acid	=			
C_2H_5OH Alcohol	+	$KHSO_4$ Potassium Acid Sulphate	+	I Iodine	+	NO Nitrogen Dioxide 29.97		

From this it is seen that 78.87 gm. of ethyl nitrite will yield 29.97 gm. of nitric oxide, which measures under normal pressure at 0° C. (32° F.) 22327 cc. One gm. of ethyl nitrite will yield at 0° C. 298.249 cc. of nitric oxide gas, or 1 cc. of the gas will represent 0.0033529 gm. of ethyl nitrite.

NO	$C_2H_5NO_2$	NO	$C_2H_5NO_2$
298.249 cc. :	1.0 : :	1 cc. :	x
	$x = 0.0033529$		

It will be observed that the above figures express the volume of the gas at 0° C. As we cannot carry on the operation at this temperature, we must make an allowance for the difference in volume of gas at higher temperatures. According to the law, gases increase $^1/_{273}$ in volume, or 0.003663 cc. for each degree Centigrade. For example, let us assume that we have obtained 40 cc. of gas, the temperature being 20° C. and the barometric pressure 740 mm. It is first necessary to reduce this volume to cubic centimeters expressed at 0° C. This is done by dividing the number of cubic centimeters obtained by 1, plus as many times 0.003663 as there are degrees of temperature; thus we divide 40 by 1.07326 [1 + (20 × 0.003663)], whereby we obtain 37.26 cc. at 0° C. and at the normal barometric pressure of 760 mm. (30 inches). If accuracy is desired, we must take the degree of barometric pressure into consideration, for, according to Boyle's law, "the temperature remaining the same, the volume of a given quantity of gas is inversely as the pressure it bears." Hence we may make the necessary correction by multiplying the volume of gas by the number of millimeters (or inches) of pressure and dividing by 760 (or 30). Thus, in this example, if the pressure be 740 mm., the corrected volume would be (37.26 × 740 ÷ 760) = 36.27+ cc. If it is desirable to convert this into weight of ethyl nitrite, then we multiply 36.27 cc. by 0.0033529 (1 cc. NO = 0.0033529+ gm. $C_2H_5NO_2$) = 0.12160+ gm. ethyl nitrite. Therefore 40 cc. of nitric oxide gas at 20° C., and 740 mm. measure 36.27 cc. when reduced to 0° C. and 760 mm. The assay operation is performed with an instrument called a nitrometer, of which there are several modifications, that of Curtman's design being preferred by the Pharmacopœia.*

Exercise.—A sample of 5 cc. of spirit of nitrous ether, when assayed by the U. S. P. process, yielded 50 cc. of nitric oxide gas, the temperature of the room (and that of the liquid in the nitrometer being 25° C. and the barometric pressure 750 mm. How much nitric oxide (NO) by volume will it yield, and also what per cent. by weight will it contain of ethyl nitrite?

Fifty cc. ÷ 1.091575 [1 + (25 × 0.003663)] = 45.85 cc. (corrected for temperature). (45.85 cc. × 750 ÷ 760) = 45.24 cc. nitric oxide (corrected for temperature and pressure).

Hence 5 cc. of the spirit of niter yield 9.04+ times its volume (45.24 cc.) of nitric oxide gas, measured at 0° C. and 760 mm.

45.24 cc. × 0.0033529 = 0.151685+ gm. Ethyl Nitrite

Spirit Niter	Ethyl Nitrite		
5 cc. = 4.1 gm. :	0.151685 : :	100 :	x
	$x = 3.7$ %		

Therefore the sample contains 3.7 per cent. by weight of ethyl nitrite.

*The instructions for operating this are given in the U. S. P., Part IV., p. 509.

GRAVIMETRIC ANALYSIS.

The general operations embraced under this head, such as weighing, solution, precipitation, filtration, drying, igniting, etc., have been taken up under their respective heads in the general pharmaceutical operations. To take up the various quantitative methods of estimating inorganic acids, metals, etc., would be of no value unless complete, hence the reader is referred to various works on inorganic quantitative analysis, such as Fresenius' Manual of Quantitative Analysis, Cairn's Quantitative Analysis, etc.

[*Dispensing Pharmacy will be the subject of the next paper on this series, by E. J. Kennedy, Ph. C.*]

How Ideas Spread.

Ideas are propagated in the minds of the multitude chiefly through affirmation, repetition, prestige, contagion and faith. Reason does not come within the enumeration, its influence in the matter being substantially null. Affirmation, pure and simple, without reasoning and without proof, is one of the surest means of planting an idea in the popular mind. The more concise it is, the more free from every appearance of proofs and demonstration, the more authority it has. The religious books and the codes of all ages have always proceeded by simple affirmation. Statesmen called upon to defend any political cause and manufacturers advertising their goods know what it is worth. Yet it has no real influence, except it is constantly repeated, and, so far as possible, in the same terms. Napoleon said that repetition was the only serious figure in rhetoric. By repetition an affirmation is incrusted in the minds of hearers till they at last accept it as a demonstrated truth. What is called the current of opinion is formed, and then the potent mechanism of contagion comes in. Ideas that have reached a certain stage, in fact, possess a contagious power as intense as that of microbes. Not fear and courage only are contagious; ideas are, too, on condition that they are repeated often enough. When the mechanism of contagion has begun to work, the idea enters upon the phase that leads to success. Opinion, which repelled it at first, ends by tolerating and then accepting it. The idea henceforward gains a penetrating and subtle force which sends it onward, while at the same time creating a sort of special atmosphere, a general way of thinking. (Gustave Le Bon, in The Popular Science Monthly for August.)

POISON LAWS.*

ALABAMA.

Unlawful to retail following poisons: Arsenic and its preparations, corrosive sublimate, white and red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnine, and all poisonous vegetable alkaloids and their salts, and the essential oil of almonds; opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce; aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, veratrum, digitalis and their pharmacentical preparations; croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic and oxalic acids, without labeling the container with name of article, the word "poison," and name and place of business of the seller; also unlawful to sell or deliver any of above poisons unless purchaser is aware of its poisonous character and represents that it is to be used for a legitimate purpose. Law does not apply to dispensing poisons in not unusual quantities upon physician's prescription, nor to manufacturers making and selling at wholesale, provided containers are labeled as above.

Penalty: Principal of a store liable to fine, $10 to $100.

ARIZONA.

Has no pharmacy or poison laws.

ARKANSAS.

Unlawful to sell at wholesale or retail the following articles: Arsenic and its compounds, strychnia and its salts, corrosive sublimate, hydrocyanic acid, oil of bitter almonds, croton oil, opium and its preparations, except paregoric and those preparations containing 2 grains or less of opium to the ounce, without labeling the container with name of article, the word "poison" and name and place of business of the seller. Every person selling a poison at retail must make an entry in a book kept for that purpose, stating date of sale, name of poison, quantity, for what purpose, name, sex or color of purchaser or for whom purchased, residence of purchaser and by whom sold. Book must be preserved for five years from date of last entry therein, must always be open to inspection of the coroner and to officers of different courts. Law does not apply to or interfere with dispensing of poisons by a medical practitioner or the prescriptions of one.

Penalty: Fine, $5 to $100.

CALIFORNIA.

Schedules of poisons:

Schedule A.

Arsenic, corrosive sublimate, cyanide of potassium, hydrocyanic acid, strychnia, cocaine and all other poisonous vegetable alkaloids and their salts, opium and all its preparations, excepting those which contain less than 2 grains to the ounce.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, savin, cantharides, phosphorus, digitalis and their pharmaceutical preparations, croton oil, chloroform, chloral, sulphate of zinc, sugar of lead, mineral acids, carbolic acid and oxalic acid, white precipitate, red precipitate, biniodide of mercury, essential oil of almonds.

Unlawful to retail poisons in either schedule without labeling the container with name of article, the word "poison" and name and place of business of the seller, or to sell or deliver any poison in either schedule unless it is found, upon inquiry, that buyer is aware of its poisonous character, and that it is to be used for a legitimate purpose.

Poisons in Schedule A must be registered in a book kept for that purpose only. The record must state date of sale, name and address of purchaser, name and quantity of poison sold, purpose for which purchaser states it is required and name of dispenser. Book must always be open to inspection by proper authorities and must be preserved five years.

Law does not apply to dispensing of poisons on physicians' prescriptions nor to sales of poisons, if a single bottle or package does not contain more than an ordinary dose. Dealers in original packages containing any of the above-enumerated poisons must use poison label, but need not register sale when selling at wholesale or to registered pharmacist or physician.

Penalty: Not to exceed $50.

COLORADO.

Schedules of Poisons:

Schedule A.

Arsenic and its preparations, prussic acid, cyanide of potassium and all other metallic cyanides, strychnine and all other vegetable alkaloids and their salts, aconite and its preparations, and tartar emetic.

Schedule B.

Belladonna, conium, cantharides, corrosive sublimate, henbane, nux vomica, savin oil, ergot, digitalis, and their pharmaceutical preparations, croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic acid, oxalic acid, opium and all preparations of opium except paregoric and other preparations of opium containing less than 2 grains to the ounce.

Unlawful for any person to retail poisons in either schedule without labeling the container "with the name and place of the seller." Unlawful to deliver or sell any poison in Schedule A without registering in a book kept for that purpose only, the date of sale, name and address of purchaser, name and quantity of poison sold, the purpose for which purchaser states it is required, and name of dispenser. Book must always be open for inspection by proper authorities and must be preserved one year. Law does not apply to the dispensing of poisons in not unusual doses or quantities or upon prescriptions of legitimate practitioners of medicine, nor interfere with sale of medicine in the original packages of the manufacturer.

Penalty: Not to exceed $500 or six months' imprisonment.

Any person who, in making application to purchase or receive any of the articles enumerated in either schedule, shall give a false or fictitious name or address shall be guilty of a misdemeanor.

Penalty: Not to exceed a fine of $500 or imprisonment in county jail not longer than six months, or both, in the discretion of the judge.

CONNECTICUT.

Unlawful to sell arsenic, strychnine, corrosive sublimate, prussic acid, cyanide of potassium, without affixing to the package a label plainly marked with name of seller, date of sale and the word "poison," and the seller shall enter in a book kept for that purpose the name of the purchaser, date of sale and quantity sold, which book shall be kept open for public inspection, and when he shall close his business or remove from the town in which such business is carried on, or when said book shall be filled with such entries, it shall be deposited by him in the office of the town clerk of the town in which he may conduct his business; and any person who shall violate these provisions, or who when purchasing any of the articles herein named shall give a false or fictitious name to the vendor thereof, shall be fined not less than $10 nor more than $100.

Every person who shall sell any of the articles named in the schedule accompanying this section, marked Schedule A, except when prescribed by a practicing physician or sold at wholesale to licensed pharmacists or for use in manufactures or the arts, shall label the container with a label upon which shall be plainly written or printed the word "poison," and any person violating the provisions of this section shall be fined $1.

Schedule A.

Acid carbolic, ammoniated mercury, acid muriatic, chloroform, acid nitric, tincture aconite, acid sulphuric, tincture belladonna, acid oxalic, tincture digitalis, creosote, tincture opium, extract belladonna, tincture veratrum viride, sugar of lead, morphine, croton oil, nux vomica, cobalt, extract nux vomica, oil bitter almonds, opium, oil tansy, cocculus indicus, aqua ammonia, red oxide mercury, gelseminn, paris green, rat dynamite, "rough on rats" or any article like the three last named.

DELAWARE.

Every dispenser of drugs shall keep a record of all sales of strychnia, arsenic and corrosive sublimate, said record to be open to proper legal inspection. Any person failing to comply with the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined $5 for each and every offense.

DISTRICT OF COLUMBIA.

Unlawful to retail following poisons:

Schedule A.

Arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnia, and all other poisonous vegetable alkaloids and their salts, essential oil of bitter almonds, opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, digitalis and their pharmaceutical preparations, croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic acid and oxalic acid.

Without labeling container with name of article, the word "poison," and the name and place of business of the seller, also unlawful to sell or deliver any of the above poisons unless it be found, upon inquiry, that purchaser is aware of its poisonous character and represents that it is to be used for a legitimate purpose. Sales of poisons in Schedule A must be registered in a book kept for that purpose. Book must show date of sale, name and address of purchaser, name and quantity of poison sold, the purpose for which it is represented by the purchaser to be required, name of dispenser, and must be always open for inspection by the proper authorities, and must be preserved five years.

Law does not apply to the dispensing of poisons in not unusual quantities or doses upon the prescriptions of physicians.

Penalty: Principal or owner of store liable to a fine, $25 to $100.

FLORIDA.

See 8 of Pharmacy law, identical with law of Alabama, which see.

GEORGIA.

Unlawful to sell, give or furnish directly or indirectly opium or its preparations containing more than 2 grains of opium to the ounce, in any quantity, to any person addicted to its use, after a written notice from a near relative of such person that he or she is habitually addicted to its use, except upon the written prescription of a physician setting forth the necessity of its purchase, and showing the good faith of the prescription.

Unlawful to sell or offer for sale any sulphate or other preparations of morphine in any bottle, vial, envelope or other package, unless the same be wrapped in a scarlet paper or envelope, and all bottles or vials used for the above purpose shall have, in addition to said scarlet paper wrapper, a scarlet label lettered in white letters, plainly naming the contents of said bottle.

Penalty: Fine, $10 to $50.

Unlawful to retail the following poisons:

Schedule A.

Arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnia, and all other poisonous vegetable alkaloids and their salts; essential oil of bitter almonds; opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, digitalis and their pharmaceutical preparations, croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic acid and oxalic acid.

Without labeling container and its cover or wrapper with name of article, the word "poison," and name and place of business of seller; nor unless, upon inquiry, it be found that purchaser is aware of its poisonous character and represents that it is to be used for a legitimate purpose.

Sales of poisons in Schedule A must be registered in a book kept for that purpose. Each entry must show date of delivery,

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*We have received so many inquiries for a good poison register that we have had a special book prepared for the purpose, which we call the "Era Poison Register." It is specially ruled and printed for the proper entries on good folio record paper, securely bound with stiff board covers and contains spaces for 800 entries. Bound in with each book are the poison laws now in force in each State and Territory.

The price of this book, postage paid, is 60 cents per copy.

name and address of recipient, name and quantity of poison purpose for which purchaser represents it to be required, and name of dispenser. Book must always be open for inspection by the proper authorities and be preserved five years.

Law does not apply to dispensing of poisons in not unusual quantities or doses upon the prescriptions of practitioners of medicine.

Penalty: Fine not exceeding $1,000 or imprisonment not exceeding six months, or both, at discretion of the court.

IDAHO.

Unlawful to sell or retail any poison commonly recognized as such, and especially aconite, arsenic, belladonna, biniodide of mercury, carbolic acid, chloral hydrate, chloroform, coniam, corrosive sublimate, creosote, croton oil, cyanide of potassium, digitalis, hydrocyanic acid, laudanum, morphine, nux vomica, oil of bitter almonds, opium, oxalic acid, strychnine, sugar of lead, sulphate of zinc, white precipitate, red precipitate or cocaine, without labeling container and wrapper and cover with name of poison, word "poison" and name and place of business of seller. Pharmacist must keep a poison register, showing kind and amount of poison sold, for what purpose sold, accompanied with the signature of the purchaser.

Law does not apply to physicians' prescriptions specifying any of the poisons aforesaid.

Penalty: Not less than $5 for each offense.

ILLINOIS.

Unlawful to sell at retail any drug, medicine or poison without labeling container with name of article and name and address of the registered pharmacist selling it. Law does not apply to the dispensing of physicians' prescriptions.

Penalty: $5 for each offense.

INDIANA.

Has no laws on the subject.

INDIAN TERRITORY.

Has no laws on the subject.

IOWA.

Unlawful to retail following poisons:

Schedule A.

Arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnia, and all other poisonous vegetable alkaloids and their salts, essential oil of bitter almonds, opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, digitalis and their pharmaceutical preparations; croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic acid and oxalic acid, without labeling container and wrapper with name of poison, the word "poison," and name and place of business of the seller; nor sell or deliver any poison in either schedule unless, upon inquiry, it be found that purchaser is aware of its poisonous character and represents that it is to be used for a legitimate purpose.

Sales of poisons in Schedule A must be registered in a book kept for that purpose. Each entry must show date of sale, name and address of purchaser, name of poison, purpose for which purchaser represented it to be required and name of dispenser. Book must be open to inspection by the proper authorities and be preserved five years.

Law does not apply to the dispensing of poisons in not unusual quantities or doses upon prescriptions of practitioners of medicine.

Penalty: Owner or principal of a store liable to fine, $25 to $100, and for repeated violations name shall be stricken from register.

Concentrated lye and potash must be labeled with the word "poison" and true name but need not be registered.

Penalty. Imprisonment not more than 30 days or fine not exceeding $100.

KANSAS.

Schedule A.

Arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, chloroform, strychnine, morphine and all other poisonous vegetable alkaloids and their salts, essential oil of bitter almonds, opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, henbane, cantharides, creosote, digitalis and their pharmaceutical preparations, croton oil, chloral hydrate, sulphate of zinc, sugar of lead, mineral acids, carbolic acid, oxalic acid and all other virulent poisons.

Schedule C.

Oil of savin, oil of tansy, ergot and its preparations, cotton root and its preparations, and all other active emmenagogues or abortives.

Unlawful to sell any of the articles enumerated in Schedules A and B without labeling container and wrapper with name of article, the word "poison" and name and place of business of seller, nor unless it is found, upon inquiry, that purchaser is aware of its poisonous character and represents that it is to be used for a legitimate purpose. Unlawful to sell any of the articles enumerated in Schedules A and B without registering sale in a book kept for that purpose, such registry to show date of sale, name of article and quantity thereof, purpose for which it is represented by the purchaser to be required, name of dispenser and name and address of purchaser signed by himself. Book is to be always open for inspection by the proper authorities, and must be preserved five years.

Articles enumerated in Schedule C can be sold only on prescription of a legally qualified physician.

Law does not apply to sales of poisons to practicing physicians and photographers, and to the dispensing of poison in not unusual doses or quantities upon the prescriptions of licensed practitioners of medicine.

Persons procuring from pharmacists articles enumerated under Schedules A, B and C under fraudulent representations are liable to a fine, $25 to $100.

(To be Continued.)

VETERINARY MATERIA MEDICA FOR FARMERS.*

By E. P. Niles, Veterinarian.

Medicines act both locally and generally. The local effect of a medicine is produced when the medicine is applied directly to a part, and when the effect is limited to the part to which it is applied. The general effect of a drug is produced only when the drug enters the circulation; some medicines may produce such an effect when locally applied as a result of absorption through the tissues. Medicines also act physiologically and therapeutically. The physiological action is said to be gotten when the drug produces the same effect in health as in disease. When such actions are exerted in the cure of disease they are termed therapeutic or curative actions. Medicines, too, have a certain affinity for certain organs or sets of organs; for example, aloes exerts its influence upon the digestive tract, nux vomica upon the nervous system, aconite upon the heart, spirits of nitrous ether upon the kidneys, etc. Just why a medicine affects one organ more than another has not been satisfactorily explained; that medicines do have such an affinity, however, has been thoroughly proven.

Medicines are said to cure disease in three ways: 1st, by allopathy, whereby effects are produced which overcome the disease; 2d, by antipathy, whereby medicines overcome disease by more powerful and antogonistic force; 3d, by homeopathy. The advocates of this theory claim to cure disease by the administration in small doses of such medicines that in large doses would produce symptoms similar to the disease to be cured. This theory does not meet with as general favor as the other two theories.

Antiseptics are agents which destroy bacteria and arrest putrefaction. They prevent suppuration in wounds, thereby hastening the healing process. Examples, bichloride of mercury in solution of 1-1,000, lysol, carbolic acid, creolin, etc.

Disinfectants are agents which destroy the specific poisons, bacteria, of contagious diseases. They are used to disinfect buildings in which diseased animals have been kept, for cleansing wounds, etc. The same class of drugs are used in the above.

Deodorizers are agents which destroy smells. They do so by disguising or destroying the cause of the odor. Permanganate of potash is the best example of this class of drugs.

Counter-irritants are those agents which, when applied to the surface of the body, counteract or allay deeper-seated inflammations, or cause the absorption of abnormal enlargements to which they are applied. In acute inflammatory attacks they allay the congestion through reflex action. They may be used beneficially in bronchitis, pneumonia, and in the secondary stages of inflamed joints counter-irritants stimulate the circulation and hasten resolution. In ring-bones and spavins the actual cautery acts as a powerful and effective counter-irritant.

Astringents contract the living tissue. They may also produce their effect by coagulating or precipitating albumen. They are used to check excessive diarrhœa and to arrest hemorrhage. Acids, salts of iron, chalk and tannic acid are examples.

Demulcents and emollients soothe, soften, relax and ensheathe the parts with which they come in contact. This action is entirely mechanical. They include gums, mucilage and oils. They lubricate and protect abraded or irritable parts from external injury. Given internally they shield the mucous membranes from irritable substances and, to a certain extent, prevent the absorption of poisons.

Narcotics are drugs which disturb the relation of the mental function with the external world. Examples, alcohol, ether, chloroform and opium.

Anodynes relieve pain by diminishing excitability of nerves or nerve centers. They are indicated in cases of colic, pleurisy and pneumonia. Examples, cannabis Indica, opium, chloroform and ether.

Antispasmodics are agents which prevent or remove spasm of voluntary or involuntary muscles. They are indicated in spasmodic colic and tetanus. Examples, cannabis Indica, belladonna, opium, chloroform and ether.

Nerve sedatives are agents which lessen nervous excitability. Bromide of potassium and bromide of ammonium are included in this class of drugs.

Nerve stimulants are agents which increase nervous excitability. Example, nux vomica.

*Abstracted from Bulletin No. 43, Virginia Agricultural Experiment Station.

Expectorants facilitate the removal of secretions from the air passages. They are indicated in common colds, pneumonia and bronchits. Examples, chloride and carbonate of ammonia, squills and Dover's powders.

Heart stimulants increase the frequency and force of the pulse, and are indicated in debilitating diseases when the pulse is slow and feeble. Alcohol and the ammonium preparations are examples.

Heart sedatives decrease the frequency and force of the pulse, and are used in febrile diseases when the pulse is rapid and strong. They should not be used when the pulse is weak. Aconite is an example.

Purgatives are agents which cause intestinal evacuations. When their action is mild they are termed laxatives.

Vermicides are agents which destroy parasites, such as round worms and tapeworms in the digestive tract. Santonin and areca nut are included in this class of drugs.

Diuretics are agents which act on the kidneys and increase the flow of urine. They are divided into two classes, stimulating and refrigerating. Stimulating diuretics increase the flow of urine by increasing the blood pressure in the kidneys, and should never be used in inflammatory diseases of the kidneys. Refrigerating diuretics act by increasing the cell protoplasm of the kidneys, and have a cooling effect on those organs. They are indicated in febrile diseases when the kidneys are inactive, and in inflammation of the kidneys. The potassium and lithium salts act as refrigerating diuretics, while sweet spirits of niter, alcohol and other stimulants act as stimulating diuretics.

Tonics are agents which impart tone or strength to the parts on which they specially act. It is a notable fact that all drugs which have a tonic action do not produce their effects in the same manner. Gentian acts as a stomach tonic, aids digestion and, hence, tones up the whole system. Nux vomica acts as a nerve tonic, thereby bettering the general condition of the system. Iron acts as a blood tonic, while cinchona acts as a general tonic. Tonics are indicated in feeble digestion, debilitated conditions of the nerves and after all debilitating diseases.

Antipyretics lower the temperature of the body in fever. Examples, quinine and antifebrin.

Antidotes are agents which counteract the effects of poison. They act mechanically and chemically. Such agents as charcoal act mechanically by absorbing the poison and preventing its being taken into the system. In lead poisoning, sulphuric acid and the sulphates combine with the lead, forming the insoluble (therefore non-poisonous) sulphate of lead. The dose or quantity of the drug administered affects the degree of its action. Sometimes the nature of the action is also affected. For example, small doses of potassium, sodium and magnesium salts and aloes act as tonics, while large doses act as purgatives. The size of the dose required of any drug will depend upon the size and age of the animal. Owing to the difference in the size of the stomach, the cow will require a much larger dose than the horse. The stomach of the cow being large and constantly filled with a large quantity of food the drug is more tardily absorbed, hence the dose must be larger to produce the desired effect. When continued effects of a drug are required better results are gotten by giving the drug in small and repeated doses than by single large doses.

Medicines are administered in four ways, but only one will be described, viz., by the mouth. Medicines when given by the mouth should usually be given in the fluid state to insure more rapid absorption. When small quantities are to be given the best method is to throw the fluid well back in the mouth by means of a syringe. Larger quantities may be given in the form of a drench through the mouth. The practice of drenching through the nostrils cannot be too strongly condemned. The writer has on several occasions seen serious results follow this cruel method of drenching. In drenching, the head should be elevated only sufficiently high to prevent the fluid from running out of the mouth; since it is almost impossible for a horse to swallow with the head pulled high in the air. The head should be elevated by means of a strap or rope fastened to each ring of the bridle bit, thus leaving the under jaw free. If medicines are to be given in a solid form they are best administered in the form of a bolus, which may be made by mixing with the drug a little flaxseed meal or liquorice root, using just water enough to make a stiff mass. The whole is wrapped in tissue paper and placed well back on the roots of the tongue. Medicines may also be mixed with the animal's food. If the animal refuses to eat his food containing the drug, a little pinch of the drug placed in his mouth before he has tasted the food so prepared will give to the animal the taste of the drug and deceive him to such an extent that he will not notice anything wrong with his food.

Tonics are derived from both the vegetable and mineral kingdom. Vegetable tonics that will be described in this bulletin are gentian, cinchona, nux vomica and ginger. Mineral tonics, iron and its preparations.

GENTIAN. The dried root of Gentiana lutea; obtained from druggists in the form of powder and fluid extract. Its color is yellow shading to brown; bitter in taste, which it readily imparts to water, alcohol and ether. Gentian acts as a pure tonic and exerts its influence mainly upon the stomach. It improves the appetitie and general tone, and relieves indigestion in young animals, for which purpose it is conjoined with ginger and sodium bicarbonate. In young animals suffering with indigestion and diarrhœa the writer has often gotten excellent effects by the use of gentian and hydrochloric acid. In influenza, distemper and most debilitating diseases gentian improves the appetite and tone of the animal when conjoined with iron and ginger. It exerts its influence on all animals alike and is, therefore, a safe and valuable tonic for the smaller as well as the larger animals. Horses take of the powdered gentian one-half ounce to one ounce; cattle one to two ounces; sheep one to three drams; pigs one-half to one dram; dogs five to twenty grains. The fluid extract is given in the same doses. Best results are gotten when the above doses are repeated two or three times daily.

GINGER acts as a mild tonic and is usually conjoined with other tonics for the purpose of increasing their action. It is also conjoined with purgatives for the same purpose, and to relieve the griping.

NUX VOMICA is used in the form of powder, fluid extract and tincture. It owes its activity to two alkaloids, strychnine and brucine. Nux vomica and its alkaloids act as stimulants to the motor centers of the spinal cord and other nerves. Medicinal doses act as nerve tonics and aid digestion, overcome paralysis and improve the general tone. The digestive glands are stimulated, whereby dyspepsia and other forms of indigestion are relieved. In torpidity of the bowels, nux vomica acts beneficially by toning up the nerves and increasing the peristaltic action of the bowels. In paralysis following milk fever, canine distemper and other debilitating diseases nux vomica is indicated. Combined with gentian and iron it acts beneficially as a general tonic. Horses take of the powdered drug one-half to one dram; cattle one to two drams; sheep ten to thirty grains; pigs ten to twenty grains; dogs one-half to two grains.

IRON and its preparations act as astringents and tonics. They improve the condition of the blood. The sulphate of iron is most commonly used in veterinary practice as a tonic, and is indicated in much the same class of patients as other tonics. The tincture of the chloride of iron is largely used to arrest hemorrhage; also the subsulphate, both in powder and solution.

ALOES is obtained from the aloe plant. It contains a neutral principle, aloin, to which it owes its activity. In full doses aloes acts as a purgative, while in small doses it acts as a bitter tonic. Upon entering the circulation it imparts its bitterness and purgative properties to the milk and other secretions. It increases the secretions and peristaltic action of the intestines. These effects, however, are mainly confined to the large intestines. The time required for the operation of aloes varies from sixteen to twenty-four hours, depending somewhat upon the character of the food the horse has had previous to the administration of the dose and the size and age of the animal. Aloes is an uncertain purgative for other animals than the horse, and in veterinary practice its use is mainly confined to the horse. In dyspepsia, when the appetite is poor, coat staring, bowels irregular, in irritable conditions of the skin, and

where the limbs are swollen, a dose of aloes followed by tonics usually gives good results. In spasmodic and flatulent colic, aloes removes the indigestible, and frequently fermenting, contents of the stomach and intestines. Aloes should not be used in inflammatory conditions of the digestive and respiratory organs. As a tonic, aloes is generally prescribed with gentian, iron, or nux vomica. The dose of aloes for its purgative effect is one-half to one ounce for the horse. For foals several months old, five grains may be allowed for every week of the patient's age. For cattle and the smaller animals, other agents are preferable. The dose of aloin for the horse is one to three drams.

GAMBOGE is used almost entirely as a purgative for cattle. It is a powerful irritant and produces copious watery discharges. It is usually prescribed for cattle in impaction of the rumen and other parts of the stomach; also in obstinate cases of constipation conjoined with Epsom or Glauber salts, which increases the activity of the purgative mixture. Cattle take one-half to one ounce of the powdered drug.

JALAP is an effectual purgative for dogs and cats, causing copious watery discharges. It is also used to increase the activity of the liver. Jalap is also an effectual purgative for the pig. It is used in torpidity of the bowels, relieves indigestion, and improves the appetite. An occasional dose is said to be of benefit to fowls that are not allowed the privilege of a grass run. The dose of the powder or fluid extract for dogs is one to two drams; cats, one-half dram; pigs, one to four drams; fowls, five to ten grains.

EPSOM AND GLAUBER SALTS act as mild purgatives and are useful in the same class of cases in which the foregoing purgatives are recommended, with the addition that they may be used in febrile diseases, having a tendency in such cases to lower the fever. Conjoined with other purgatives they increase their activity. Salts are used more than any other drug as a purgative for ruminants. In small doses they act as a tonic. The purgative dose for cattle is one to one and one-half pounds.

OILS.—Castor, linseed, cottonseed, and olive oil act as laxatives. They soothe and ensheathe the mucous membranes with which they come in contact and are valuable in spasmodic and flatulent colic. One-half pint of oil with one and one-half ounces of tincture of opium and one-half ounce cannabis Indica is often sufficient to relieve mild attacks of colic in the horse. The dose of the oils for the horse is one-half to one pint; cattle, one to two pints.

SPIRIT OF NITROUS ETHER (sweet spirits of niter) acts as a stimulating diuretic. It is indicated in torpidity of the kidneys and to hasten excretion of waste matter from the system. In azoturia it hastens the excretion of urea. In gravel of the kidneys, by increasing the flow of urine, it is said to act beneficially by washing the small gravel from the pelvis of the kidney. It should not be given in inflammation of the kidneys, since it belongs to the class of stimulating diuretics and hence increases the blood supply of those organs. Horses take one to two ounces; cattle, one to four ounces.

BUCHU is less stimulating than the preceding, and, besides acting as a stimulating diuretic, has a soothing effect upon the mucous membrane lining the urinary and genital organs. It is of value in azoturia for the purpose of hastening the excretion of urea and relieving the irritable condition of the urinary apparatus. The writer has used the drug in such cases with decided advantage. In inflammation of the mucous membrane of the bladder and urethra it is of value. Horses take one to two ounces two to three times daily.

NITRATE AND ACETATE OF POTASSIUM act as refrigerating diuretics and are used in most febrile diseases. They lower the body temperature in fevers and relieve congestion of the kidneys. Potassium nitrate placed in the drinking water of fever patients cools the mouth and, to some extent, allays thirst. Horses take one-half to one ounce; cattle, one to three ounces.

Dearth of Foreign Medicines in China.

Acting Consul Brady in his report on the trade of Ichang, China, last year makes the following remarks, by which English dealers in drugs ought to profit: Foreign medicines and worm tablets figure in the import table to the value of 15,774 taels (£2,500), but unfortunately no details are given. Foreign drugs are much appreciated by natives, especially quinine, which seems to be universally known, but there are few places in the interior where they can be purchased. Local chemists in Hong Kong and Shanghai have their agents, it is true, in some of the larger cities, but the quantities they dispense, I am told, are too large for the requirements of the ordinary native to whom a disbursement of 40 cash (say 1d.) is often considerable. I consider a large business might be done by any enterprising wholesale firm who would make up medicines in an attractive form, small quantities, with full and concise directions in Chinese on the wrapper. Worm tablets are exposed for sale on the street stalls of almost all the cities in the eighteen provinces besides being hawked about the country by peddlers, and why should not other medicines be made as popular? Quinine is an article for which travelers are continually being besieged by Chinese who consider it a panacea for all ills, and the demand for it would soon increase if it were placed on the market in a cheap form, say 1d. or 1½d. the dose, either with or without the necessary salts for the relief of malarial fever. There are many other simple remedies which suggest themselves, such as sulphur ointment for itch, which is virtually unknown among the Chinese for this complaint; boracic acid for ophthalmia, by the use of which half the cases of impaired sight might be avoided; santonine for intestinal complaints; iodine for ringworm; zinc ointment for sores, and a good purgative pill, as well as an antidiarrhœa medicine, all of which are among the cheapest of drugs in the British Pharmacopœia. Once fairly placed on the market, I am convinced a ready demand would spring up for these articles, and the relief they would afford to thousands would be incalculable, besides bringing in no small profits to the enterprising foreigner who first succeeded in establishing a reputation for them. The essential conditions of success, however, are that the medicines should be disposed of in small quantties at the cheapest possible rates, and that each packet should be accompanied by explicit directions as to the dose to be taken. The commercial traveler is an unknown quantity in China, and a Chinaman has to go in search of his commodities instead of their going in search of him. Everywhere in the shops one sees the same class of foreign goods, the same miscellaneous assortment of odds and ends, but never anything of a modern or up-to-date nature. This is simply the result of ignorance on the part of the Chinese trader; he does not know of them, and if he did he would not know in all probability where to go to procure them. Judicious advertising might improve matters, but what are really needed are local agencies where samples of all kinds of goods might be inspected without difficulty or compulsion to purchase. (Br. & Col. Dr.)

PEPSIN ASSAY.—In Jr. Ch. Soc. (N. E. Dr.) Ferdinand Klug states that the strength of the solution has an important influence. The best results are obtained with a solution containing 0.5 per cent. to 0.01 per cent. of pepsin and 0.5 per cent. to 0.6 per cent. of hydrochloric acid. With greater or less concentrations of pepsin the activity is lessened, though it can proceed with solutions containing as little as 0.005 per cent. of pepsin. The best artificial gastric juice contains 0.1 per cent. of pepsin and 0.6 per cent. of hydrochloric acid. Twenty cc. of this will dissolve 6 gm. of hard-boiled white of egg within 10 to 15 hours. Dog's pepsin is more active and produces more peptone than either hog's or ox pepsin similarly treated. Digestion proceeds most rapidly during the first four hours. It occurs between 0° and 80° C., but is most active between 50° and 60°. With dog's pepsin peptone makes its appearance in 20 to 40 minutes; with the pepsin of pig and ox in 4 hours.

MERCURIC CHLORIDE IN CALOMEL may be detected thus: Put a drop of 10 per cent. alcoholic soap solution on 2 or 3 grains of calomel, add a drop of a solution of guaiac resin in alcohol and mix the whole with 2 cc. of ether. Mercuric chloride is shown by the appearance of an intense green color upon evaporation of the ether.

STYPTICIN is cotarnine hydrochloride and is recommended in 10-per cent. solution injection for hemorrhoids.

FROM ERA READERS.

Alcohol Rebates.

Rowley & Dunshee, Santa Barbara, Cal.—As a matter of fact, we have out of curiosity kept a complete record concerning the uses of alcohol in our store for two years past, and now live in hope that our careful attention to business may not be without reward. We have every reason to believe that our records must satisfy the most exacting critic; but, since the "law" is impartial, desire to obtain all knowledge possible which can be of use as proof. Your alcohol blanks may give us a new idea, and we therefore inclose stamps (16 cents), kindly asking you to mail some at earliest convenience, together with any advice and necessary information.

G. A. Johnson, Traverse City, Mich.—Can we collect rebate on alcohol used in the manufacture of spirits of camphor, tinctures made from fluid extracts, bay rum; also when used for preparing recipes extemporaneously, such as horse medicine, liniment, etc.?

Such use is in accordance with the letter of the law. The test cases will decide the matter.

C. F. Nixon, Leominster, Mass.—I am using your alcohol rebate blanks, and would like your opinion on the following point: In making, for instance, 5 pints fluid extract cascara, 10 pints or more of alcohol are required to exhaust the drug. This is the actual amount drawn from the keg. The actual amount of alcohol in the finished product is but 2½ pints. A part of the remaining 7½ pints is recovered by distillation, and a part is lost in the process. The part recovered is kept for use in the next lot made. Now, what amount should be entered on blank for rebate—the 10 pints used, the 2½ pints in the finished product, or the latter plus the waste?

See editorial comments in answer.

Retailers' Advertising.

Mathes & Patton, Jonesboro, Tenn.—We know from experience that the right kind of advertising for retail druggists will pay. It takes time, some brain work and not much money. Suppose you try it and see for yourself. Get up an attractive ad, having your catch lines make a complete sentence. This will catch the reader at a glance; then fill in the small matter with "good, hard-sense talk." Do not use too much slang, but after you have gotten the attention of your reader, tell him something about your goods that will cause him to walk a block to get yours. Tell him in a nice plain manner the advantages your goods have over others. Give him the price of the article you are advertising, if you can well do so, as people always like to have an idea of what an article will cost them. If you will work your brain a little and get up some good, catchy ads for your daily paper, it will pay you more than anything you can do. Especially we would say to you to watch the changes under the head of "Advertising for Retail Druggists" in the Era. We get lots of good things from it. Upon receipt of the Era we turn to "Practical Hints;" these, too, contain some golden thoughts for retail druggists. We would be glad to have any one pass judgment on the following soda-water ad. It has increased our soda trade, but of course can be improved, as it was hurriedly written.

A GOOD REASON

or two for our making such good soda water is that we make our own juices from carefully selected fruits; instead of buying the so-called rock candy syrup, we buy granulated sugar and make our syrup; we charge our own founts and do it just right too. So it is very plain that a glass of OUR soda is very pure.

NO INDUCEMENTS OFFERED

flies, as everything is kept clean. We serve thirty-five different drinks; most of them are served at 5c., others at 10c. We are not

STINGY

with ice, but give

PEOPLE

all they want. Don't sweat your life away, but come in and cool off. Chairs while you wait.

MATHES & PATTON,
Druggists.

Clarifying Brandy.

W. R. H. Sulliger, Santa Monica, Cal.—In the Era of Aug. 15 you give L. M. M. instructions for clarifying brandy that had become darkened with iron. I think I have a simpler process than the one you gave; it is this: To each 5 gallons of such impregnated liquor add 1 pint of fresh sweet milk, agitate thoroughly, let settle and decant; when it begins to run turbid, stop the decantation and filter the balance through paper; lastly, add as much cologne spirit as the amount of milk used, so as to keep up the proof of the liquor. I used this process at one time on 13 gallons of whisky, and at another time on 5 gallons of brandy.

A Medical Trade Union.

Amicus, New York, N. Y.—Under this title I read an article in the Era which contains a good example for the solution of the drug-clerk question which we have been discussing of late. By that I mean to say that we should organize a drug clerks' trade union, and in that way settle the question as much to the satisfaction of all parties concerned as possible. The present system under which we work has not only the effect of demoralizing our salaries, but also our health, education and ambition, and can only be remedied by preventing competition among drug clerks by organizing for mutual protection. This, it will be noticed, is the plan adopted by all bodies and classes of men, whether their combination be known as a trust, labor union or some other name. None of us can deny that the standard of education attained by the average drug clerk is not as high as it should be, and is this any wonder? Take, for instance, the condition under which a large proportion of our students study, especially that class which has not the means of a college education; they very often have actually to steal the time for study. On the other hand, how many clerks continue to study after they have passed their examination, as they properly should? Not very many, to my knowledge; and is it any wonder? No; for working from 7 A. M. until 10 to 12 P. M., to say nothing of night work, is enough to destroy any average human being's ambition to study. So the necessary results of the present system are unqualified, unhealthy and dissatisfied drug clerks. To abolish these evils lies wholly in our power, but can only be accomplished by organizing ourselves, that we may, as a body, have something to say about what space of our time shall be utilized in service and the price that shall be paid for the same. It seems to me that as the free men we consider ourselves, we are entitled to make some reasonable demands.

I hope that the above idea will find many sympathizers among our numbers and will be freely discussed in pharmaceutical journals, of which the Era has so liberally opened its columns for our cause.

Chiefly Reminiscent.

I. R. Callum, Greensboro, N. C.—In reading over the Era and your description of "Drugs and Druggists One Hundred Years Ago," I was reminded of old times and old friends. I well remember a goodly number of them. That was about 55 years ago. I remember Hoadley, Phelps & Co.; they were the first men I bought a bill of drugs from when I was in Milton, N. C., Comstock & Co., Murray & Lanman, A. B. & D. Sands, J. & J. F. Trippe. I remember well the Drs. Townsend and many others. Notwithstanding all these old times and many years, I have been keeping up with new remedies and right along with all the improvements in surgical instruments, trusses, syringes, soda apparatus and everything else. Have discarded all the old paper labels we then had. I was the first druggist after the Civil War to buy and introduce the new line bottles and patent labels in Virginia. One druggist offered me $10 for one as a sample to have some made by; they were much handsomer than now, being solid gold. During the Civil War, unfortunately for me, I sold out my drug business, consequently had to go in the service. I was captain of the Home Guards, afterward transferred to regular service, assigned to shipping supplies to the army; there I remained till the close of the war, working every other night and all day and all day every other Sunday—not a very pleasant job, but I preferred it to bullets and bombshells.

After the war I visited New York and bought $1,000 worth of drugs from ——. They were so busy that I did not wait to have the bill made out, but paid them $900 in cash, and took their receipt for the same. As well as I can recollect, it was three or four weeks before I got the goods. You know there are two bad paymasters—one who never pays and one who pays in advance. When you pay in advance men are generally indifferent about you; they know they have your money and lay aside your order—that is, if another order comes in before your goods are packed. That was 30 years ago, and it is about the same thing now, as we have been buying for cash, sending our check in advance and receiving goods when they think proper to ship them.

Now as regards Jayne's, Ayer's, Brandreth's Pills, R. R. Relief, Perry Davis' Pain Killer and various other patent medicines, etc., they remain the same. There are thousands of other cure-alls in the market. Isn't it wonderful that anybody ever died after reading about these wonderful cure-alls? In that day and time we had just about as good doctors as we have now. Why not? We had some of the same books. Same medical colleges. It is true that there are more now. We had no pharmaceutical colleges then. We notice that at the examinations for graduation about five out of 100 pass (?). So far as my experience goes, and I have had a good deal in that line, the old-time druggists are just about as reliable as the new and make fewer mistakes. If I have ever made a mistake no one was ever smart enough to find it out. I never kept open on Sunday. Six days in the week from 6 A. M. until 10 and 11 P. M. were enough for me, but if medicine was wanted they always knew where to find me, at church or at home.

PHARMACY.

FERMENTS IN THE BLOOD.—Diastase and glucose are reported by Rohmann to be present in blood serum.

TINCTURE OF IODINE (1 to 12) exposed to diffused light lost in two months 0.68 per cent. of iodine; in a dark place for the same length of time, 0.816 per cent. Theory is that the light is a preservative, changing back to free iodine the hydriodic acid, iodoform, ethyl iodide, etc., which are present as alteration or decomposition products, resulting from impurities in the alcohol, etc.

GERMAN MEDICINAL WINES.—The Chancellor of the German Empire has given orders to the drug store keepers that in the preparation of medicinal wines according to the German Imperial Pharmacopœia, under the name of sherry wine, they need not confine themselves to wine made from grapes from the interior of the Xerez district, but that they may make use of any southern wines, especially those of Italy, Marsala and Greece.

FOR THE CYCLER.—There are many minor ailments which a cyclist, if he knew his druggist had a fellow-feeling in the matter, would more readily seek advice for, and Ch. & Dr. gives some advice and formulas which are very timely. The saddle-soreness which some are troubled with is best relieved by bathing with a lead lotion; where the skin is broken a dusting powder such as the following should be recommended:

Powdered boric acid..	1 ounce
Zinc oxide.....	½ ounce
Powdered zinc oleate..	½ ounce
Pulverized starch.....	2 ounces
Oil of rose geranium...	10 minims

As an athlete's liniment for rubbing the muscles to take out stiffness and give suppleness, liniment of turpentine and acetic acid, or ordinary white oils, with or without the addition of a little ether is useful. If required in the form of an ointment, a mixture of lanoline and vaseline, suitably perfumed, is all that can be desired. As a cyclist's tonic quinine and iron, or, better, this tonic elixir, can be recommended.

Tincture cinchona...	1½ ounces
Tincture nux vomica.	1⅓ ounces
Compound spirit bitter orange.....	1 dram
Diluted hydrochloric acid, U. S. P.....	½ dram
Syrup	6 ounces
Water, enough to make	16 ounces

Mix. Let stand twelve hours and filter through kaolin.

Dose, 1 to 2 drams in water three times a day.

For exceptional occasions the addition of ½ grain cocaine hydrochloride to each dram may be made, but such addition should not be used for many doses together.

ANTISEPTIC LAMPS.—The following brief account of some newly invented antiseptic lamps is translated by Lit. Digest from a review of recent inventions in La Natur: "It is well known that formic aldehyd or formol is a powerful antiseptic. The commercial product is obtained by oxidizing methylic alcohol or wood-spirit. The idea has been put into practice of constructing lamps to burn wood-spirit and thus give off vapors of formol, which would disinfect apartments, hospitals, hotels, workshops, schools, etc. The process is simple, very convenient and quite cheap. The formogen lamp of M. Trillat is composed of an alcohol lamp surmounted by a cylinder having at top and bottom two series of orifices that may be regulated in size. A metallic screen made of platinum is placed across this cylinder. The lamp is filled with methylic alcohol, lighted and covered with the cylinder. The metallic screen becomes incandescent and then the flame must be extinguished. The alcohol vapor maintains the platinum in incandescence, forming the 'flameless lamp' well known to chemists. Collens indicates a simpler device. An alcohol lamp is filled with wood-spirit and its wick is so regulated that it reaches scarcely above the bobèche. It is then covered with a little basket of platinum gauze 1-12 inch high and ½ inch in diameter. The lamp is lighted. It burns with flame, without formation of formol. The flame is extinguished and immediately antiseptic vapors are produced. Muller's smoke-consuming, hygienic lamp can serve the same purpose by filling it with wood-spirit instead of ordinary alcohol. It appears from recent tests that two quarts of methylic alcohol must be burned to sterilize an extent of 2,700 cubic feet. The vapors of formol have no injurious effects on furniture, etc."

NEW REMEDIES.

ALUMINO-POTASSIUM SALICYLATE.—An antiseptic made by mixing solutions of potassium acetate and aluminum salicylate in synthetic proportions.

AMMONIUM PERSULPHATE, $(NH_4)_2S_2O_8$, is recommended as an antiseptic for preserving food. It occurs in small colorless crystals, soluble in water. The solution evolves active oxygen when heated. It can be used in place of permanganate.

ANÆSTHYL.—A local anæsthetic consisting of ethyl chloride 5 parts and methyl chloride 1 part, by weight.

BISMUTH PYROGALLATE.—A yellow powder containing about 60 per cent. of metallic bismuth, sold also under the name of helcosol, but the preparations differ in constitution. The former is $C_6H_3OH.O_2.BiOH$, while helcosol is $C_6H_3(OH)_2OBi.(OH)_2$, and is greenish-yellow in color (Bi = 56.6 per cent.). Both are iodoform substitutes.

CITROPHEN is a new antipyretic and antineuralgic discovered by Dr. Israel Roos, of Frankfort. It is a combination of citric acid and paraphenetidin, $C_3H_4OH(CONHOC_6H_3C_6H_4)_3.3H_2O$. It is a white, acidulous powder, soluble in about 40 parts of cold water, thus being much more soluble than phenacetin and lactophenin, to which it is allied in action. In neuralgia it has been given in doses of 8 gr., but as much as 90 gr. may be given in the course of an hour.

CREOSOTE-CALCIUM HYDROCHLOROPHOSPHATE is a white, syrupy mass, consisting of a mixture of creosote carbonate and dry calcium hydrochlorophosphate. It is recommended as a cure for phthisis and scrofula. Dose, 5 to 10 gr.

STERESOL.—An antiseptic, introduced by Professor Berlioz, for use in diphtheria and in certain skin diseases. Dr. Blanc declares it to consist of equal parts of tolu balsam and benzoin dissolved in carbolated alcohol.

VASOGEN is a new ointment basis which has been introduced in Germany. It is said to be an oxygenated vaseline (vaseline with free oxygen), but another statement is that it contains about 25 per cent. of olein, saponified with anhydrous ammonia and mixed with vaseline, and brought to a suitable consistency with vaseline oil. (Ch. & Dr.)

ORIGIN OF PETROLEUM.

C. Engler (Chem. Ind. Jr. Soc. Chem. Ind.) gives us an interesting and valuable paper: Of the various speculations put forward by different investigators to account for the formation of petroleum, the theory of Sokoloff, which assumes a combination of carbon and hydrogen to form hydrocarbons at an early stage of the development of the heavenly bodies, the compounds subsequently dissolving in the still viscid *magma* of our planet, dispersing later on through fissures and fractures, and finally undergoing condensation, is the only one that can be designated *cosmic*. However, various considerations, and among them the composition of petroleum, and the presence therein of such bodies as pyridine bases, etc., prevent our accepting this hypothesis. Neither can Mendelejeff's well-known theory be regarded as justified, when all the circumstances are considered. For instance, the fissures he speaks of could only extend through the solid crust of the earth, and would be absent from the viscid or slaggy interior; besides, we should expect from such a process of formation to find the more volatile hydrocarbons from the carbureted iron condensed at a greater distance from the center of the earth than the heavier fractions, whereas the opposite is very frequently the case. The fact also that the formation of the pyridine bases found in petroleum is directly connected with organic vitality militates against hypotheses of this class.

Hochstetter and others held the opinion that petroleum was derived from marine and land flora, and Krämer showed that by a suitable process of dry distillation at low temperatures, a mixture of hydrocarbons similar to petroleum could be prepared from vegetable matter, especially coal. Daugrée also formed an oil having the odor of Pechelbronn petroleum by the action of superheated steam on wood; but while it is not impossible that in individual cases petroleum may have resulted from vegetable matter or remains, there are many weighty geological and chemical reasons against the acceptance of this theory for universal application. For instance, Höfer demonstrated that were petroleum formed from vegetable matter, large masses of coke-like residue must have remained such as are hardly ever actually found in conjunction with oil deposits.

The most generally adopted theory of recent years is that of animal origin advanced in the first instance by Leopold von Buch. The chief obstacles in the way of a general acceptance of this assumption were the lack of a plausible explanation of the chemical processes involved in the transformation of animal remains into petroleum, and the absence of a proper conception of the collection of such enormous quantities of these remains required for the production of the oil deposits. In connection with the first point, although oil similar to crude petroleum could be prepared from animal matter by dry distillation, a considerable quantity of nitrogenous bodies, far in excess of the proportion discoverable in petroleum, was simultaneously produced, and this constituted a formidable difficulty.

In order to determine whether the remains of marine fauna, which geological circumstances indicated with some certainty in this connection would yield more satisfactory results, Engler subjected a mass of marine animal matter, fish and mussels, to distillation under high pressure (with the object of preventing the separation of carbon), but the resulting distillates still contained a large proportion (some 8 to 9 per cent.) of nitrogen. Thereupon the question arose whether petroleum might be formed during the transformation of a portion only—viz., the fatty matter—of the animal residues, after removal of the muscular tissue and other nitrogenous constituents by previous putrefactive decompositions. Color was lent to this hypothesis by the behavior of triolein, tristearin, train oil, as well as free fatty acids, on being subjected to heat under pressure; and the distillation of a quantity of train oil in an apparatus invented by Krey, yielded a distillate containing some 33 per cent. of hydrocarbons of the olefine series, with a little acetylene, the remainder being found to consist chiefly of saturated hydrocarbons, of which pentane, normal and secondary hexane, heptane, octane and normal nonane were isolated in addition to the methane obtained in a gaseous condition. Other bodies occurring in small quantities in petroleum were also detected in the distillate, among them paraffin, lubricating oil, naphthenes, etc., and marsh gas, carbon dioxide, carbon monoxide and olefines were found in the gaseous products. The "artificial crude oil" was brown in color, transparent in thin layers, exhibited green fluorescence, and had a specific gravity of 0.8105. Fractional distillation gave between 140° and 300°, about 60 per cent. of a water-white burning oil, with slight bluish fluorescence, of sp. gr. 0.8025 and flashing point 26.5° C. The mean illuminating power for six hours' burning in a 10-line burner was 9.2 normal candles, compared with 7.8 obtained with ordinary Pennsylvania oil in the same burner. From train oil 79.5 per cent. and from triolein 83.9 per cent. of crude oil was obtained by working on a small scale, which results, when properly adjusted, correspond to about 88 per cent. of the theoretical maximum yield.

It remains uncertain whether the glycerin of these fatty matters is first separated from the fatty acids, but, judging by the decomposition undergone by fossilized fatty residues, it is probable that such is the case, since glycerin is removed without difficulty from fats by mere prolonged contact with cold water, as was long ago demonstrated by Jünnemann. Whether this occurs or not, these distillation experiments show that the transformation of fat into petroleum can be effected without any separation of carbon.

Turning now to the consideration of the accumulated remains of marine animals in sufficient quantity to account for the formation of petroleum, the association of petroleum with such remains in sedimentary rocks like the lias shales in Würtemburg, Baden, etc., the coral reefs of the Red Sea, the Trenton limestone in Canada, and dolomite in Bohemia, as traced by Höfer, and the presence of saline waters, rich in iodine and bromine, usually occurring with petroleum, support the theory of marine origin. Various explanations to account for the accumulation of these remains have been attempted.

Zaloziecki's view is that ocean currents drifted immense masses of animal remains on to the ancient sea coasts, where, covered up by alluvium, etc., and depressed by movements in the earth's crust, they underwent gradual decomposition.

The details of the transformation process cannot yet be completely accounted for, but two main divisions would appear to have occurred, namely, the separate decomposition of the nitrogenous matter at an early stage, followed by the conversion of the fatty residue, probably after removal of the glycerin. From this point onward the details are obscure, but from Engler's experiments it may be concluded that heat and pressure, or long-continued pressure at a moderate temperature (time being an important factor), would suffice to effect the transformation, and that Krämer's opinion that the conditions have varied with the locality (low temperatures in Pennsylvania and Galicia, for example, and greater heat in the Baku district) has some foundation, since it would appear that naphthenes would not be formed at ordinary temperatures. It may be assumed that the superimposition of alluvial deposits over the beds of animal remains would complete the exclusion of oxygen, and at the same time furnish the necessary pressure, rises in temperature being perhaps caused by fermentation, friction of the strata during elevation or depression, or by the actual temperature of the earth at the depths to which the beds may have been forced by pressure of superior strata. The actual conversion was probably in most cases effected by simple dissociation without distillation, resembling in this respect the behavior of oleic acid and train oil, both of which can be transformed into hydrocarbon oils under pressure.

Experiments made to ascertain the tenability of Zaloziecki's opinion that ozokerite may be an intermediate product between fatty acids and petroleum, by extracting bituminous shales with benzene, yielded doubtful results.

Another point still in doubt is whether the dissociation of the fat chiefly consisted in the removal of water or carbon dioxide. The former would seem to be the more probable; at least it yields results coinciding with the analyses of Baku oil by Markonikoff and Ogloblin.

With respect to the gases obtained by distillation under pressure, F. C. Phillips, in objecting that carbon monoxide and olefines are thereby produced, but are

absent from American natural gas, overlooks the fact that Engler does not claim for his process identity in point of temperature with the assumed natural method of conversion, but rather favors the idea of low temperature for the latter, under which conditions a smaller proportion of carbon monoxide and ethylene would be produced. Phillips also forgets that the production of carbon monoxide can occur at comparatively low temperatures, as in the condensation of ketones to hydrocarbons; and it may well be that ketones are formed in the natural transformation of the fatty bodies under consideration. Besides, other investigators have found the monoxide in gases from petroleum and brown coal deposits.

The fact that anthracite has been found associated with petroleum in certain dolomites in Bohemia does not militate against the animal theory, since this anthracite is nearer in character to asphalt than to true anthracite; besides, the Engler theory only claims that conversion of animal fats into petroleum may (not must) be effected without the formation of a carbonaceous or asphaltic residue.

Lastly, the presence of aromatic hydrocarbons is explained by the assumption that they have most probably been formed, together with the terpenes, by condensation, and not from the acrolein resulting from glycerin, nor from acetylene hydrocarbons, as supposed by Veith and Zaloziecki, respectively; or again, we may suppose that the small quantities of these bodies in petroleum are due to the decomposition of animal matter, a method of formation that has already been demonstrated by Salkowsky.

LACTYLTROPEINE.—A cardiac excitant and stimulant of the respiratory viæ, formed by the action of lactic acid on tropeine. Its formula is $C_8H_{14}NO.CHOH.CH_3$. It appears as masses of white acicular needles, concentrically arranged, which are easily soluble in water, alcohol, ether, chloroform, etc. Lactyltropeine melts at from 74° to 75° C. It is basic, and forms a long list of salts, of which the nitrate, hydrochlorate and hydriodate are soluble in water and alcohol, the latter salt being less soluble in alcohol, however, than the other. The nitrate of lactyltropeine seems preferable for use in therapeutics.

TEST FOR HYDROGEN PEROXIDE.—To 10 cc. of the suspected liquid add 5 cc. of a solution containing in each liter 0.3 gm. potassium bichromate and 0.25 gm. aniline, then add one drop of a 5-per-cent. solution of oxalic acid. If H_2O_2 is present there is produced a distinct reddish-purple coloration, visible even in dilution of 1 to 1,400,000. Reaction prevented by chloride of lime or hypochlorous acid, but not by principles present in plant juices or by nitrogen acids.

FRUIT PACKED IN BORAX is said to be preserved in excellent condition for months.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Formulas Wanted.

(C. & H.) Antiseptic liniment.

(J. J. F.) Menlyptol.

Liquid Face Powder.

(G. D. S.) See under this title, p. 271, last week's Era.

A Substitute for Alcohol.

(H. G. C.) says he has a very satisfactory liniment, the base (?) of which is alcohol, and he wants something to use in place of it which shall be less expensive.

As he has not told us anything about the character of the remaining ingredients of his liniment we can be of but little service to him. Some liniments are perfect solutions, while others are only mechanical mixtures which require to be agitated before they are used. The usual vehicles are oils, alcohol and water. If the liniment depends upon the alcohol it contains and nothing else for its peculiar effects when applied, then no change can well be made. If, however, the liniment will admit of it, and odor be no objection, oil of turpentine or some one of the cheaper hydrocarbon oils may be used.

Emulsion of Flax Seed.

(P. S. T.) The following preparation has been dispensed under the above name:

Linseed oil	15 fl. ounces
Oil wintergreen	2 fl. drams
Oil cinnamon	2 fl. drams
Acacia	10 ounces
Water	24 fl. ounces
Glycerin	5 fl. ounces
Syrup	10 fl. ounces
Dilute hydrocyanic acid	150 minims

A compound infusion was official in the U. S. Pharmacopœia of 1870. The formula read:

Flax seed	½ troy ounce
Liquorice root, bruised	2 drams
Boiling water	1 pint

Macerate for two hours and strain.

Mixed Spices.

(G. F. M.) The following is from the Era Formulary:

Coriander	16 ounces
Pimento	4 ounces
Caraway	4 ounces
Cinnamon	2 ounces
Mace	2 ounces
Cloves	2 ounces
Nutmeg	2 ounces
Turmeric	1 ounce

Finely powder and mix thoroughly.

Mixed spices as found upon the market vary greatly in their composition and the proportions of their ingredients as made by different manufacturers. The spices generally used are the white and black peppers, allspice, ginger, mustard seed, coriander, celery seed, cloves, mace, caraway, cinnamon, bay leaves, etc. Pepper, allspice and the ordinary spices are usually in larger proportion than the other ingredients.

Hay Fever.

(C. H. L.) This disease is supposed to be due to stimulation of the mucous membrane of the nose and Schneiderian membrane by dust of hay, pollen of flowers, irritating vapors, etc. It is accompanied by much sneezing, lachrymation and nasal discharge. It is generally epidemic in June, July and August, during the period of efflorescence of plants. Some authorities insist that there is always a predisposing condition in the mucous membranes of the naso-respiratory tract in the form of chronic rhinitis. All sorts and methods of treament have been advocated. The best results have been accomplished by a change of climate. Constant irrigation of the nostrils with warm water, with or without the addition of sodium bicarbonate, application of weak solutions of cocaine hydrochlorate, arsenic taken internally, when the disease is more catarrhal than of the asthmatic type (Mackenzie), have all been recommended. Potassium iodide has been known to give speedy relief. For treatment you should consult a physician.

Neutralizing Cordial.

(Subscriber) In the Era of July 11, 1895, page 48, are given five different formulas. Here is another which has been recommended to replace that of the American Dispensatory:

Rhubarb, in coarse powder,	
Carbonate of potassa,	of each 2 ounces
Cinnamon,	
Golden seal	of each 1 ounce
Sugar	12 ounces
Oil of peppermint	15 minims
Dilute alcohol	q. s. 42 ounces

Moisten the rhubarb, golden seal and cinnamon with the menstruum, and pack firmly in a narrow percolator. Pour enough menstruum on it to cover it. Macerate for two days, then percolate until 42 ounces are obtained; with this percolate the sugar. Should the tincture not be sufficient, add dilute alcohol until 18 ounces are obtained; in this dissolve the carbonate of potassa, and lastly add the oil of peppermint, previously dissolved in a small quantity of alcohol. Instead of brandy is used dilute alcohol, for the reason that the preparation is always uniform in flavor and strength. Brandy, as found on the market, varies in strength and quality.

Bust Developer.

(A. J. K.) Many of these preparations are simply cold creams or salves perfumed with some suitable odor and colored as desired. Their application is always accompanied by massage, which assists in the absorption of the fat, thereby imparting a fullness to the skin and appearance of the bust. The application used has but little to do with the "development." That is due to the exercise, the right kind of diet and perfect hy-

gienic surroundings. Any cold cream will answer, though the following is a typical preparation:

Oil of sweet almond	100 parts
White vegetable wax	25 parts
Spermaceti	160 parts
Glycerin	280 parts
Boric acid	12 parts
Water	500 parts

Dissolve the boric acid in the glycerin and mix the solution with the oil, wax and spermaceti. Melt together with a very gentle heat, stirring constantly. When homogeneous pour into a warm mortar, add the water and beat energetically until it forms a smooth mass. In case it becomes lumpy, remelt and again beat up.

Elixir of Iron, Quinine and Strychnine.

(F. G. M.) submits the following formula:

Iron pyrophosphate (soluble scale)	128 grains
Quinine sulphate	64 grains
Strychnine sulphate	2 grains
Alcohol	1 ounce
Water	3 ounces
Prize elixir (Era, Jan. 3, 1895, page 12), enough to make	16 ounces

He says he prepared it by first dissolving the iron pyrophosphate in 2 ounces of water without heat, and the alkaloidal salts in the remainder of the water and alcohol on the water-bath. The two solutions were then mixed and the elixir added. In a few moments the preparation turned a black inky color. He then mixed the elixir with the solution of iron salt, the preparation remaining clear. He thinks, therefore, that the coloration is due to the alkaloids and iron salt. We are unable to account for the color change here described. Iron pyrophosphate is very susceptible to the action of light and heat and solutions containing it rapidly darken. Then, too, its qualities vary considerably, many manufacturers not following the official process for its preparation. The reaction outlined above should not take place, and we suggest he try the formula over again, using a freshly prepared pyrophosphate of iron which answers the official requirements, taking care to bring the solution containing the alkaloidal salts into combination with the solution containing the iron salt in a diluted state. To do this add the solution containing the former (alkaloidal salts) to the elixir. After mixing well, add the solution of iron pyrophosphate.

Decoction of Senna and Buckthorn.

(E. A. S.) The same principles which obtain in the preparation of any decoction hold good in manufacturing the above. Decoctions should not be made from drugs the activity of which depends upon principles of a resinous nature, nor from those drugs which contain volatile oils or aromatic substances which would be dissipated with the vapor of boiling water. Then, too, the preparation of decoctions should be restricted to those drugs the active constituents of which cannot be extracted by water heated below the boiling point. The U. S. P. limits the time of boiling to fifteen minutes. Longer boiling tends to alter and darken the extractive matter of most drugs and in many cases alters their active principles. In preparing the above the senna should be added when the decoction is ready to be removed from the fire, and allowed to digest until it is sufficiently cooled to be strained. The reason for this is that senna contains principles which are injured by long-continued heat. Porcelain is the best material for vessels used for preparing decoctions, as it is not acted upon by the various vegetable principles. As a rule it is best to avoid most metallic vessels except those made of block tin. Iron vessels should not be used at all unless they have been properly enameled. The Pharmacopœia directs that the decoction be allowed to cool to about 40° C. before straining, as principles which are soluble only in hot water are then mostly precipitated, and can then be removed without weakening the medicinal effects of the preparation.

Preserving Cider.

(T. D. S.) Salicylic acid is largely employed for this purpose. It is used in the proportion of about 1½ oz. to 50 gallons. Place the acid in some suitable container and pour upon it a sufficient quantity of cider and thoroughly mix before adding it to the contents of the barrel. If the acid be added directly to the cider in the barrel, it is very likely to float upon the top and not be dissolved. If no temperance scruples are in the way, you may dissolve the acid in a little alcohol, and add to the barrel. The time when this addition should be made depends on individual taste and circumstances, generally, just when the first fermentation is completed. As the cider runs from the press pass it through a hair sieve into a large open vessel. In a day or less the pomace will rise to the top, and in a short time becomes very thick. When little white bubbles break through it, draw off the cider through a spigot placed about 3 inches from the bottom. At this stage the acid may be added.

Another method, and one largely followed, is at this point to transfer the cider to clean, sweet casks, and when the bubbles again escape at the bunghole, rack it again; repeat this a couple of times Then fill up the cask with cider in every respect just like that originally contained in it, add a tumbler of warm sweet oil, and bung up tight. For very fine cider it is customary to add at this stage about ½ lb glucose, or a smaller portion of white sugar. The cask should then be allowed to remain in a cool place till the cider has acquired the desired flavor. In the mean time clean barrels for its reception should be prepared as follows: Some clean strips of rags are dipped in melted sulphur, lighted and burned in the bunghole, the sulphur vapor being retained in the barrel. Then tie ½ lb mustard seed in a coarse muslin bag, and put it in the barrel, fill the barrel with cider, and add about ¼ lb isinglass or fine gelatine dissolved in hot water. This is an old-fashioned but very satisfactory method.

Professional cider-makers are now using calcium sulphite instead of mustard and sulphur, ⅛ to ¼ oz. to each gallon of cider being dissolved in a little cider and poured into the barrel, which should then be thoroughly shaken or rolled. This calcium sulphite is on the market in packages just the size for one barrel of 32 gallons.

In using sulphur or the sulphite avoid excess.

Electrozone.

(C. C. C.) The Western Druggist gives the following information concerning the nature of electrozone: "If all we read about electrozone, the liquid used for purifying, or rather sterilizing, the drinking water supplied to New York and other cities, be true, the invention will certainly prove a boon to humanity, and must have a great future. The discovery of the process was made by Albert E. Woolf, and it consists simply in the decomposition of sea water, or solution of sodium chloride, by the electric current. The electric current turned into the solution is of high quantity (500 amperes) but low pressure (5 to 7 volts), and is passed through a positive electrode of copper coated with platinum and a negative electrode of carbon. The water becomes violently agitated by the decomposition of the liquor, frothing about the immersed electrodes. This active circulation of the liquids causes the fluid to be uniformly charged with the products resulting from decomposing the electrolyte.

"It is claimed that the efficiency of electrozone is due not alone to the chlorine and bromine and their compounds, or hypochlorites and hypobromites, but also to the presence of ozone, which is formed by the decomposition of the hypochlorites in the presence of organic matter.

"In a report on some experiments with the fluid, Dr. Cyrus Edson, the New York sanitary superintendent, says: 'We have, in this electrical disinfectant, in my opinion, a disinfecting agent combining powerful disinfecting and deodorizing properties with unprecedentedly low cost, to be made at any time, in any quantity; a disinfectant that in consequence of its cheapness and non-poisonous quality can be used so freely and universally as to make its discovery one of the most important, from a sanitary standpoint, that has ever been made. Its deodorant properties will give it wide applicability in the abating of nuisances caused by so-called offensive trades. The conclusion of Dr. Briggs that this disinfectant is efficient, apparently, under all conditions for the disinfection of the spirillum of Asiatic cholera, is most valuable information at this time for the consideration of the board.'

"An idea of the cost of this process may be obtained from the fact that one town flows into its river per hour 200 gallons of electrozone, at a cost of only $4.50 per day; but as much as 6,000 gallons, or more, per hour may be required."

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ALCOHOL BLANKS.

Many druggists who are filling out alcohol blanks may wish the same information as that sought from us by a Wisconsin druggist. He does not feel confident of what number he should write after the words "tax-paid stamp number" on the blank.

The "tax-paid stamp number" on a stamp on a wholesale dealer's package is written in black ink near the bottom, and that is the one he should put down on his blank. On the original package it is in red.

When a wholesale alcohol dealer breaks up an original package or barrel of alcohol he cuts off, "scalps," as it is called, a portion of the stamp on that original package and sends it to the Internal Revenue Collector, asking for enough other stamps to cover the lots into which the package is to be broken. Let us suppose he has a 50-gallon package which he desires to break into five 10-gallon packages. The collector sends him five stamps in lieu of the one. Those five stamps are numbered on their face in *red* consecutively. His original package may have borne in red on its face the tax-paid stamp number 100,000 The five stamps may bear in red the numbers 51, 52, 53 and so on. From these red internal revenue numbers on any one of the 10-gallon packages the original cask can be traced back to the distillery, for the collector's office has a record of it and also a record of the splitting up of the original package. Now the wholesale dealer writes on the stamps on each of these five 10-gallon packages the tax-paid stamp number of the original package, in this case No. 100,000, and also places on it or on the package somewhere the wholesale liquor dealers' number, the warehouse number, the package number and any others he finds necessary. If the retail dealer can get a statement from the wholesaler of the meaning of all these numbers, that is, what they represent, he can pin the information on his blank and thus fortify himself all the more strongly. But the blanks call for the "tax-paid stamp number," and that should be found and filled in on the blank.

We advise the requesting of a record of each keg or package from the wholesaler, in case the retailer is at all in doubt as to the exact figures.

Richardson Drug Co.'s Plan.

St. Louis, Aug. 31.—Much has been said and written about the probable revival of the Richardson Drug Co. in St. Louis. Among other things it was reported the company intended to combine with the Dougherty-Crouch Drug Co., and that the concern would be one of the largest in the country. Mr. J. Cliff Richardson, who has just returned from the East, had the following to say about the rumors: "It is true that I have given the matter some consideration, that is, I have been approached by certain gentlemen and offered inducements to embark again in the drug business. I am unable to say at present whether I will accept the proposition. I am interested in several wholesale drug houses in different parts of the country, and must confess that I see no particular reason why I should open a house here. Whether I will depends, of course, upon the inducements offered, although you may state positively that I will not make such a move during the present year. The report that a deal has been made is without foundation, although it is not improbable that a meeting of the interested parties will be held in the near future. Until that time whatever may be said about the subject would be largely speculation."

The Carter Medicine Co.'s Cases.

Charles Russell, alias Alfred Lydecker, has been held for trial in the Special Session Court in New York City for perjury in his testimony given in the case of Thomas B. Hughes, the druggist at 280 Tenth Avenue. Mr. Hughes was charged with violating the trade-mark law in connection with the Carter Medicine Co.'s products. Hughes' case is not yet decided, but it is understood that Russell's testimony was not vital to the plaintiff's case. Russell denied that he had been in prison, and later on admitted he was a jail bird. The company's case against Spingarn has not yet come up in court. One other case, that of a clerk of Druggist Seibenhorn, was settled by the defendant's pleading guilty. The court suspended sentence on the application of counsel on each side. The Carter Medicine Co. is more sure than ever before that the bogus pills came from one source, and that is in this city.

Phenacetine in Philadelphia.

Philadelphia, Aug. 31.—The United States Secret Service, under orders from the Patent Department, are making investigations in regard to the sale of phenacetine in this city. This article is made in Germany, and all goods manufactured in that country are prohibited from being sold in this city except through the New York agents.

The detectives are now looking into several cases here, and during the past week, it is said, some of the purchasers of this drug have been anxious to make a settlement. Druggists who have purchased phenacetine below the regular price are feeling anxious in regard to what the detectives will do.

Assistant Food Commissioner Protests.

Cincinnati, Sept. 2.—Assistant Food and Dairy Commissioner Luebbing is considerably nettled over the accusations of malfeasance which were made during the trial of Dairyman Cordes in Magistrate Winkler's court two weeks ago. Since the Cordes hearing public sentiment, which until recently was seemingly in favor of the Food Commission, now appears to have shifted and taken sides against the State officials. The local daily press has given much publicity to Burch's insinuations of blackmail, and it is reported that an investigation of affairs here has been ordered by the chief at Columbus. Luebbing has threatened to proceed legally against certain persons, alleging defamation of character and injury to his official standing.

G. W. Dunn Again.

THE "STANDARD CHEMICAL CO." UNDER FIRE ONCE MORE.

The Era has at different times had something to say about George W. Dunn & Co., which concern has offices at No. 90 Broadway. The company claims to be the financial agents for the Standard Chemical Co., supposed to be the manufacturers of "Quickine." It is held out that investors in the Standard Co. will get large returns on their money, but the latest case brought to notice does not bear out the claim. John Tehan, of No. 270 Bowery, invested $600 in the hope of soon getting a 60 per cent. dividend, but only received $10 worth of stock. Upon his complaining he was given back $150 and the case was kept out of the courts.

A reporter called upon Dunn in the guise of a probable investor, but could learn nothing about the business, the location of the factories, etc. He was told that the manufacturing department was shut down at present. Vice-President Eugene H. Pullen, of the Bank of the Republic, in the same building as the "Standard Chemical Co.," says: "Dunn was ordered to withdraw his money here when we learned his character."

As Dunn & Co. have been at No. 90 Broadway for some years now the members must be well known to the habitués of the building, but nobody there seems to know what business they have or whether they have many callers. The Era's representative saw Mr. Dunn when the last reports were published about his concern. He would not give the slightest detail of the business, and ended by breathing defiance to all drug papers in general and the Era in particular. Dunn's record is fairly well known in business circles.

Dr. Hoppe-Seyler Dead.

Prof. Dr. Emanuel Hoppe-Seyler died of apoplexy on Aug. 12, at Linden, on Lake Constance, in Bavaria. He was about seventy-three years of age and the peer of any medical chemist, a most lovable and amiable man and a most industrious worker. His classical work on the chemistry of the blood and tissue changes merited the warmest appreciation of medical men.

Boston Druggists Who Take Vacations.

THERE ARE FEW OF THEM WHO DO NOT MAKE A PRACTICE OF GETTING AWAY FROM BUSINESS CARES FOR A LITTLE WHILE EACH SUMMER.

Boston druggists and apothecaries are as a rule a pretty healthy set, and probably this fact is largely because almost all of them make a practice of taking a vacation every year. There is hardly a large jobbing firm in the city whose members do not go away to seashore or country in the summer as a matter of course, and there really seems to be no reason why the proprietors should not take it easy for a little while each year just as much as the clerks—and the clerks who fail to get some vacation in the summer are precious few. Most of the dealers find that the trade in summer is ordinarily a little duller than at other times, although there are jobbing houses that find it just about as busy in summer as in winter. Business or no business, however—and it happens to be business most of the time in Boston—the practice of taking the regular vacation at some time during the year is practically universal. The jobbers are of course always interested in the trade convention each year, and some or other of them make that their time for vacation, with the idea of having a pleasant trip and a change, combined with a good stroke of business. Others go to the convention purely for the business end of it. Four jobbers from this city signified their intention of going this year, and started on Friday, Aug. 20. They were joined by the New York delegation at Albany, whence they proceeded to Denver in one party.

With the retail trade getting some part of the summer season for rest is almost as general. As some of the druggists suggest, people who work in drugs and chemicals all the year round need a little taste of fresh country air as much as bankers or government employees, or any of the other moneyed residents. Of course somebody must be in the store to run the soda fountain, but it doesn't need the proprietor to do that, and he can easily be spared. The dealers in the downtown sections of the city would naturally have the hardest time to get away, for their business is going at about the same rate all the year round. Up in the Back Bay stores it is a little different, for when in whole blocks of houses there isn't a single family at home, the patronage of drug stores in the section wouldn't be very heavy. So the druggists of the Back Bay are like the other residents there—they are rather more aristocratic as regards the length of their vacations than the busier downtown people. They can make up for it in winter.

With so many representatives of the drug trade as there are in Boston it would be impossible in a limited space to tell how many of them are away this summer, or how many make a practice of going; but just to get some indication of what the custom is, some of the best-known jobbers and downtown retailers were asked about the vacation question the other day.

Mr. Geo. Cutler, of Cutler Bros., Broad Street, always takes a generous slice out of the summer for a vacation. He went down to enjoy the cool breezes at Mount Deseret, on the Maine coast, early in June, and has been there ever since. Mr. Waldo Cutler, of the same firm, was away at Waltham for two weeks during the month of June. While the abovementioned members of the firm take a vacation in the summer, according to the custom at this house, Mr. Charles Cutler takes care of the business during the summer months when the others are away, but gets his revenge in the winter, when he manages every year to take a trip of a month or six weeks through the South or West. He thought some of trying to get out to Denver for the convention, but could not arrange to leave. He doesn't yet know where he is going for his winter vacation this year.

Mr. James Gilman, of Gilman Bros., Franklin Street, usually takes a run of two weeks or so to the country or seashore. He hasn't been anywhere this year, but he will be one of the Boston party who go to the Denver convention.

Mr. Fred Carter, of Carter, Carter & Kilham, Merrimac Street, almost always finds time to go away for two or three weeks. He made a tour of Jamaica last spring and will take no other vacation this year. He will attend the convention, however, and has been at work trying to arouse other members of the trade throughout New England to include themselves in the Boston party. Mr. Herbert Carter is up to his ears in business this summer, as he is about all the time. He expects to follow his usual custom this year and go "down East" for a little shooting in the fall. Mr. Charles A. Kilham also makes a point of taking his vacation in the autumn. He intends to try his luck at gunning this year.

Mr. Charles C. Goodwin, who constitutes the firm of George C. Goodwin & Co., Hanover Street, goes away for two weeks every year, generally in July. He has a cottage down at Menauhant, near Falmouth, on Cape Cod, and spends his time in boating, fishing and bathing with his family. He thinks it pays to take a vacation regularly, and everybody who has been in his employ for six months gets two weeks in the summer time.

Mr. Albert C. Smith, of Smith, Benedict & Co., Portland Street, expects to be one of the Bostonians to go to the convention. He usually goes away in the summer for two weeks, but has no special place to go every year. He prefers a variety, and has in recent summers been at such seashore resorts as Newport and Hampton Beach. Dr. Alfred B. Heath, who took Mr. Benedict's place in the firm of Smith, Benedict & Co., is now on the Board of Commissioners of Public Institutions at Boston, and his duties in that capacity, combined with those of his profession, will prevent him from getting out of the city this summer.

Up in the office of the Weeks & Potter Co., on Washington Street, the secretary and treasurer, Mr. A. G. Weeks, Jr., spends his summers at his cottage at Marion, Mass. He was down there continuously for three weeks in June and had some good salmon fishing. Mr. A. G. Weeks, Sr., the president of the company, is spending the summer on his farm at Guilford Centre, N. H. He has also been for a short time at the seashore.

Neither Mr. West nor Mr. Jenney, of West & Jenney, Franklin Street, is going away this year. They don't make a practice of taking vacations themselves, although their clerks go away. This year they are so busy that they can't even think of vacations.

One man who thoroughly believes in taking a vacation is Mr. Richardson, of the Rust & Richardson Co., Hanover Street. The business will have to get along without him when he's dead, he says, and he wants to see as much as possible of this world while he is in it. He says he expects to be dead a long time. With Mr. Rust he made a trip through Jamaica last March, and now, although he isn't sure of his time, he is hoping to get away for a run down to Nova Scotia, to make the tour from Yarmouth through Halifax and around by the Bay of Fundy shore to Port Maitland, where he wants to try his luck at fishing. Mr. G. L. Lawrence, of the Rust & Richardson Co., was at Port Maitland, N. S., from July 15 to Aug. 15, and made himself a reputation as a fisherman. One day in August he went out to the Lurchers, a reef twenty miles from the port, and fished for three hours with two friends. They took 150 pounds between them, according to the story, and Mr. Lawrence was "high line" with fifty-four to his credit. He never called himself much of a fisherman either.

Mr. George Burwell, of Park Square, is summering at his cottage at Lake Shore Park, Lake Winnipesaukee, N. H., with his family. He will be away a month or six weeks. His son succeeded in shooting a bald eagle the other day and will have a fine trophy to bring home.

Mr. Amos Tilden, of the City Hall drug store on School Street, will go away for a week or two in September to North Bridgeton, Me.

Captain John Percival is away for three months at North Sutton, N. H.

Mr. Duncan, of the Choate Drug & Chemical Co., Bowdoin Square, will go into the country for two weeks after the rush of the Knights Templar convention is over. Mr. Hart, of the same company, will take his vacation in November.

Mr. Charles H. Dexter, of Court Street, has been away for two weeks on the Maine coast.

Mr. F. A. Davidson, of Theodore Metcalf & Co., went away for ten days early in the summer on a carriage ride to Princeton, Mass., and during the first two weeks in July was at North Woodstock, N. H.

Mr. M. F. Lyons spent two weeks in July at Norfolk, Va.

Mr. A. H. Luker was at Alton, N. H., for two weeks this month.

Mr. George T. Brown is now spending two weeks at Newcastle, N. H.

NEW YORK AND VICINITY.

—Theodore Ricksecker left for a brief vacation trip last Friday.

—The store of Sparks Brothers, Trenton, N. J., was sold last Friday.

—Albert M. Todd, of Kalamazoo, Mich., has been spending a few days here.

—Harry Gilpin, of Gilpin, Langdon & Co., and J. R. Winkelman, of Winkelman & Co., Baltimore, were in the city last week.

—Theodore Weicker, of Merck & Co., arrived last week from Europe on the Augusta Victoria, after a very pleasant sojourn in Germany.

—G. W. Hopping, of Seabury & Johnson, went fishing down near Keyport, N. J., last week and spent Labor Day also in that delightful way.

—W. G. Moffit, of the Astor House Drug Store, expects to return to business about Oct. 1. He has been in the country in search of health.

—Among the recent deaths in the drug trade was that of Louis Stoff, of Second Avenue and Sixty-second Street. Heart failure was given as the cause.

—Manager Ed. Fluhr and S. D. Wadham, of the New York office of W. R. Warner & Co., went to Boston last week to attend the Knights Templar parade.

—Among those who had to go to Ludlow Street Jail recently for not paying their personal property tax for 1894 was A. J. Plagge, druggist at No. 1815 Third Avenue.

—H. C. Hibbard, secretary of the Carter Medicine Co., has returned from his vacation spent at Davenport Centre, N. Y., with his father and mother, who have a pretty cottage there.

—Druggist George H. Cleaves, of Greenport, L. I., has been appointed Surveyor of Customs for that port by President Cleveland, succeeding Edward S. Havens, who recently resigned.

—L. W. Marburg, of Marburg & Wright, wholesale druggists at Ruston, La., is at the Astor House. This is Mr. Marburg's first trip to this city in about 20 years. He reports business as looking up in the South.

—Ellis & Golterman, the druggist sundries dealers at 88 Leonard Street, not only had the trouble of bringing back their bookkeeper from London, on the charge of committing forgeries amounting to $8,000, but now they say the detective who went over to England will not account for over $500 they gave him. The officer is ex-Detective Sergeant Charles Jacob, who recently sent in his resignation rather than become an ordinary policeman at Kingsbridge. The firm says he was given $50 with which to go to Washington to get requisition papers. Then steamship tickets for him and the prisoner were furnished, and in addition Jacob was given $400. From London he cabled for and received $125. He stayed in London only two weeks. The police commissioners can only refuse to accept Jacob's resignation and dismiss him on Ellis & Golterman's charges.

—D. W. Baker, of Trenton, is among the New Jersey druggists who have been in town within the past few days. Mr. Baker has just completed the erection of a handsome structure opposite his present store, and will soon move in.

—George M. Leventritt has been appointed receiver for Cecil V. Kieferdorf, who formerly had a drug store at Seventy-fifth Street and Columbus Avenue. Supplementary proceedings were brought against the druggist by Thomas McCracken.

—W. K. Lits, of Philadelphia, stopped over in this city to see a few friends on his return from the Knights Templar conclave in Boston. Peter Schlosser, of Schlosser Bros., Louisville, Ky., druggists, also saw acquaintances here on Aug. 30, on his return from the Hub.

—A. W. Stewart & Co. are now the proprietors of the Abbey Theater Pharmacy, corner of Broadway and Thirty-eighth Street. Druggist Boney, who formerly owned the store, is now connected with a downtown chemical company. Mr. Stewart was for seven years the manager of the Hudnut store on Broadway, near Twenty-third Street.

—Manager Hammer (make that with an H., please, Mr. Printer) has our apologies for the ill-spelling of his name in last week's Era, in connection with a little note about vacations of Keasbey & Mattison men. Drug trade men are as a rule very sensitive about their names being correctly printed, and the Era, while not infallible, bears that fact in mind always.

—Abraham S. Friedland, the druggist at East Broadway and Jefferson Street, who was arrested on Aug. 16 and found guilty of receiving stolen goods, came up for sentence before Recorder Goff last Tuesday. Recorder Goff imposed a sentence of two months in the penitentiary, taking into consideration the defendant's previous good character. The sentence of Caprani was suspended.

—Brent Good, of the Carter Medicine Co., who arrived from Europe on Aug. 23, left for Denver with Harry Good and Miss Kittie Good on the evening of Aug. 28. Mr. Good is a member of the Entertainment Committee of the N. W. D. A., and W. A. Hover, chairman of that committee, had requested that Mr. Good should be in Denver at the earliest possible moment to assist him in perfecting arrangements for the convention's pleasures.

—The Era hears from some members of the Pharmaceutical Club that things are not altogether favorable for a removal from the present quarters to a proposed house near Sixth Avenue. Undoubtedly a majority of members would favor the change, but it is the hardest kind of work to get them together. At a recently called meeting the attendance was so small as to be farcical, only three persons putting in an appearance. There is likely to be some interesting news about this organization in the near future.

—The Supreme Court has appointed Robert D. Murray the referee in the Berri Pharmacy matter. The proceedings are for a voluntary dissolution of the corporation, whose troubles were noted in last week's Era.

—Louis Hammond, who committed suicide at the same time with his wife in the American House, Boston, was a member of the firm of Hammond & Bittner, 96 and 98 Maiden Lane, this city, agents for perfumes, soaps, cosmetics, etc. The reason for their act was stated in a letter left by Hammond to be lack of money and "we are tired of the grind."

—Albert Briggs, of the firm of Eldridge & Briggs, druggists at Cedarville, N. J., committed suicide on the evening of Aug. 25. No cause is assigned for the deed, but it is supposed that his domestic and business troubles unbalanced his mind. Several months ago his drug store was burned and he lost everything he had. Mrs. Briggs was a deaf mute and the fire caused her to go insane. She died in an asylum a few weeks ago.

—Articles of incorporation of the "Physicians' Alliance" have been filed in the county clerk's office. The objects of the corporation are the collection of physicians', surgeons', pharmacists' and dentists' accounts, and to investigate the standing and financial character of persons applying for treatment. The concern has a capital of $5,000, and the incorporators are J. Adams Heinson, Constant A. Andrews, Paul Jones, Douglas Payne and William M. Barlow.

—W. S. Rockey, who keeps the drug store at 503 Eighth Avenue, was called upon by a young man one evening last week and asked for a postage stamp. While he was getting it the caller quickly grabbed seven bottles of patent medicine from the counter and dropped them into a large satchel which he carried. The druggist saw the act and sent a messenger boy after a policeman. The thief turned out to be John J. Brandon, of Newark, N. J. He was held for trial.

—A drug-trade man calls attention to the peculiarities of the United States internal revenue laws as illustrated by the recent change in the firm name of Schieffelin & Co. It so happened that the day before Mr. W. H. Schieffelin was buried the firm's internal revenue license ran out. The firm had already decided upon a change of name to Schieffelin & Co., and the new license was taken out in that name. Had the old name been retained, and a new license secured, the firm would have had to get another license at precisely the same cost when the change in name was made, no matter if it came the day after. An internal revenue license cannot be transferred. If a new member is added to a firm a new license must be bought. If a member dies, a new one is not necessary, except as in the case noted, where the license had expired.

——Among the Brooklynites who are constantly calling the municipal authorities in that city to account for their inaction on trolley road nuisances is A. V. Hake, chemist at 33 Vanderbilt Street, who has data to show that the death-dealing cars are often run without headlights.

——Apropos of the box and cartage question, which will come up for discussion at the Denver meeting of the N. W. D. A., a prominent jobber in this city made the statement the other day that he kept an accurate account of his cartage charges last year, and that they amounted to almost 1½ per cent. of his total business.

——Markar G. Dadirrian has won his suit against Z. K. Theodorian to prevent the latter from using the trade-marked name of "Matzoon." Judge Willard Bartlett, of the Supreme Court, has rendered a decision sustaining the plaintiff. In part of his opinion the judge says: "The evidence leaves no doubt in my mind that the defendant's desire to use the word matzoon on his goods is due to the trade meaning which that word has acquired through the efforts of the plaintiff, and not at all to the descriptive character of the term." The injunction, however, does not go to the extent of forbidding the use of the picture of Mount Ararat and the ark.

——Word keeps coming from abroad of the wide swath Frank A. Ruf and "Johnnie" Cox are cutting in European select social circles. They were in Carlsbad on the glorious Fourth and took part in the Independence Day exercises arranged by the swell American colony. The Era's informant is not explicit about the oratorical part of the programme, but if Mr. Ruf favored the company with "some remarks" in German (he comes from German stock) the occasion must have been one long to be remembered. It is learned that the American travelers were discreetly silent at Carlsbad about their presence on board the Kaiser's yacht as imperial guests at the Kiel Canal opening, but the Era's informant goes on to say that they must have been there, as they never miss an "opening."

——There seems to be an increasing tendency among large firms to employ women as traveling representatives. There are some lines to which they are better adapted than men, and they are also not as expensive to the office while on the road as the men are. The Roworth Manufacturing Co., of this city, are trying the experiment, and have a young woman traveling through Pennsylvania visiting druggists with samples of the company's confectionery. Colgate & Co. have recently put three women at work in the West and South. They take orders from the retailer and turn them over to the jobber to be filled. So far the experiment has proved very satisfactory to the firms employing them, but the traveling salesmen are beginning to complain and wonder where it will end.

——For over a year now the name and person of Ludger Tardy, once a drug clerk, has been familiar to New York policemen. Tardy has a habit of falling into a fit at the most inopportune time and in the most awkward places just to make the police work. He has heretofore received kind treatment at police stations and hospitals, but they know him now and will not take him in. He always says he is a drug clerk and generally gives an address on Second Avenue as his home. Tardy is a typical tramp, and only got arrested last week because the policeman didn't know him.

——Druggist Sherman Neier, of 119 Greenpoint Avenue, Brooklyn, made an heroic endeavor the other day to save the life of a child who had been terribly burned. The druggist's store is near the child's home, and he came in response to her cries. A policeman had put out the fire caused by the child's lighting a match. Mr. Neier insisted that the sufferer be taken to his store, where he removed the clothing and dressed the burns until the arrival of a surgeon. The little one's pain was greatly relieved, but she died later in a hospital.

——Judge Wheeler, in the United States Circuit Court, has handed down a final decree in the suit brought by the city of Carlsbad, in Bohemia, Loebel Schottlander, its agent, and the Eisner & Mendelson Co., licensee for America, against Kutnow Bros., 52 Lafayette Place, New York, in which the latter are perpetually restrained from making a preparation in imitation of one owned by the plaintiffs in the suit. The plaintiffs are the owners of the Carlsbad mineral springs in that city, and prepared from the waters certain salts and powders for many years. The defendants some years ago began the manufacture and sale of an article which they claimed was an improvement on the original, using the word "Carlsbad," although it was admitted that their preparation had no connection with the springs and was not derived from the waters. Besides being enjoined from making the salt, they are also prohibited from using the word "Carlsbad" in connection with any preparation or compound not a genuine Carlsbad product, and it is also ordered that they pay over the profits of the business since Feb. 1, 1894, to the plaintiffs.

A New York Alcohol Test Case.

The alcohol rebate claims cases are coming to a head and the Court of Claims in Washington will soon be engaged on them. Within a few days a brief is to be filed in the first New York City case that comes before the court, and it is said this paper will be interesting reading to all alcohol consumers in the drug line. This case, however, is not that of a drug merchant, but of a Broadway business house that uses much alcohol in its manufactures.

HERE AND THERE.

——Fred Hotchkiss, a prominent druggist of Hastings, Mich., is dead.

——E. R. Beal's new store at Ypsilanti, Mich., is nearly ready for occupancy.

——A fakir is in the toils at Washington, D. C., for selling bogus Paine's Celery Compound.

——John Meyer, of Mt. Clemens, Mich., is in his new store, three doors north of his former stand.

——J. H. McKenzie, of Toronto, has been elected president of the Ontario College of Pharmacy.

——J. F. Hall, druggist of Trinidad, Col., is changing one of his store buildings into a tenement house.

——All the wholesale druggists in Boston closed their stores on the occasion of the parade of Knights Templar.

——Druggist J. B. Wilson, of Rome, Tenn., is loser to the extent of about $200 through a burglary which occurred recently.

——Orr & Temple, druggists, of Tecumseh, Mich., are opening a branch store at Ridgeway, to be in charge of Charles Culbertson.

——Druggist F. M. Robinson, of Crittenden, Ky., became involved in an altercation with an ex-convict and was dangerously beaten.

——Vickery's drug store, Dover, N. H., was the scene a few days ago of a forged check transaction, wherein the druggist is the loser of $15.

——W. H. Coulter, of Coulter, Given & Co., Frankfort, Ind., accompanied by his wife, is spending the hay-fever season at Mount Clemens, Mich.

——A man at Toronto, Ont., who is not a druggist nor an employee of one, has paid a $20 fine for selling a quantity of carbolic acid, in breach of the Pharmacy act.

——Two drug stores in Lynn, Mass., have lately been entered by burglars, those of J. W. Colcord and James S. Barry. In neither case was the amount of booty large.

——The shaving-stone man has been operating in Detroit, and a few gullible druggists have gotten into disfavor with some of their customers for selling the bogus article.

——Samuel S. Sadtler, of Philadelphia, son of Prof. S. P. Sadtler, of the Philadelphia College of Pharmacy, has been appointed assistant chemist in the appraiser's office.

——The residence of Dr. J. C. Lincoln, druggist of Bowling Green, Ohio, was recently burned; loss $14,000, about two-thirds covered by insurance. This is his second fire within a year.

——A customer called upon an Indiana druggist a few days ago and wanted to pay him "conscience money," the price of a plug of tobacco which he had stolen twenty-five years previous.

——Certain druggists of Denver, Col., are to be proceeded against for selling liquor in bottles, or "original packages," which, the authorities claim, is in violation of the law. They asked for postponement of hostilities until after the A. Ph. A. meeting, which request was granted.

—The citizens of Osawkie, Kan., claimed that the State liquor law was being violated by the druggists, but upon agreement of the latter to obey the law, prosecutions are not expected.

—Dr. Kessler's medicine store, at 3745 Cass Avenue, St. Louis, was damaged by fire Sunday, Aug. 11, to the extent of $500. Nearly $400 of this was on stock. The cause of the blaze was not discovered.

—There is a new style of testimonial for patent medicines just come into favor. Mrs. ——— says that after taking two bottles of a certain sarsaparilla she was a "new woman." Where will science stop?

—J. J. Goodyear, of Goodyear & Co., Ann Arbor, Mich., is spending a second vacation at the seashore. Mr. Quarry, of the same firm, is home again, after spending two weeks with his people in Canada.

—A Philadelphia paper, in its issue of Aug. 20, states that Internal Revenue Commissioner Miller, in his annual report, nearly completed, will recommend a tax on proprietary medicines and a 4 per cent. tax on cosmetics.

—A peculiar form of asphalt paving has recently been tried in France. The asphalt powder is heated to 120° and molded under a pressure of about 5½ tons per square inch into blocks, which are afterward set in cement mortar.

—There are all sorts of window displays, and in general they are good ones. But we are inclined to question the value of that in a drug store window in Bangor, Me., where three skunks and two hens are on exhibition.

—Reports from Lyons, N. Y., say that the peppermint crop this year is small, but the yield to the acre a little above the average, and the further assertion is made that Michigan oil is gradually but surely crowding out the Wayne County product.

—Dr. S. H. Melvin, Oakland, Cal., has just commenced his fifth term as president of the State Board of Pharmacy. He is also serving his sixth term as president of the California College of Pharmacy, and is president of the State Pharmaceutical Society as well.

—At Winimac, Ind., on Aug. 22, Dr. Hooker, a veterinary surgeon, was instantly killed by the explosion of a bottle of horse medicine he was carrying in his pocket. The stuff was a mixture of quicksilver, nitric acid and British oil, in a beer bottle with patent stopper.

—At Des Moines, Ia., Druggist C. E. Thalenhorst and Richard Fox, a railroad man, each owns a bull dog, and for a long time past have argued the respective merits of their dogs as fighters. A few nights ago they went to a secluded place, and after they had worked the dogs up to the right pitch of excitement turned them loose. The dogs, however, paid no attention to each other, but each attacked the other's master, with the result that both men were badly injured. The druggist could not get loose even after he had jumped into the river in an attempt to drown the dog. Serves them right.

—At a meeting of the Ministerial Union of Topeka, Kan., the opinion was freely expressed that the drug store trade is the greatest obstacle in the way of enforcement of the prohibitory law.

—Drug stores in a certain Missouri town are filling many prescriptions calling for whisky to be used in the treatment of coryza. This disease is an inflammation of the mucous membrane of the nose; but there is a possibility that the treatment in question might extend the inflammation through the entire nose. Whisky is credited with this effect.

—The Columbia Chemical Co., in their reply to Dr. Hammond, have filed a cross bill in the case mentioned recently, setting forth that after Dr. Hammond had denied using nitro-glycerin in the animal extracts involved in the litigation, the company had them analyzed by the chemist of the New York Mercantile Exchange, who reported finding nitro-glycerin.

—In Jacksonville, Fla., Dr. John Keiser, corner Ashley and Davis Streets, is having the ceiling and walls of his store handsomely painted, and is also having a new awning placed in front of his store. His business is steadily increasing. Robt. J. Martinez will soon go to New York for a few weeks' vacation. George Hughes, of the George Hughes Drug Co. has recently has his store repainted, and with the addition of a handsome new Lippincott fountain has improved in appearance very much.

—Some time ago Lehn & Fink had a call from A. H. Bates, of the Hotel Plaza Pharmacy, Piqua, Ohio, for select samples of sixty drugs. Upon asking recently about the use to which they were to be put, the reply came that Mr. Bates was making a unique window display that attracted a great deal of attention in Piqua. At the back of his window is suspended a large map of the world. In front of it are arranged the samples of drugs, and from each specimen a colored ribbon is run to the spot on the map indicating the source of that particular drug. Guessing matches are constantly going on in front of the window. The display seems to familiarize the public with crude drugs and has proved a great drawing card.

—The Widber pharmacy, which for 28 years has been located at Market and Third Streets, San Francisco, Cal., has been removed to 14 Ellis Street. The business was established by J. H. Widber, who died on July 2 last, and will be conducted by his two sons. Mr. Widber was born in Portland, Me., in 1828, was apprenticed to the drug business when 17 years of age, and went to California in 1849. He opened a drug store in San Francisco in 1855, and was successful in building up a prosperous business and gaining the esteem of his fellow-citizens, with the result that he was honored by election to several public offices. At the time of his death Mr. Widber was treasurer of the city and county of San Francisco, to which office his son, A. C. Widber, was appointed upon his decease.

—Commissioner Storrs, of Michigan, has appointed the new inspectors provided for under the Pure Food laws made by the last Legislature. They are W. B. Scattergood, of Ithaca, John I. Breck, of Jackson, and John R. Bennett, of Muskegon. They will receive $3 per day and expenses for the time actually spent in pursuit of their duties. Commissioner Storrs and Assistant Rossman are now in New York purchasing apparatus for a chemical laboratory.

—A very interesting case is on in the Detroit courts. It seems that a Mrs. Clark, wife of the proprietor of Hotel Tacoma, charges Clark B. Edwards with false pretenses in inducing her to buy stock in the American Pepsin Cracker Co. After buying the stock Mrs. Clark became convinced that there was no pepsin in the crackers. The theory was advanced that even in case there ever had been any put in, the process of baking would destroy its properties. Some of the crackers were sent to the State Chemist of Ohio and some to Professor Rose, of Ann Arbor. Neither of these gentlemen could find any pepsin by chemical analysis, and Professor Rose testified that in his opinion the heat necessary to the baking would destroy the pepsin. When Chemist Frank Thompson, of Detroit, was called to the stand, he produced several bottles which, he said, contained the results of his tests of the crackers, and he testified that he had found one-eighth of a grain in each cracker, and that the pepsin had not lost any of its properties. It is expected that the case will fall through as the result of this testimony.

CHICAGO.

Notes by the Way.

Mr. Charles Stevenson, of Robert Stevenson & Co., returned from Delavan Lake, Wis., last week.

Mr. Searle, of the Searle & Hereth Co., and wife have gone to Denver to attend the meeting of the N. W. D. A.

The Panorama Building in which the Pharmaceutical Exposition is to be held is undergoing preparations for the show.

Mr. Myers, of Benton, Myers & Co. of Cleveland, O., was in Chicago a few days on his way to the meeting of the N. W. D. A.

Mr. O. G. Thompson, of the Chicago Label and Box Co., returned from New York last week. He has this to say concerning the drug stores of New York, that they are larger and finer than those of Chicago. There are fewer small stores in the downtown district, druggists putting more capital into the business and carrying a larger stock. Mr. Thompson said that the East is slower to recover from the panic than the West.

The Colbert Chemical Co., corner Dearborn and Monroe Streets, Chicago, have a unique and striking window display. It is designed to extol the virtues of somebody's shampoo and consists of a diminutive colored boy on whose woolly head is a pyramid of lather. He views the passing crowd with interest and the crowd reciprocates. Upon the window is a flaming poster with scare headlines, "Ten Shampoos for Ten Cents."

43d ANNUAL MEETING

AMERICAN PHARMACEUTICAL ASSOCIATION.

DENVER, COLORADO, AUGUST 14-21, 1895.

(*Concluded from page 283, Aug. 29.*)

SECTION ON PHARMACEUTICAL EDUCATION AND LEGISLATION.

(*Second Session, Continued.*)

College Requirements.

The Chair: "We have another important committee, and the secretary will read the resolution creating it."

The secretary: "Resolved, That a committee be appointed consisting of one representative from each of the colleges and schools of pharmacy of this country represented by members in this association, with three members of the association, neither of whom are teachers in any pharmaceutical school or college. The duty of said committee shall be to take into careful consideration the condition of pharmaceutical education in this country, make recommendations relative thereto, and report to the association at its next annual meeting."

The Chair: "A Committee was appointed according to that resolution. Mr. Sheppard is chairman of that committee, and I will ask for his report."

Mr. Sheppard read the following report:

"Resolved, That it is the sense of the American Pharmaceutical Association that the cause of pharmaceutical education would be advanced if all pharmaceutical schools that confer the degree in pharmacy should adopt the following suggestions:

"1. That the standard for admission shall be not less than the equivalent for admission to the public high schools of the larger cities of the United States.

"2. That each student shall attend not less than two courses of didactic instruction, each course extending over a period of not less than twenty-eight weeks, the student to be in attendance upon not less than six hours of such instruction in each week and not less than one hundred and sixty (160) hours in each session. That the time devoted to this instruction shall be limited to the subjects of pharmacy, chemistry and materia medica or botany, and not include that in collateral branches. That not less than three hundred hours of laboratory work shall be required of each student in each term.

"3. That every student, in order to graduate, should be familiar with all the teachings of the United States Pharmacopœia, and fully capable of performing all operations mentioned in it.

"4. That as far as practicable students shall give their whole time to the work of the college during its sessions, and not divide their time between work in a store and work in a college. That no student shall be retained at a college whose outside duties will not permit him to do full justice to his studies or laboratory work.

"5. That students should not be admitted to the school or college at less than eighteen years of age, and that the degree should not be conferred upon any person who is less than twenty-one years of age at the time of completing his final course.

"6. That the degree of Ph. G. should be conferred upon any person who has successfully passed the required examinations, without any regard to practical experience in a drug store."

This precipitated a discussion, terminated by a motion that this report be laid upon the table. A division being demanded, the motion was adopted by a rising vote of 28 to 8 and amid applause the motion to table was declared carried.

Mr. Remington: "We are now in exactly the same position that we were a year ago."

Mr. Ebert: "I hope that hereafter we will let these schools and colleges of pharmacy take care of themselves." (Applause.)

It was voted that no author shall be allowed more than fifteen minutes for the reading of any one paper, save by consent of a majority of the section. In presenting papers preference shall be given to those the authors of which are present. The Executive Committee of the section shall distribute at the first general session of the association all papers which are in print, and shall put in a conspicuous place a bulletin stating when the several papers are to be presented.

Mr. Sheppard: "Our discussions up to the present time have seemed to run entirely to the subject of education. I have here a motion that has a bearing on legislation. It seems to me very desirable that there should be an advancement along the line of the work of the boards of pharmacy, and that this association can perhaps help along that good work by stimulating public opinion in the direction that boards of pharmacy should not receive candidates for examination unless those candidates can show that they have had some pharmaceutical training. I think that boards of pharmacy have now been in existence long enough to take an advanced position on that point, and this resolution which I am about to offer is simply to express the sense of this association in that direction and to stimulate boards of pharmacy.

"Whereas, The American Pharmaceutical Association has already unanimously voted that attendance upon a course of instruction at a college or school of pharmacy should be required by registration (see 1894 Proc., page 353) therefore,

"Resolved, That it is the sense of the association that regular attendance upon at least six hundred hours' instruction at a pharmaceutical school or college should be considered as a necessary preliminary qualification to examination by State boards of pharmacy."

This precipitated another lively discussion, which was not quieted until the introduction by Dr. McGill of the following substitute:

"Resolved, That the American Pharmaceutical Association recommend to the State pharmaceutical associations the requirement of the following qualifications precedent to the registration and licensing of pharmacists:

"1. An academic education equivalent to that required for admission to the public high schools of our larger cities.

"2. A professional education in the branches of study taught in the best pharmaceutical schools equivalent to that acquired by regular attendance upon at least six hundred hours' instruction in such a school during a period of not less than six months.

"3. A practical experience in pharmacy of at least thirty-six months, including the time spent in regular attendance upon a school of pharmacy of good standing having adequate laboratory courses."

The resolution was adopted.

Pharmacy Legislation.

The Chair having called for the report of the Committee on Legislation, the secretary said: "There was no report of this kind last year, and consequently this report covers two years. The report is exceedingly voluminous and I shall only in a few minutes give the greatest changes that have been made: In Connecticut amended so that the Commission of Pharmacy shall consist of three pharmacists instead of one physician and two pharmacists as heretofore. There is an amendment to the Delaware law of no special significance, and practically a new law in Illinois, portions of the sections being left out entirely, and in other respects it has some new features which you have heard referred to already. Indiana: we have succeeded in getting laws relating to prohibition of the sale of lascivious articles put on the criminal code. In Maine a pharmacy law was passed March 25, 1893. I should have stated that in the Illinois law one of the new sections requires that after a certain time a registered pharmacist who has in his employ an apprentice shall file with the secretary of the Board of Pharmacy a certificate showing the educational qualifications of such apprentice. Massachusetts: no change. New pharmacy law by the State of Montana on the general plan. A poison law to be incorporated with the Pharmacy law was drafted by the legislative committee of the Nebraska State Association, but failed of enactment. In Oregon a pharmacy law has been enacted. Then we have incidentally the laws of Ohio pertaining to food and drugs, exceedingly interesting to this section. In Tennessee the act of 1893 was amended in 1895 which extends the operation of the law over the entire State, I believe; formerly it applied only to towns of a certain population and therefore affected only about seventeen cities in the State. Virginia: an act practically new, I believe, approved March 19, 1894. Wisconsin: an act practically new, abolishing diplomas, that is, registration by diplomas, and requiring all applicants for registered pharmacists to be twenty-one years of age, instead of eighteen. The Wisconsin law has this provision in it: 'The only exemption from articles sold by registered pharmacists are the dispensing of prescriptions or their own medicines, the exclusively wholesale business of any dealer, and the making and vending of proprietary medicines in sealed packages with the names of the contents, the directions for using and the pharmacist or physician in this State by whom prepared,' a very important provision."

Mr. Alpers: "As a matter of fact I might state that New Jersey got a new law last winter. The secretary has not read that."

The secretary: "I would like to read a letter that I received from the secretary of the New Jersey board, after writing to him six times, but I am not able to find it. The latter merely stated the number of applicants for registration and the number that were registered, with no other information save that he could not possibly give the information, as it would require too much time and his time was too much taken up."

The report of the Committee on Legislation was received and referred to the Publication Committee.

A paper on the subject, "A National Pharmacy, Food and Drug Law Not

Possible Under the Present United States Constitution," was read by J. H. Beal and referred to the Publication Committee.

Upon motion the section adjourned until Tuesday morning at 10 o'clock.

FIFTH GENERAL SESSION.

Tuesday, Aug. 20.—The ordinary routine business was transacted, followed by the report of the Committee on Transportation, recommending the passage of a special vote of thanks to the sub-committee on transportation being read and adopted, and on motion the session adjourned, to meet again at 8:30 P. M.

SECTION ON EDUCATION AND LEGISLATION

Third Session—Tuesday Aug. 20.—President Good called for the report of the Committee on the Chairman's Address, and the secretary of that committee, Mrs. Miner, read the address that the committee had prepared.

On motion of Professor Oldberg the report was received and adopted, and the recommendations referred to the newly-elected officers of the section.

The Committee on Resolutions in regard to the Registration of Poisons reported verbally through Mr. Remington that as there was so little time now the committee would make a report in time to be published in the Proceedings.

Curriculum for Colleges.

The chairman: "There is another matter which was referred to in the president's address a year ago, the recommendation that the sections on Education and Legislation and on Scientific Papers present to the association an outline of a course of instruction in pharmacy, such as in their estimation would be desirable for schools to conform to as far as practicable, and the committee suggested that the section be requested to prepare this outline for presentation to the next meeting of the association. I will make my verbal report, as I was elected chairman of that committee. The committee consisted of the officers of the two sections. The secretary of this section sent a circular letter to all the colleges asking that an outline of the instruction followed in the colleges in each case be submitted to this committee. But few responses were received; that is, in comparison to the number of colleges; mainly the catalogues were sent, and a few of the outlines. We have heretofore published in our Proceedings one or two outline courses of instruction in such institutions, and this committee recommends that the outline courses presented, one by Mr. Dohme, of Baltimore, and the other by the Michigan university, be submitted to the Publication Committee, with discretion to decide whether or not they shall publish them. I would say that it has been the custom to publish a brief outline from year to year in our Proceedings. But I would like the Publication Committee to take the responsibility. We submit only these two for their consideration."

Upon vote the suggestion was adopted.

The president announced that owing to the limited time at the disposal of the session, one or two papers would be read and the rest referred by title to the Publication Committee. The first paper was read by Mr. Alpers, on "Proposed Curriculum for Candidates Before Boards of Pharmacy."

Professor Sayre: "I had an opportunity of reading this paper last evening. I enjoyed it very much, and I prize such a paper as this, coming from the source it does, a member of the State board. Papers like this one will help the educational work. I propose to read this paper to the first class I have in the University of Kansas. I now make a special motion that this be received and referred to the Publication Committee." Carried.

Dr. McGill: "I move that the secretary of this section be directed to send a copy to each member of the board of pharmacy or the officers or secretary of the board of pharmacy of each State, with our indorsement, or with our request for a kind consideration on their part." Voted.

Mr. Whelpley: "I trust the secretary, in transmitting these copies, will recommend it by a letter sufficiently explicit to attract and impress upon the secretary of each board the importance of this action. I was astonished, to say the least, to hear that the secretary of one of the boards answered this committee that he hadn't time to give information that was requested, and I think that we should give the secretaries of the various boards to understand that they should take the time to consider these things."

Professor Oldberg: "I move that a vote of thanks be tendered to Mr. Alpers for his paper. This is something we should have had years ago. It really is wonderful that we have had State boards and State board examiners in all our States for many years, and I have never yet seen a scheme stating the scope covered by the examinations. It is high time that we should have it, and I think Mr. Alpers deserves high praise in having undertaken it. It involves considerable labor." Voted.

Mr. Jacobs read a paper prepared for the Commercial Section, but referred to this section for attention, in which he made some comparisons between the theoretical and the practical man. The paper was referred to the Publication Committee after the members had a little skirmish over "theoretical" and "practical."

A paper by Professor Sayre was then read, entitled "Scholarships," and on motion referred to the Publication Committee.

Professor Oldberg: "I move that a special committee of three be appointed by the Chair to consider the recommendations made in Professor Sayre's paper, and to report at the next annual meeting on the feasibility of carrying out the recommendations." Voted.

A paper by Prof. J. H. Beal, entitled "College Attendance," in answer to Query No. 8 in the circular letter issued by the association, and also a paper by the same author, entitled "Pharmacy Board Regulations," in answer to Queries 10 to 14 of said circular leter, were thereupon read by title, and on motion were referred to the Publication Committee, as were also papers by Professor Bartley, entitled "Pharmaceutical Degrees; What Shall They Mean?" by Professor Fennel; "Adulteration of Drugs; Laws for the Prevention Of;" by Edward Kremers, "The Position of the American Pharmaceutical Association Toward Pharmaceutical Education," and a third by Professor Beal, on "Registration Requirements of American Pharmacy

The Metric System.

Referring to a paper by Professor Sauerhering, entitled "Metric System, its Introduction and Progress," the secretary stated: "This paper is written by request by a gentleman who was elected last fall to Congress, one of the first retail druggists on earth that has held that position, Mr. R. E. Sauerhering, of Mayville, Wis. He wrote the paper descriptive of the rise and progress of the metric system, and attached to it is a resolution, which he desires to use as a basis for legislation for the metric system. The paper was received and referred to the Publication Committee.

Motion by Professor Oldberg that the resolution attached to the paper of Mr. Sauerhering in reference to the adoption of the metric system be recommended to the last general session of the association for adoption.

President Good: "It is hardly worth while for us to recommend a thing that cannot possibly be adopted, and that is the enforcement of the law making the metric system compulsory on and after 1900. It is a practical impossibility to bring about the revolution in trade which will admit of that. It took the French forty years before they found it possible to make a compulsory law."

Professor Oldberg: "The object of the resolution is the moral effect it will have; it will show what the tendency is. It will have the same effect to fix the date in 1900 as 1950. The metric system is in a fair way of being adopted in England, and I think it will be in time adopted in this country."

Motion carried.

The Chair appointed as the committee to report on the paper of Professor Sayre, entitled "Scholarships," Messrs. Hallberg, Sayre and Ebert.

The next order of business was the installation of the newly elected officers, who, being introduced by Mr. Good, briefly returned thanks.

President Hallberg: "I desire to say that my associate and myself have selected for associate for the ensuing year Mr. W. R. Ogier, the secretary of the Ohio State Board of Pharmacy, Columbus, O."

Professor Oldberg moved a vote of thanks for the excellent work of the retiring officers for the ability with which they had faithfully filled their duties. Carried.

Professor Sayre: "I have a motion in my mind I would like to make. It is with reference to the display we have here now of Colorado plants, and I would like to move a vote of thanks to Professor Kochan for the exhibit here, and ask that he report to the secretary of the association the names of the plants on exhibition, the names to be published in our coming report." Unanimously voted.

Upon motion the minutes of this session were approved without reading.

Motion to adjourn put and carried.

SIXTH GENERAL SESSION.

Tuesday Evening, Aug. 20.—President Simpson called the convention to order, and the minutes of the second general session were read and approved as read. Under the order of reports of committees the convention took up the proposed amendments to the by-laws, which were read seriatim and adopted separately as read. The principal changes in the by-laws were:

Art. II. of Sec. 6 of the by-laws was amended to read as follows: "The council shall consist of twenty-one members, nine of whom, selected from such members as have held at least five years' membership in this association, shall be selected by ballot by the association in the following manner." Then there is no further change.

The section providing for a committee on transportation was recommended to be changed to make the committee eleven members instead of nine.

Upon motion of Mr. Sheppard the article was changed to read ten members instead of eleven by inserting "St. Paul" as one of the cities entitled to a member on this committee.

Art. X. was amended by including the city of St. Paul, and making the local secretary chairman of the Committee on Transportation, the members of the committee from each city to form an advisory board to assist in arranging for transportation from different sections of the country to the place of meeting and return.

Sec. 6 of Art. XI., referring to meetings and sections, with reference to the matter of nominating committees, was amended to provide that the president shall appoint five members at large to act with the committee, and that delegates who are not members and the newly-elected members shall complete their membership before being eligible to serve on the Nominating Committee.

Art. XVI. that the council may arrange for such social sessions, to be held after the adjournment of the last general session, as it may deem expedient, but no business of the association can be transacted at the social sessions.

That no member of the association shall be eligible to act as a member of the council until he shall have been a member of the association for three years.

The next in order being the report of committees, the secretary announced: "We have not received the report of the reporter on the progress of pharmacy. This is due, no doubt, to the fact that he is absent from the country, but I will say that the report is in the possession of the secretary and ready for publication. The report was sent to me before I left Baltimore, but no written report accompanied it, such as has been customary to read at the annual meeting."

Mr. Dohme presented the report of the Auditing Committee to the effect that the committee had examined the treasurer's books, the report on the books of the chairman of the council and the books of the permanent secretary, and in each case they were found to be correct in every particular.

The report of the Committee on Apothecaries in the United States, a special committee appointed at the last annual meeting, was received and referred to the Committee on Publication, after an abstract had been given by Mr. Remington.

The report of the Committee on the President's Address was read by Mr. Alpers, and upon motion of Mr. Sheppard was received and adopted.

Mr. Seabury, chairman of the Section on Commercial Interests, asked for an appropriation of $200 for the purpose of carrying on the work of that section for the ensuing year. This was discussed by Messrs. Sheppard, Hallberg, Seabury and Good. The request was referred to the chairman of the Finance Committee.

Upon motion of Mr. Dohme, the convention requested that the council appropriate the sum of $20 to defray the expenses of the Committee on Indicators, to pay for materials used in carrying on their investigations.

Mr. Hallberg presented a resolution from the Section on Legislation and Education in reference to the adoption of the metric system, which, after some discussion, was received and adopted as read.

Mr. Stewart read a resolution advocating the appointment of a special committee on legislation, whose duty it shall be to form some plan and take united action to repeal such laws as are inimicable to the drug trade.

The resolution was adopted, and the Chair appointed as such committee Messrs. Stewart, Thompson and Ebert.

The secretary read the report of the Transportation Committee, which, upon motion, was received and the thanks of the association given to the committee for their work in securing the best terms which have ever been offered to any convention meeting in Denver.

Upon motion of Mr. Sheppard the local secretary was appointed chairman of the Committee on Arrangements with authority to appoint an associate.

Upon motion of Mr. Sheppard the special committees on the national formulary and the auxiliary committee on membership were continued, and the incoming president requested to reappoint the same.

Communications were then read from the American Medical Association, the Atchison Retail Druggists' Association, the Nebraska State Pharmaceutical Association and the American Library Association, all of which were referred to the proper committees, and the secretary was instructed to reply to the fraternal greetings of the American Library Association.

The president-elect being introduced by President Simpson addressed the convention, thanking them for the honor of his election and expressing the hope that the association under his administration might be as successful as it had been under the former administration.

Mrs. Miner being the only officer-elect present was introduced by the committee and said:

"Mr. President, Ladies and Gentlemen: I am mindful of the honor you have conferred upon me. I received it not so much for myself as a tribute you pay to woman in pharmacy. For the great American Pharmaceutical Association to admit to its roll of officers, no matter how low a grade of office it may be, a woman, is surely a tribute to woman in pharmacy. For this I thank you." (Applause.)

The president announced as delegates to attend the meeting of the National Wholesale Druggists' Association, Messrs. Charles M. Ford, W. J. M. Gordon, Charles E. Ward, W. S. Thompson and E. L. Scholtz.

As Committee on Association Prizes, Messrs. E. L. Patch, Charles Rice and George B. Kauffman.

As Committee on Revision of the United States Pharmacopœia, Messrs. Leo. Eliel, A. B. Stevens, E. N. Bartley, William M. Searby and A. R. L. Dohme.

As Committee on National Formulary, Messrs. C. Lewis Diehl, C. S. N. Hallberg, Charles M. Grove, C. T. P. Fennell and Adam Conrath.

The president stated that the committee to attend the Section on Materia Medica and Pharmacy of the American Medical Association would be announced later.

A committee, consisting of Messrs. Thompson, Dohme and Barnum, was appointed to prepare suitable resolutions of thanks to be extended to the druggists of Denver, the Entertainment Committee, the ladies of Denver, the retiring officers of the association, the Chamber of Commerce of Denver, the proprietor of the Brown Palace Hotel, the Governor of Colorado, the Mayor of Denver, the railroad companies and all citizens and druggists of Colorado outside of the city of Denver who had contributed to the enjoyment of visiting druggists; the committee being instructed to secure the publication of these resolutions in the leading papers of the city of Denver.

Upon motion the forty-third annual session of the American Pharmaceutical Association was then adjourned to meet in Montreal Aug. 12, 1896.

THE ENTERTAINMENTS ON THE WAY.

The delegates from the Eastern and Middle States to the A. Ph. A. meeting in Denver will have much to remember in the way of entertainment and pleasant incidents of the trip. At the Grand Hotel, Cincinnati, the local druggists' association tendered the delegates en route a banquet and endeavored to acquaint them with the genuine hospitality of the Queen City in a brief two and one-half hours. At St. Louis the visitors were taken in charge by the St. Louis College of Pharmacy. They were escorted to the Planters, and after breakfast a general reception was tendered them. They were then driven to the Anheuser-Busch brewing plant and shown through it, and after luncheon again driven through the various residence streets and the parks. In the evening luncheon was served at Forest Park Cottage. An address of welcome was delivered by Adolph Braun, to which there was a response by Prof. J. P. Remington, of Philadelphia. H. M. Whelpley, chairman of the Arrangements Committee, followed Prof. Remington in a short speech.

At Kansas City, Mo., the delegates were met by a committee of local druggists and were given a ride in cable cars to Troost Park. At Topeka they were met by members of the fraternity, each of whom was decorated with a sunflower on the lapel of his coat. Three truck loads of watermelons, muskmelons, apples and peaches were presented to the travelers and placed in the baggage car "for future reference." The party took dinner in the depot dining hall. A. B. Woolverton made an address of welcome, to which W. H. Torbert, of Dubuque, Iowa, responded in an eloquent and humorous three-minute speech. The train then pulled out amid the cheers of the crowd. A stop of thirty minutes was made at Lawrence. The Haskell Institute Indian band met them at the depot, and several citizens made speeches. Thirty-minute stops were made at Emporia, Newton and Hutchinson after leaving Topeka. The delegates were especially impressed by a bright talk given at Lawrence by a Haskell Institute Indian.

THE DENVER ENTERTAINMENTS.

This feature of the forty-third annual meeting was, without reflecting in any way upon previous efforts, a happy surprise to the visitors. Natural advantages such as a beautiful city and the most imposing mountain scenery upon the continent had something to do with it, but added to this there was apparently that "something in the air" of which Colorado boasts, increasing the capacity of hosts to entertain and guests to appreciate and enjoy. The reception of the delegates, including the hearty words of welcome and careful attention to their comfort, left nothing to be desired, and especially does this apply to the efforts of the ladies of Denver to entertain the wives, sisters and sweethearts who accompanied the delegates. The most notable occurrence in the sight-seeing series was the trip up the famous Clear Creek Canyon, over the wonderful loop to Silver Plume. Two trains left Denver at 8:30 A. M. on Aug. 16. At Golden they were divided into three trains to insure perfect safety in running up the canyon. Stops were made at Mother Grundy, Hanging Rock, Inspiration Point and at Roscoe. At the latter place arrangements had been made by C. E. Ward and the party inspected the system of hydraulic mining which is in operation at that point. At Fork's Creek 300 well-filled lunch baskets were taken on board, and with the contents of these and the abundant supplies of mineral water, ginger ale, beer, cigars, candy, fruits, etc., carried on the train the visitors were impressed with the fact that Colorado cookery is on a par with the grandest scenery in the world. A stop of ten minutes was made at Idaho Springs and the journey then continued on up to Georgetown, over the loop to Silver Plume, up to the "Y" where lunch was served to 568 people, all of whom were prepared to do justice to the bounteous supply furnished. After lunch a majority of the visitors made a visit to the Mendota Mine. Prof. R. O. Old re-

ceived the visitors and made a very appropriate ten-minutes speech in the large engine room away under the mountain. At 3 o'clock P. M. the party started on the return trip. At the loop the three trains were placed in such a position that an expert photographer took a picture of all of them, one above the other. At Idaho Springs the trains stopped forty minutes, affording ample time to all who desired to visit the Cave Springs and other points of interest. Denver was reached after 8 P. M., and although a feeling of fatigue was in evidence, no one confessed to minding it a bit, in view of the fact that the day had been rich in experiences and sights which could be treasured and recalled forever afterward.

The reception given by the Colorado Pharmaceutical Association in the parlors of the Brown Palace Hotel on the evening of Aug. 14 was one of the most enjoyable features of the occasion. The corridors and drawing rooms were filled with flowers and thronged with a gay and fashionable crowd. A fine musical programme was rendered by Lohmann's orchestra, delicious refreshments were served and a delightful opportunity was afforded hosts and guests to become acquainted. The Reception Committee consisted of Messrs. and Mesdames W. S. Haswell, E. L. Scholtz, C. M. Ford, H. F. McCrea, John Stromberg, John Anglum, J. W. Fleming, Hall, A. B. Levi, Michael Herr, Charles Ward.

On Aug. 15 a reception was given at the residence of Mrs. John Anglum, 2116 Grant Avenue, from 3 to 5 P. M., in which music and tea were prominent. Two lectures on "Scientific Cooking," by Miss C. C. Bedford, of New York, were given in the Y. M. C. A. hall, which were well attended and thoroughly appreciated by the lady visitors.

On Aug. 20 the Denver Chamber of Commerce impressed the visitors with the advantages, beauties and greatness of the city by giving an electric-car excursion to the various suburban resorts.

Chicago Druggists Liked It.

Chicago, Aug. 30.—A number of the druggists who attended the Denver meeting have returned, and are loud in praise of the hospitality of the Denverites. The reporter interviewed some of these gentlemen for the purpose of finding what features of the trip and meeting they considered most notable. Mr. Sempill, of Dale & Sempill, to the query what particular things about the meeting most interested him, replied: "Well, I hardly know how to answer that question. I did not attend all the meetings, and I cannot say that any one feature interested me more than others. There was nothing done of a sufficiently definite character to enable one to say positively what effect the meeting will have. It is a good thing for druggists to get away from business once in a while and get acquainted with one another. The people of Denver are very hospitable and treated us with great attention and courtesy."

Mr. Goetz was at his desk when the reporter proponnded the query. He looked up with a smile and promptly replied: "The grand scenery and climate impressed me most. I wasn't there all the time, and really do not feel competent to pass an opinion upon the results of the meeting."

"What about the Hayes plan?"

"Well, that was not feasible. The manufacturers never would have consented to it. Mr. Hayes left for Salt Lake before the matter came up." Then the speaker added, with a twinkle, in his eye, "I don't know what he left for, I'm sure."

Mr. Albert E. Ebert said: "The meeting, taking the present depressed condition of business into consideration, was a great success. The association did itself credit in sustaining its previous position on the question of tax-free alcohol, by its care in selecting the officers and members of the council for the ensuing year, and in re-electing Professor Diehl to the office of reporter on the progress of pharmacy. The action of the association in refusing to fix regulations for the teaching, standards and degrees of the schools and colleges of pharmacy was eminently proper. The appointment of a committee on national legislation was timely, and, no doubt, will bear good fruit. There seems to be need of the adoption of some method by which the papers presented to the Scientific Section can be brought before that section and read and discussed. On account of the short space of time allowed at present this is not well accomplished. The Commercial Section did itself credit in exposing the plan of the so-called universal trade associations, and the resolutions adopted by this section are commendable. The plan adopted for the general organization of the trade throughout the country by a committee of the Commercial Section appointed for this purpose is certain to bear good fruit during the coming year. The social features of this meeting were unprecedented. The drug trade of Colorado, as well as from the Governor of the State to the humblest citizen, vied with each other to make our sojourn agreeable, and in this matter practically illustrated the hospitality of the big-hearted people of the wild and woolly West."

Mr. Matthei was enthusiastic over the trip. He said that he did not attend all the meetings, so would leave that matter to be discussed by those better posted, but for the entertainment and hospitality accorded he could not say too much.

Mr. Lehman said that to him the proceedings of the Commercial and Scientific Sections were most interesting and profitable. The entertainment was beyond compare.

—Prof. Charles Caspari, Jr., the permanent secretary of the American Pharmaceutical Association, in speaking of the annual meeting, said in his opinion it had accomplished a great deal and compared very favorably in point of attendance and the work done with similar gatherings of previous years. Some questions, like that of practical apprenticeship, had been left undecided, owing to the diversity of opinion which existed; in other directions, however, the deliberations would show most important and far-reaching results. The Commercial Section particularly had exhibited great activity and displayed commendable industry. The resolution to have published a new edition of the National Formulary Professor Caspari indorsed as an excellent move. The new edition will be issued probably in February of next year. As to the social features of the meeting, Professor Caspari was enthusiastic in praise of the hospitality of Denver's pharmacists.

COLORADO PHARMACEUTICAL ASSOCIATION.

The fifth annual meeting of the Colorado Pharmaceutical Association was held in Denver Aug. 12. After hearing reports from various committees and listening to the annual address of the president, C. H. Wells, of Pueblo, the members engaged in a running discussion of the tariff tax on alcohol and other matters of import to the trade.

President Wells, in his address, reviewed the effect of the dull times on trade, as well as on the affairs of the association, and predicted a greater interest to come with a revival of business. Regarding legislation, he complimented the committee appointed at the previous meeting on the good work done during the past session of the State Assembly in securing the passage of a new pharmacy bill, increasing the penalty for operating a drug store without a certificate from the State Board of Pharmacy from $25 to $250. The increase, he believed would have a beneficial effect on regulating the business. He suggested a change in the present law governing the granting of certificates to graduates of schools of pharmacy. It is left optional with the State Board to recognize the diplomas of certain colleges at their discretion. This he recommended should be changed so as to strike out that portion of the law entirely and amend to make the requirements more definite. "Our schools of pharmacy," he said, "should be such that diplomas of graduation granted to the student should be considered a sufficient passport to practice pharmacy anywhere in the United States, but until the schools have attained that reputation, I would recommend the change." Several other points in the business were handled in the address, particularly the subject of department stores.

In the evening the members of the association made a trip to Manhattan Beach, where they attended the theater and fireworks.

Second Day.

At 9.30 o'clock Tuesday morning the association resumed its deliberations. The question of the sale of proprietary medicines of a fixed retail price by the dry goods and general department stores at a price below that which the druggist is forced to demand was discussed at some length. N. Hayes, of Detroit, urged that action in the matter be deferred until after the wholesalers had acted. The association took no action in the matter.

F. H. Arcularius read a paper on "Pharmacal Training and Examinations in Germany," in which he reviewed the severe strictures placed on the entry of the profession in that country and produced arguments to prove that the adoption of some such regulations in this country would be beneficial both to the people and the pharmacists.

John Kochan presented a paper on the standing of pharmacists in the navy of this country, objecting to the regulations which place the ship's druggist beneath the physician and at less pay. A resolution memorializing Congress to

take up the matter and rectify the discrimination was passed.

At the afternoon session six new members were admitted. Resolutions were adopted requesting the national association to pass resolutions condemning the present form of the free-tax alcohol as giving rise to severe discriminations against the small dealers; asking for amended laws covering patents, trademarks and the law exacting an annual $25 license tax on drug stores as retail liquor dealers.

J. S. Hubbell read a paper on "Solutions," and Secretary Kochan one on "Microscopy."

Several queries touching technical points in the business were propounded and discussed. The question of advertising in a daily paper precipitated a live debate and many expressions. President Wells gave as his own opinion that the carrying of a small advertisement changed every week, worded to catch the eye and interest the reader, was the best possible form and appealed to readers which no other form of advertising could reach.

Mr. Taylor, of Pueblo, spoke favorably of live advertising, but objected to any druggist lending his name to fake nostrums and worthless patent medicines such as some houses advertise with the finale—the name of the druggist handling it.

John T. Davison replied to the query "How can a knowledge of photography benefit the druggist in his business?" by citing the benefits of rest and recreation a camera afforded. Dr. Levi was in favor of the druggist attending to business and leave the camera to men who had more time.

Officers were chosen for the ensuing year as follows:

President, F. H. Arcularius, Colorado Springs; vice-presidents, E. L. Scholtz, Denver, and D. C. Taylor, Pueblo; secretary, John Kochan, Denver; treasurer, J. F. Fezer, Greeley; delegates to American Pharmaceutical Association, John Kochan, E. L. Scholtz, R. P. Dane, C. M Ford, John Stromberg.

The new officers were escorted to their places and were introduced to the convention, and a resolution of thanks was voted the retiring officials. Cripple Creek, Glenwood, Colorado Springs and Denver were named for place of next meeting. Denver was chosen. Selection of a date was left to the Executive Committee with the stipulation it was to be in the second week of July. Chas. S. Kline, the local secretary for the past year, was renominated for local secretary and elected.

During the sessions of the A. Ph. A. in Denver, the members of the Colorado Association acted as a reception committee to the delegates attending the American Association.

——The druggists of Richmond and Manchester, Va., formed a local organization Aug. 15, electing as officers Andrew Briggs, president; T. A. Miller, first vice-president; W. P. Poythress, second vice-president; Gordon Blair, secretary and treasurer.

J. C. ELIEL.

THE N. W. D. A.

Denver, Col., Sept. 3. (Telegram).—J. C. Eliel, of Minneapolis, will be the next president of the N. W. D. A.

Mr. Eliel is a member of the Lyman-Eliel Drug Co., of Minneapolis, Minn. This house has long been a member of the association, and Mr. Eliel is thoroughly well known to all his fellow members. He has frequently served upon important committees, during last year was chairman of the special committee on paris green, and at the Detroit meeting in 1893 he was selected as first vice-president. In the association he is known as a ready and forceful speaker, with good command of language, his opinions dominated by strong good sense and business judgment.

The annual meeting of the association opened Sept. 2. Reports already to hand announce a good attendance and prospects of a very satisfactory and lively meeting. Yesterday Geo. A. Kelly, of Pittsburg, submitted the report of the Committee on Proprietary Goods, in which was included Chairman Kline's special report. The new rebate plan, described in detail in the report, is the special order of discussion for to-day. The box and cartage problem will also receive attention. President Main's annual address yesterday reviewed the work of the several committees, made a number of practical recommendations and predicted rapidly improving trade conditions for the whole country. Last evening the president's reception at the Brown Palace was the first social feature of the convention.

The Association of Manufacturers and Dealers in Proprietary Articles also held a meeting yesterday, at which President Queen suggested the formation of a bureau of information to properly classify and rate the various periodical publications with regard to their importance as advertising mediums.

Entertained at St. Louis.

St. Louis, Aug. 31.—Some two dozen wholesale druggists from the East and West passed through St. Louis to-day en route to Denver, where the annual convention is to be held Monday. The delegates while here were handsomely entertained by the local druggists, who had appointed the following committee for that purpose: Theo. F. Meyer, of the Meyer Bros. Drug Co.; H. S. Merrell, of the Merrell Drug Co.; George K. Hopkins, of the Hopkins-Weller Drug Co.; John Crouch, of the Dougherty-Crouch Drug Co.; William J. Fritsch, of the Moffitt-West Drug Co. A reception was tendered the delegates at the Southern Hotel in the morning, which was followed by a drive through the principal streets and parks in a tally-ho. In the evening a banquet was given at the cottage in Forest Park, where several interesting speeches interspersed with witticisms were delivered. The delegates, accompanied by a number of wholesale druggists from St. Louis, left in the evening for their destination.

Vermont Pharmaceutical Association.

The second annual meeting of the Vermont Pharmaceutical Association was held in Burlington Aug. 21 and 22. The attendance was good. In his introductory remarks President Higgins referred to the Pharmaceutical Association, remarking that of the 25 corporate members who attended in November, 1870, some were present at the convention. He introduced Mayor William J. Van Patten very pleasantly by saying there was one of that number who not only was a pioneer in the drug business of Vermont, but held at the present time a most responsible position in the Queen City. The address of welcome which follows was heartily applauded by those present.

Mayor Van Patten said in part:

"You speak, gentlemen, of the old Vermont Pharmacentical Association. Twenty-five years ago we came together and started that old Pharmacentical Association, and while we struggled for one cause or another the organization as such was given up. Still we believe that the old association contributed much good to us. I remember the pleasant times we had together at Rutland, St. Johnsbury, Montpelier and other places.

"It is one of the pleasant things of all trade organizations that when people come together, come to know each other better, jealousies and rivalry disappear and they feel that they were not such bad fellows after all as they stand shoulder to shoulder in our common interests. We come to realize that our mutual interests are best protected and guarded by coming together. When we get together we find that we are all about the same flesh and blood and are all pretty good fellows anyhow. There has been great progress in many ways in the State. I was greatly pleased last year to know the success you had in getting the law passed. It is something that has been needed for years, and now that you have it, I hope you will find no hindrances in establishing the standard of pharmacy in this State."

The mayor was followed by President Higgins, who delivered a stirring and practical address, touching on many subjects of vital interest to the druggists of the State. An abstract of his speech is as follows:

"At the meeting of Montpelier the honor of being elected your president was conferred upon me, and in my humble way, and with such time as I could spare from my business, I have endeavored to do my duty. At our Montpelier meeting 39 druggists were present, and the work accomplished during our stay we have reason to be proud of, and the results attained were in a way quite satisfactory. Your legislative committee, whose business it was to present the draft of a pharmacy law, made the report which was adopted, and after a few slight alterations was, we thought, in pretty fair condition for the merciless consideration of our legis-

lative brethren. We did not dare ask for much, or a too stringent law, as experience for the past 20 years had taught us to go easy and be satisfied with half a loaf. Our experience was similar to the child's who had been burned by the lamp flame. We did not propose to get burned again if caution would prevent it. The results that followed the introduction of our pharmacy bill, you are all conversant with, and after 20 years of intermittent labor we have been in part rewarded, and Vermont has a Pharmacy law; but in comparison with other States of the Union, we have little to exult in, excepting in the fact we have made a beginning, and in the mean time, gentlemen, we must invoke the aid of a kind Providence and expect better things."

On the subject of pharmaceutical education he said:

"Take it all in all, the tendency for a higher pharmaceutical education is in the ascendancy, and with the advent of new blood from time to time, I can imagine Vermont as taking its place pharmaceutically among the other States of our Union.

"It may seem visionary to mention it, but why not educate our young men who wish a pharmaceutical education right here in our own State? We have in Burlington a university that compares favorably with other institutions of like character in the country. In fact, I think it is second to none, considering its facilities, and it has already professorships in chemistry, materia medica and botany. What influence must be brought to bear upon the faculty to persuade them to establish a chair of pharmacy, thereby enabling our young pharmacists to obtain an education in Vermont at less expense than a course in Boston or New York? I think the idea is among the possibilities. How probable, time and energy will only determine. A committee appointed to investigate the matter might be in order, and I would suggest it.

"Licenses have been issued to nearly or quite 400 pharmacists by your Board of Pharmacy. Our association has but 225 members. There is no reason why every one of those licensed should not become members of our society; it is their duty. The Committee on Membership should at once investigate the matter and work unceasingly until the work is accomplished, by enrolling all within the folds of our State organization. Our society was not organized for a few, but for all; and in unity there is strength—every member should take hold and assist in the movement."

The election of officers, which concluded the afternoon session, resulted as follows: President, A. W. Higgins, Rutland; vice-presidents, E. M. Styles, Burlington; W. H. Gladding, Barre; A. W. Livingston, North Troy; secretary, H. A. Chapin, Brattleboro; treasurer, F. W. Pierce, Chester.

In the evening Prof. E. L. Patch, of Boston, delivered an address. He was followed by F. W. Reeves, of Cambridge, Mass., who led a general discussion of the subject of cutting prices.

Second Day.

The deliberations began with a report of the Committee on President's Address, which recommended that the membership of the legislative committee be increased to 10. This recommendation was adopted and also each member of the association was constituted a member of a committee to agitate and promote the establishment of a chair of pharmacy in the Medical College.

A. W. HIGGINS, Pres. Vermont Association.

Resolutions were then adopted indorsing the action of the Burlington Drug Co. in giving F. W. Reeves assurance that it will not sell to cutters, that the members of the association would not encourage substitution when the Wells & Richardson Co.'s goods were called for, and they were in favor of the resolution adopted by the Apothecaries' Guild of Boston. Several papers were read and various committees appointed. In the afternoon the association enjoyed a boat ride on the lake tendered by the Wells & Richardson Co. and the Burlington Drug Co.

Pure Drugs for Missouri.

St. Louis, Aug. 26.—Prof. Francis Hemm, chairman of the Committee on Drug Adulterations of the State Pharmaceutical Association, has appointed his new committee and proposes to continue the fight for pure drugs with renewed vigor. The committee is subject to the approval of President Love and will not be announced until some time later. Great importance is attached to the work of this committee and last year it attracted considerable attention. Professor Hemm, however, promises even better work this year, and outlined to your correspondent the policy which the committee would pursue for the ensuing year. Professor Hemm has divided his committees into sub-committees and has urged upon every member of the association the importance of reporting suspicious cases. Last year, says Professor Hemm, quite a number of drugs were found below the standard, but the wholesalers and manufacturers promised to have it remedied.

"We do not propose, however," said Professor Hemm, "to let up on our work, although the market to-day is pretty fair. There is plenty of room for improvement, however, and we propose to have everybody stick to the standard. We do not intend to merely confine ourselves to the wholesalers and manufacturers this year, but will tackle the retailers as well. Any preparation found below the standard will be reported and if the matter is not remedied it promises to go hard with the party who put it up. Five years ago we made an examination of the opium market in this State. Some fifty different samples from all parts of the State were examined and the St. Louis market was found to be absolutely rank. This had the effect of stirring up the dealers and to-day the market might be called good."

——The twenty-first annual meeting of the Mississippi Valley Medical Association was to be held in Detroit, Mich., Sept. 3, 4, 5, 6. A most successful meeting is assured, there being about six hundred physicians who had signified their intention of being present. Of these, one hundred were to come from Chicago alone. Members of the Canadian association were invited to attend, and it was expected that a large number of them would be present. The meeting are held in Strassburg's Academy. In the basement of the building is an exhibit of physicians' supplies, instruments, medicines, etc. Among the exhibitors are Milburn & Co., of Detroit, Fred'k Stearns & Co., of Detroit, and several St. Louis, Chicago and Indianapolis firms. A most profitable and instructive programme is arranged. About one hundred papers will be read. On Tuesday evening Dr. Theodore A. McGraw, of Detroit, will deliver the address on "Surgery," and on Wednesday evening Dr. Wm. Pepper, of Philadelphia, will deliver that on "Medicine." Detroit provides delightful entertainment for the visitors. On Tuesday evening there will be a reception at the Russel House. On Thursday afternoon a boat ride on the river. Visiting ladies have a drive around the city and trolley parties—after the fashion of Eastern cities—in order every day.

——The Nebraska Board of Pharmacy met at Lincoln Aug. 14. Twenty-eight persons applied for registration, twelve of whom received certificates as follows: H. E. Bodie, of York; W. S. Gerhart, of Lincoln; Bert Goodman, of Omaha; Chas. F. Haman, of Battle Creek; Frank Holcomb, of Seward; W. H. McCaw, of Hooper; J. A. Pollard, of Nehawka; Fred Schroeder, of Omaha; H. A. Vincent, of Cambridge; F. L. White, of Battle Creek; Horace S. Woodworth, of Pierce; Will Neimeyer, of Juanita. The next meetings of the board will be held in Lincoln, Wednesday, Nov. 13, and at Omaha Nov. 14.

——The Maine Commission of Pharmacy examined 11 applicants Aug. 14. But two were successful—A. B. Hutchinson, of Hallowell, Me., and Jos. A. Hays, New York City.

——The Illinois Board of Pharmacy promises to be very active in enforcing the new law, the provisions of which and the board's interpretation are given elsewhere.

College catalogues received: State University of Iowa, Pharmacy Department; Louisville National Medical College; School of Pharmacy, University of Michigan; Louisville College of Pharmacy; Cleveland School of Pharmacy; Pittsburg College of Pharmacy.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ALABAMA.

Ozark.—F. B. Cullens, sold out.

ARKANSAS.

Newport.—E. R. Goodwin, sold to Holland & Dutton.

CALIFORNIA.

Madera.—Johnson & Redfield, now T. B. Redfield.

COLORADO.

Denver.—Tremont Drug Co., sold out.

CONNECTICUT.

Bridgeport.—Dr. Jas. E. Hair, Congress and Main Sts., sold to Wm. Flynn.

Ridgefield.—Hiram K. Scott, sold out.

DISTRICT OF COLUMBIA.

Washington.—Thos. P. O'Connor, deceased.

FLORIDA.

Pensacola.—H. O. Bassett, out of business.

Tampa.—Mook & Loregreen, sold to P. Arlund.

IDAHO.

Montpelier.—Riter Bros. Drug Co., of Logan, Utah, opens branch store.

Wallace.—Geo. Freisheimer, of Missoula, Mont., opened branch store.

ILLINOIS.

Chicago (Argyle Park).—W. R. Abbott, sold to J. W. White.

Foucek & Wilim, W. 22d and Troy Sts., new store.

Elgin.—City Drug Store, sold to Daniels & Jewett.

Jacksonville.—W. A. Allcott, now Lee P. Allcott.

Marengo.—Hackley & Co., sold to W. T. Dougherty.

Momence.—Edwards & Miller, new store.

Perry.—H. H. Brengleman, sold to R. Shoemaker.

West Eldorado.—Ross Kemper, assigned.

INDIANA.

Lyons.—John F. Hoffa, sold to W. H. Gambill.

Marion.—A. J. Murphy, South Washington St., receiver appointed.

Noblesville.—T. W. Abbott, sold out.

Tipton.—Powell & Coppess, now Daniel Coppess.

Worthington.—James M. Campbell, now Campbell & Cooper.

IOWA.

Carroll.—Waterbury & Park, now Carroll Drug Co.

Centerville.—W. S. Shaw & Co., sold out.

Des Moines.—Hansen's drug store, damaged by fire.

Thomas & Heater, removed to Cambridge.

Ledyard.—The Lowder Drug Co., new store.

Osage.—J. F. Dailey, sold to R. W. Ady & Co.

Oskaloosa.—Sherman & Blakeslee, sold to Blakeslee & Heinzman.

Ottumwa.—W. L. Sargent & Co., now Opera House Drug Store.

Sigourney.—J. E. Graff, sold to A. J. Weller.

KENTUCKY.

Guthrie.—Mimms & Anderson, now J. W. Mimms.

Lebanon.—Mrs. Sebia Phillips, now J. B. Phillips.

Louisville.—Renz & Henry, succeeded by F. J. Renz, but firm name remains unchanged.

LOUISIANA.

Jeanerette.—Jeanerette Drug Co., new store.

MARYLAND.

Cedarsville.—Albert Briggs, deceased.

MASSACHUSETTS.

Boston.—Benfield Bros., damaged by fire.

Cambridge.—G. F. Dow, 48 Boylston St., new store.

Gloucester.—Eastern Pharmacy (W. Fuller, propr.), sold to W. H. Strong.

MICHIGAN.

Albion.—J. E. Gary, sold to Osburn & Mumbrue.

Camden.—C. E. Alward & Co., damaged by fire.

South Lyon.—A. P. Lincoln, closed out stock.

MINNESOTA.

Green Isle.—Hilleman's drug store, new store.

Owatonna.—W. J. Horvorka, removed to 1028 W. 7th St., St. Paul, Minn.

Pipestone.—Robert Scarf, sold to A. W. Jameson.

Roseau.—G. Homme & Co., sold to C. A. Pearson.

St. Cloud.—Bright Drug Co., 710 St. Germain, new store.

St. Paul.—Northwestern Homeopathic Pharmacy Co., 391 Robert St., new store.

West Concord.—Elledge & Straight, new store.

Rush City.—A. Runskog, sold out stock.

MISSISSIPPI.

Columbus.—E. C. Chapman, sold to Molloy & Westmoreland.

Poplar Springs.—C. E. Kelly, removed to Blue Springs.

MISSOURI.

Grant City.—D. V. Early & Co., sold to Womack & Smiddy.

Halls.—Dr. Skinner's drug store, burned out.

Lexington.—John P. Hausan, new store.

St. Louis.—Carl Duber, 20th and College Ave., new store.

NEBRASKA.

Osceola.—Mrs. R. K. Baum, damaged by fire.

E. Kennard & Co., damaged by fire.

Waco.—Meiklejohn & Beckford, new store.

NEW YORK.

Bainbridge.—C. M. Frisbie, now Frisbie & Truman.

Mechanicsville.—E. H. Chapin, sold to Noel T. Van Rensselaer.

N. Y. City.—Atlas Rubber Co., 241 Greenwich St., assigned.

The Hall Pharmacal Co., incorporated.

NORTH CAROLINA.

Norwood.—Whitley & Haithcock, now T. A. Haithcock.

OHIO.

Akron.—Eberhard & McCann, now G. Eberhard.

Jos. P. McCann, 400 E. Exchange, new store.

Cincinnati.—Frank L. Evans, assigned.

Clarksburg.—Jas. G. Bell, assigned.

Cleveland.—Benefield Bros., damaged by fire.

Euclid Ave. Pharmacy, burned out.

Dr. George C. Elrhart, deceased.

Fred M. Meyers, cor. Hough Ave. and Harkness, new store.

East Liverpool.—J. G. Pancake, deceased.

East Palestine.—E. Greenameyer, sold to J. M. Hartford.

Lancaster.—Frank B. Price, assigned.

Portsmouth.—Whittaker's drug store, sold to Dr. J. F. Davis.

Richwood.—The Rebate Pharmacy Co. (Inc.), sold to Copper & Cratty.

OREGON.

Heppner.—T. W. Ayers, Jr., sold to Wells & Warren.

PENNSYLVANIA.

Laporte.—W. B. Hill, sold to C. D. Voorhees.

Mercer.—A. E. Bligh, sold to Geo. Campbell.

Prescottville.—W. H. Reynolds, sold to Mrs. George Handyside.

Sharon.—A. L. Beck, now Beck Bros.

Titusville.—Ideal Pharmacy Co., T. C. Joy, deceased.

SOUTH DAKOTA.

Frederick.—A. E. Pettingill, now E. G. Pettingill.

TENNESSEE.

Danville.—W. H. Boden, assigned.

Jackson.—Dr. N. M. Williams, sold out.

Lynnville.—Clark & Blackburn, now Dr. J. K. P. Blackburn.

McMinnville.—Sanders & Ramsey, sold out. Ritchey, Bostick & Co., dissolved.

TEXAS.

Edna.—Burns & White, now F. A. Burns.

Elmont.—Durning & Co., burned out.

Houston.—W. A. Tryon, deed of trust.

Ivanhoe.—Taylor & Son, sold to J. A. Stacy.

Manor.—R. E. Stromberg, new store.

Rancho.—King & Woolsey, now W. A. King.

Waco.—Merrick & Neeson, dissolved.

UTAH.

Bingham.—Peter Tavey, burned out.

VERMONT.

Swanton.—J. Campbell, Platt St., new store.

VIRGINIA.

Norfolk.—Gunter & Walker, 20 Claiborne Ave., now R. L. Walker.

A. B. Heistand, Front Ave., Atlantic City Ward, new store.

WASHINGTON.

Chehalis.—The City Drug Store, damaged by fire.

Walla Walla.—J. S. Galloway, sold out.

WEST VIRGINIA.

Huntington.—R. S. Eveland, removed to Sistersville, W. Va.

WISCONSIN.

Dodgeville.—Roberts & Jones, now Roberts & Prideaux.

La Crosse.—E. A. Tenney, deceased.

NEW BRUNSWICK.

St. John.—Thomas A. Crockett, sold by sheriff.

PATENTS

TRADE MARKS, DESIGNS, ETC.

PATENTS

Issued August 27, 1895.

545,099—Albrecht Schmidt, Berlin, Germany.—Protocatechuic aldehyde-meta-alkyl-ethers and making same.

545,190—John C. Bleyney, Newark, N. J., assignor to De La Vergne Bottle and Seal Co. of New Jersey.—Corking machine.

545,234—Wm. Kiel, Butler, N. J., assignor to Butler Hard Rubber Co., New York, N. Y.—Syringe.

545,284—Robt. M. Green, Philadelphia, Pa.—Soda-water fountain.

545,333—Heinrich A. Bernthsen, Mannheim, and P. Julius, assignors to Badische Anilin and Soda Fabrik, Ludwigshafen, Germany.—Azo orange dye.

545,336 and 545,337—René Bohn, Mannheim, assignor to Badische Anilin and Soda Fabrik, Ludwigshafen, Germany.—Black dye.

545,351—Victor E. J. Durafort, Paris, France.—Seltzogene.

545,365—Albert M. Ingalls, Duluth Minn.—Capsule filler.

TRADE-MARKS

Registered August 27, 1895.

26,990.—Medical Compound for the Treatment of Fevers, Neuralgia and Rheumatism. Bush & Co., Worcester, Mass. The word "Analpyrodyne."

26,991.—Remedy for Rheumatism. Louise Filkins, New York, N. Y. The representation of a winterberry plant having four leaves and seven buds.

26,992.—Remedy for Heart Failure and Pneumonia. Austin Elliott, Kansas City, Kan. The words "The Golden Heart Protector."

26,993.—Herb Teas, Oils and Liniments. Charles F. Cadwallader, Benton, Kan. A portrait of the registrant, the number "20," the words "Twenty-Minute," and the letters, "C. S. C."

One of the best and cheapest commercial travelers carrying samples is the mailing case made by the U. S. Mailing Case Co., of Boston. Hundreds of towns can be visited in a day, and the expense is fully explained in the circulars and price lists sent out by this firm.

"Made his money by advertising" is a familiar story in connection with the careers of many proprietary medicine manufacturers. Avery L. Rand, 127 Purchase Street, Boston, has done lots of the printing for these manufacturers. He only prints large editions, and if you are after a fortune in the patent medicine business he can help you.

WANTED, A SALESMAN.

Manufacturers and jobbers when in need of good salesmen will find that a "Want Ad." in the Era will bring them many good replies. There are plenty of bright, active and capable drug clerks seeking such positions, and thousands of drug clerks are constant readers of the Era "Want Ads."

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

ESSENTIAL OIL OF BITTER ALMONDS.

To the Editor:

In your issue of May 23, 1895, page 653, some abstracts were presented from the semi-annual report, April, 1895, of our Leipsic house, Messrs. Schimmel & Co., which were believed to afford interesting and valuable information to your readers. The first subject there presented was bitter almond oil, concerning which the following preliminary statements were reproduced from the report:

"The demand for the natural distillate supplied by us has been constantly on the increase since the time when by many hundreds of examples we afforded our customers a proof that by far the greater part of the oils of commerce are nothing but artificial benzaldehyde, and in the most favorable instances mixtures of the latter with a larger or smaller proportion of the natural distillate."

The publication of these statements appears to have aroused the serious displeasure of the firm of Stearns & Gordon, dealers in essential oils, as may be inferred from the character of their communication to the Era, issue of June 27, 1895, page 825. Without wishing to give any consideration to the personalities of their remarks, we beg to quote the following passages:

"This statement (that 'by far the greater part of the oils of bitter almond of commerce are nothing but artificial benzaldehyde') would be ridiculously funny if it were not a libel on every dealer in essential oils. If you believe that the poisonous, foul-smelling stuff sold for artificial oil of almonds can be, or ever is, foisted upon the public for the genuine oil, you are then warranted in indorsing the statement in the article in question, which implies that no pure oil of almonds is sold except by Schimmel, or in other words, Fritzsche. Of course the statement does not reflect creditably upon the trade, but it would have little weight if it were not for the indorsement you give it.

"If you really believe that there is any truth in the statement, and will come to our laboratory, we will convince you of your error. Or, if you would like to test the matter yourself, if you will go into the market and buy 10 samples of oil of bitter almonds, from 10 different dealers in New York, we will pay for the expense of the experiment if you find one adulterated sample in the entire lot.

"Very truly yours,
"STEARNS & GORDON."

It would seem to us upon reading the above as if Messrs. Stearns & Gordon were so little conversant with the subject of essential oils as to be led to assume that by the designation "artificial oil of almonds" is meant the so-called *oil of Mirbane*, or nitrobenzol, since the latter has indeed been known by that name, although having no further similarity with the true essential oil of almonds than a slight resemblance in odor, and they refer to the artificial oil as "poisonous, foul-smelling stuff." On the other hand, it is difficult to account for their misstatements by assuming even such a delusion, for not only is the term "artificial oil of almonds" generally understood in commerce to refer to the synthetic or artificial benzaldehyde, but in the remarks of Messrs. Schimmel & Co., the accuracy or truthfulness of which they have so boldly challenged, it is furthermore specifically stated that "by far the greater part of the oils (of almond) of commerce are nothing but *artificial benzaldehyde*."

As the remarks above quoted from Schimmel & Co.'s semi-annual report might, however, be considered as referring more particularly to the conditions of European commerce, we have deemed it of interest to ascertain the character of the oil of bitter almonds of the American market, although the market is chiefly supplied by German, French and English manufacturers.

We have, therefore, obtained samples of this oil, in original sealed packages, from the leading dealers in New York, and have subjected the same to a careful examination. Of the eleven (11) samples obtained only three (3) were the natural oil, or free from chlorine, and two of these were the product of one manufacturer. The remaining eight (8) specimens all contained more or less of chlorinated products, and these therefore consisted wholly or chiefly of the artificial oil, that is, of artificial benzaldehyde.

By far the most interesting and instructive part of this investigation we have, however, still to record. In the examination of these oils we had not overlooked the importance of obtaining a sample of the oil supplied by Messrs. Stearns & Gordon. This was an original sealed package, bearing their label and the simple designation "Oil of Bitter Almonds." This proved to be not only *an artificial oil*, but was notably rich in those chlorinated compounds which characterize the artificial product.

In the light of these facts we believe the accuracy of the statements of Messrs. Schimmel & Co. to be fully substantiated, and no further comment on our part is necessary.

Very respectfully,
FRITZSCHE BROTHERS.
New York, August, 1895.

Talcott, Frisbie & Co., of Hartford, Conn., are hustlers from 'way back. Mr. Ed. Frisbie sold in one day last week eight carloads of one article. This firm have the means and ability to do business, and they do it.

Sharp & Dohme's Menthol Inhaler and Cone is one of the handsomest novelties upon the market. It is new in form, light and compact, and is so mounted for counter display that it cannot fail to attract attention. It costs $2 per dozen, and people will soon be looking for this kind of an article.

PHARMACY IN AUSTRALASIA.

Sydney, July, 25, 1895.

English and foreign commercial travelers are greatly concerned about the income tax regulations which have lately come into force in New Zealand, by which they are required to furnish not only a return of the business they do in the colony, but the profit to their principals on the business. It will mean a deal of trouble to the numerous American and English travelers who travel New Zealand several times in the year.

Rich petroleum wells have been discovered at New Plymouth, New Zealand, and shares in the company are in great demand. It is considered by geological experts that there is a large reservoir of oil under Mount Egmont.

An interesting case recently came before Mr. Justice Richmond in the Supreme Court, Wellington, New Zealand, in which Mr. William Todd called upon the Registrar-General to show cause why he should not register him as a medical practitioner. Section 12 of the Medical Practitioners' Registration Act 1869 requires applicants for registration to have "passed through a regular course of medical study of not less than three years' duration." It appears that Mr. Todd entered as a student of the College of Physicians and Surgeons of Chicago on Sept. 23, 1892, and attended what is called the winter course of lectures, beginning on Oct. 5, 1892, and ending on April 15, 1893. Attendance upon three full winter courses of lectures is necessary to qualify for graduation at the Chicago college, so that had the applicant continued as a student at that institution he could not have entered upon his second course until October, 1893. But on the conclusion of his first course at the Chicago college he transferred himself as a student to the Cooper Medical College at San Francisco, where the long six months' term begins June 1 and ends Nov. 30. The authorities at the Cooper College recognized him as a second year's student, and his attendance on the long course from June to November was considered by the institute to constitute his second annus medicus. His third year was regularly completed according to the rules of Cooper College by his keeping at the institute both the long term, June to November, 1893, and the short term of three months—from Feb. 1 to April 30, 1894. Having passed the examination in a satisfactory way, he secured the diploma of Doctor of Medicine from the Cooper College. Thus the applicant passed through his three years' studies in little over a year, and the question before Mr. Richmond was as to whether the three years mentioned in the act meant three calendar years or three academical years. The judge ruled that such a course was not contemplated by the act, and that three calendar years were intended, and he saw no reason for departing from the natural sense of the language employed. He confirmed the Registrar's refusal to register.

The Tasmanian Eucalyptus Oil Co.,

"Platypus" brand, are announcing that the well-known London chemists, Helbing & Passmore, having examined every sample of oil sent to London since their business was established, reported in the Pharmacological Record, just to hand, that in all cases the "Platypus" brand eucalyptus oil contains more than 50 per cent. crystallizable eucalyptol determined by phosphoric acid test. This is equivalent to 40 per cent. obtained by the freezing process. Most of the oils contain more than 50 per cent. and even 60 per cent. eucalyptol, separated by the phosphoric acid test. The company claim, moreover, for their oil a complete and uniform freedom from phellandrene and from other irritant principles.

Mr. Frank Senior, one of the oldest pharmacists of Sydney, died on the 1st of June, in his 75th year. He had been one of the best known figures in the city life of Sydney for a period of over forty years. He was born in Wakefield, Yorkshire, and arrived in Sydney in the early fifties, about three years later entering upon a pharmacy practice in George Street. The business, which was established in 1830, was purchased by Mr. Senior from the then proprietor, Mr. Jenkins, and Mr. Senior's pharmacy has been located in the one spot ever since. Mr. Senior's life was a very active one, and as he was of a philanthropic nature, his energies were mostly directed into benevolent channels. He was at the time of his death one of the oldest (if not the oldest) directors of the Sydney Hospital, having been appointed to the position many years ago by the Government. He was also director on the Board of Management of the Benevolent Asylum and of the Society for the Relief of Destitute Children. For many years he was President of the New South Wales Pharmaceutical Society, was also an associate of the Society for Advancement of Science, and was a member of the City of Sydney Improvement Board. About three years ago Mr. Senior gave up active business, passing the management of his pharmacy over to his son. He generally enjoyed good health, but a fortnight before his death was attacked with angina pectoris and bronchial pneumonia.

The Pharmaceutical Council of New South Wales recently dispensed with the services of the college lecturer, who had been engaged for over two years, in order to appoint the three most advanced medical students at the Sydney University, and thus secure a division of the teaching. The council conferred with the university professors on the subject, with the result that Messrs. G. H. Broinowski, G. P. Dixon and P. G. Cooley were appointed. These three gentlemen have taken first-class honors in every subject connected with medicine and chemistry, and the Pharmaceutical Council are highly pleased at being able to secure their services.

The sensational Dean poisoning case, in which George Dean, a young man, was sentenced to death for attempting to poison his wife with arsenic and strychnine at Sydney, places on record one of the most remarkable cases ever dealt with. The people refused to believe him guilty, and compelled Parliament to appoint a royal commission of inquiry into everything connected with the case and the notorious history of his mother-in-law, Carrie Ashbury. The revelations before the royal commission were of the most astounding nature. The jurymen who had previously found him guilty publicly declared that they would have acquitted him had all these facts been given at the trial. The commission, after sitting twenty days hearing evidence, came to the conclusion that the condemned man did not try to poison his wife at all, but on the contrary, the circumstances pointed to the fact that she had taken the poison of her own will. They recommended the man's immediate release and full pardon, and the Government acquiesced at once. In consequence of an assertion by the medical man who attended Mrs. Dean that strychnine would act as an antidote to arsenic, a number of leading practitioners were called and experiments conducted at the university by the demonstrator of physiology, and this testimony was directly opposed to the antidote theory set up. During the sittings of the commission the decrepit husband of Carrie Ashbury, who had been missing for twenty years, turned up and gave very clear evidence as to an attempt she made upon his life with arsenic nearly thirty years ago. The event created a great sensation.

An attempt to impose upon a lady shopkeeper in Melbourne has resulted in a man named Charles Selwyn, alias Smith, alias Foster, being brought up at the police court on the immediate charge, and also threatened with proceedings under the Police Offenses Act for carrying on a lottery, proof of which was revealed by his arrest. At his place of business in Russell Street, where he traded at the National Drug Co., the detectives found evidence of his being engaged in a lucrative, if illegal, lottery business. His modus operandi was to insert advertisements in the newspapers of different colonies inviting solutions of an illustrated "puzzle." In addition to the chance of a prize of gold and silver jewelry, every remittee of one shilling and three pence worth of stamps was to receive a box of anti-bilious pills. As the "puzzle" was so transparently easy that any one could guess it at the first glance, the answer-orders flowed in at the rate of 70 or 80 a day, stamps being inclosed in nearly all cases. These letters were found in the office with over 1,000 stamps of different denominations from the various colonies. A record was found, too, of a somewhat similar pill lottery in connection with the last Melbourne cup race, showing that on this one venture £866 had been received, £100 of which went to the guessers of the winning horse. The proprietor was thus left £766 for his pills and trouble, a very handsome return. Evidence of other daring projects was found, and memoranda of moneys received which totted up to nearly £2,000.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

Calisaya La Rilla, made by Chas. Allen Reed, 9 Cliff Street, New York, is one of the best things known to "head off" a cold, and it is also advertised in such a manner that people believe it, try it and always keep a supply in the house. Send for some of this advertising matter and see how it affects you.

Dr. Welch's Grape Juice is bottled and hermetically sealed within one hour after the skin of the grape is broken. It therefore contains no alcohol, and is a most desirable beverage for the sick or well. A sample two-ounce bottle will be sent to druggists who have never handled the article, also a formula for making Welch's Grape Soda.

The one advantage in purchasing a sample line of suspensory bandages of Flavell's, 1005 Spring Garden Street, Philadelphia, is that the money is cheerfully refunded if the goods are not satisfactory. But in all their sales they have never been called upon to make the exchange. Six bandages are sent upon receipt of $1.10 or satisfactory reference.

The Upjohn Pill and Granule Co., of Kalamazoo, Mich., have a novel way of selling that commonplace article, the quinine pill. They have a slide box with perforated cardboard diaphragm for holding twelve pills, each pill by itself. It is elegant and attractive and retails for 10 cents. Costs $4.50 per single gross of filled boxes. Over 300 per cent. profit. All jobbers have them.

The quality and effectiveness of Ridge's Food are unquestioned, and it has an advantage for the retail druggist in price. An order, with cash, for one gross, any size, will be sent, charges prepaid, at a discount of 20 per cent. from list prices. Plenty of printed matter will be furnished upon application to the manufacturers, Woolrich & Co., Palmer, Mass.

The sachet powders of the Theodore Metcalf Co., Boston, are among the most elegant productions of the perfumer's art, both in quality and external appearance. An order for Violette to meet the present demand for that odor, and the firm's specialties, Forget-Me-Not, Drop of Dew and Boston Orris, should not be omitted in stocking up for the holiday season.

The latest "fads" have received proper attention from Ed. Pinaud, and lovers of fine perfumes can now obtain the violet extracts: Violet Reine, Violet de Parme and Violet de France in such elegance of package and delicacy of odor as is characteristic of the Pinaud perfumes. Parisian taste now inclines toward the violet. Pinaud's perfumes are inclining American taste in the same direction.

Larkin & Scheffer, St. Louis, give ten reasons why the physician should prescribe their peroxide of hydrogen. All these concern the pharmacist just as much, especially the claims for purity, stability and reasonableness of price.

A cheap, brittle cork in a bottle which the pharmacist has filled with the best drugs, compounded with the greatest skill, gives the customer an impression which is not favorable to the drugs or the skill. Diamond "M" corks give a different impression. They are made by the McCready Cork Co., Chicago.

The upper shelves are usually regions of difficult accessibility to the druggist, who has to use a chair or box to reach them. With the rolling ladders made by the Coburn Trolley Track Mfg Co., Holyoke, Mass., the selling of goods from the upper shelf becomes a pleasure. In fact, with these ladders he can put the upper shelves up to the ceiling, and thus almost double the capacity of his store.

Every druggist knows that the choice of an article for self-medication is influenced by the advertisements concerning it which the public reads. Watching the advertising in the popular journals is, therefore, profitable for the druggist, as probable demand can thus be anticipated. Just now the public is reading about the great French tonic, Quina LaRoche, and it will be wanted. E. Fougera & Co., 26 North William Street, New York, are the importers.

The Pri-mo Ladies' Syringe bases its claim for superiority upon its peculiar form, which makes it an instrument which is anatomically correct. It is perfectly aseptic, can be used without bed pan, and the best of quality and workmanship enter into its construction. It is an article which best customers will buy and physicians recommend. E. J. Hussey & Co., 80 John Street, New York, publish a pamphlet describing it which will interest you.

Goods that give perfect satisfaction and yield a hundred per cent. profit should have the favorable regard of the druggist. A-corn Salve, made by the Giant Chemical Co., Philadelphia, is one of this kind. Order a dozen from your jobber, if you have never sold it before, at 85 cents, and the manufacturers will send you direct a dozen free, with plenty of advertising matter. The returns on this order will amount to $3.60.

The labels and stationery used by a druggist advertise him. If he has an elegant store they should also be elegant. If his store is only of the ordinary kind as regards furniture and appointments, it is just as important that his paper representatives convey a good impression. E. B. Read & Son, of Baltimore, Md., turn out printed work which will give this aid in the most effective manner. Their specimen book, which advertises themselves, will give you an idea of what they can do for you.

David S. Brown & Co., Bank Street and North River, New York, have for some time been making special offers on assortments of their perfumes and toilet soaps which are full of profit for the retailer. Their prices enable the dealer to meet strong competition with first-class goods.

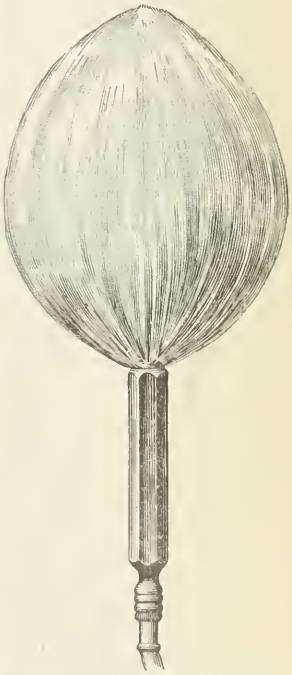
William R. Warner & Co., of Philadelphia, with branches in New York, Chicago and London, had an exhibit at the recent meeting of the British Medical Association. There were 6,000 members present out of a membership of 16,000, and among the visitors in attendance was the senior member of the above firm. In referring to the exhibit made by the firm, the British Pharmaceutical Journal, Aug. 10, says: "As might be expected, their display was characterized by the elegance of style which is conspicuous in the 'get-up' of all their preparations. Effervescent preparations were well represented, both in the granular and tablet form, the more important combinations being Bromo-Soda, Bromo-Lithia and Antalgic Saline. Ingluvin in its various forms, and Cascara, Coca in all their guises were to the fore. The pill industry, which forms such an important branch of the firm's output, was represented by a creditable display of every variety of coating, including the granules and parvules, hypodermic tablets, lentiforms, etc." Under date of Aug. 10, the Hospital, published in London, says: "William R. Warner & Co. show many of their excellent preparations, among which we were particularly impressed with the effervescing salts of various kinds, which are prepared in most convenient and portable form."

Uses of Kola.

The Detroit Journal has recently been investigating kola for the benefit of its readers, and, in referring to the kolavin and kolabon made by F. Stearns & Co. of that city, says: "The firm has a number of agents in the Congo River districts who ship the nuts to London, whence they are reshipped to Detroit, and at the present time they import about a ton of the fresh nuts every month, reserving a quantity out of each importation for experimental purposes. Experiments conducted in the French Army demonstrated that kola was useful as an aid to endurance in the marching of troops, mountain-climbing and other muscular efforts. Experiments made at the same time by the Alpine Club of France showed that this remarkable drug enabled mountain-climbers to ascend great heights with less muscular fatigue, less shortness of breath, and without experiencing hunger for hours at a time. Recently experiments were made with this powerful stimulant in the American Army by medical officers, and it was conclusively shown that kola is exceedingly valuable as an emergency ration, and as a stimulant to enable troops to undergo extraordinary fatigue, and it is prophesied that the new preparation will prove exceedingly valuable to pedestrians or bicyclists who propose to make long journeys."

Henry Thayer & Co., Cambridgeport, Mass., now quote net prices on all their lists of pharmaceuticals, and they have made large discounts from old long prices, particularly on extracts and pills. They ask the retail trade to compare their prices with those of others, with the understanding that all goods bearing the Thayer label are guaranteed as to quality.

Ideal Tablets for lemonade, root beer and orange phosphate are much in evidence. The public is reading about them in magazines, every jobber from Maine to California has them in stock, and the few druggists who haven't got them on their counters should make an effort to get acquainted with the most popular sellers of the season. They cost 75 cents per dozen and retail for 10 cents. Send 12 cents in stamps for sample tube to Billings, Clapp & Co., Boston.



The above illustration shows the manner in which the Ball Nozzle Syringe delivers a stream of water in a thin, hollow, conically-shaped film. There is no question about the utility of this new method. A syringe which will do this will sell. Physicians will recommend it. The retail price is $3, which includes a four-quart fountain bag. There is a good profit for the dealer, and the manufacturers, the American Ball Nozzle Co., 837 Broadway, New York, intend to maintain the price. Write for descriptive circulars and price list.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

New York, Sept. 3, 1895.

The annual convention of the National Wholesale Druggists' Association, which will be in session in Denver during the current week, is monopolizing a large share of attention from the general drug trade throughout the country, and the result will probably be to restrict business to some extent, particularly in the direction of large operations. The labors of the convention and the social features of the occasion are to conclude with an expedition to Pike's Peak on Saturday next, and there is no doubt that the excursion will be one of the most enjoyable affairs in the history of the association. When the visiting members have returned to their respective business sections, the general demand is expected to show an immediate substantial improvement, with increased activity in the movement of most of the leading commodities. Since our last report the inquiry from consumers has continued satisfactory to jobbers, being above the average of this season of the year and in excess of expectations. A noteworthy feature is the gradual increase in the number of mail orders from interior distributing points, and the free use which has been made of the telegraph wire in ordering from remote sections, the latter indicating unusual anxiety on the part of distributers to be prepared to meet the wants of their customers. Price changes during the period under review are more numerous, but the majority is slight and without special significance. Nearly all the declines are in manufactured goods and due to sharp competition between makers, while the advances seem to be perfectly legitimate and the result of natural causes.

OPIUM.—There has been no perceptible improvement in the demand and the market has remained quiet, but, contrary to general expectation, a firmer feeling has developed and holders have advanced their quotations 2½@5 cents per lb. The advance seems to be entirely due to stronger advices from Smyrna, where higher prices are said to have been paid for recent offerings. The consuming trade, however, is very skeptical concerning the stability of the improvement and shows no disposition to purchase in excess of immediate requirements, which continue very light.

MORPHINE—Is somewhat steadier in sympathy with the better feeling in opium, but the demand is not particularly urgent and the market remains quiet.

QUININE.—The situation is practically as noted in our last issue, and further slight gains seem to have been made in the direction of eliminating the speculative element. It has become necessary for large buyers to place their orders direct with domestic manufacturers or agents of foreign makers, as the available stock in second hands is so much reduced that only small jobbing parcels can be offered. The advance in London, referred to last week, is well sustained; it is impossible to import at a profit, and it is intimated that several of the former large dealers are gradually abandoning the quinine branch of their business.

ALCOHOL.—Continued competition has resulted in a further break in prices, although none of the sellers are openly quoting a decline. We are assured, however, that a concession of 1 cent per gallon has been granted in a number of instances.

ACID BENZOIC.—German is quiet and easy, with quotations 1@2c. lower, but the weakness is chiefly in prices of round lots.

ACID SALICYLIC.—Outside sellers have reduced their quotations 1c. per lb, and manufacturers who were members of the old combination have met the decline to the extent that 42c. is now an outside figure for any quantity.

ACETANILID—Is lower owing to strong competition from the West, and large parcels are offering at 1c. per lb under previous prices.

BALSAMS.—All varieties remain unchanged in price, and beyond a continued fair jobbing business in copaiba and tolu there is nothing of noteworthy interest in the general market.

CAFFEINE—Is firmer and tending upward with the inside value fully 50c. per lb higher than a week ago.

COD LIVER OIL—Continues to harden, and prices show a further advance of $2@$3 per bbl. on all desirable grades. The demand is steadily improving, considerable stock has already gone forward to interior distributing points, and indications are that there will be a shortage before the end of the consuming season. The consequence is that holders offer very sparingly and, as a rule, only to regular customers. Advices from Norway report a continued upward tendency there, with stocks steadily diminishing.

OIL PEPPERMINT — Is without quotable change, but there seems to be an undercurrent of firmness, and it is claimed that an increased demand would result in a higher range of prices.

OIL ANISE—Has been quite active, and values are fully 10c. per lb higher. A corresponding improvement is cabled from both London and China.

OIL CASSIA—Is very firm, and a liberal business is reported for both export and home consumption at full figures.

OIL ORANGE.—Sanderson's has been advanced 10c. per lb, and other brands are correspondingly higher.

CREAM TARTAR.—Owing to higher markets for argols abroad, manufacturers have advanced their quotations ½c. per lb for both crystals and powdered.

ACID TARTARIC—Is stronger under the same influence governing the advance in cream tartar, and an early improvement is considered probable.

CAMPHOR—Continues firm with a good trade demand for limited quantities, but quotations remain unchanged.

MILLET SEED—Is obtainable at ⅛c. per lb under previous quotations.

POPPY SEED—Is also fractionally lower and inactive.

SPERMACETI. — The market is firmer in tone, and a small business is reported at an advance of ½c. per lb.

London Market Report.

London, Aug. 24, 1895.

Business during the past week has been rather better, and the drug sales passed off with a slightly improved tone. The principal articles in which American buyers showed interest were Tinnevelly senna, ipecacuanha, Cape aloes and Buchu leaves.

ACID CARBOLIC—Is weaker, and 35° crystals could be bought in 2½ cwt. drums, for ton lots, at 5⅛d. lb, while 40° crystals can be had in quantity at 5½ to 5⅝d.

ALOES, CAPE.—Owing to larger arrivals sold at slightly easier rates, 24s. being paid for fine hard bright. Socotrine in kegs were offered in vain; no buyers responded to 67s. 6d. for softish quality.

ASAFŒTIDA.—A good quantity offered, but only one lot sold at 80s. for good pinky almondy block, for New York.

BUCHU LEAVES.—Good green round were well competed for by American agents, and all sold at 3¼d. lb, being an advance of ¼d. lb.

CAFFEINE.—One English maker continues to offer at 20s. lb, while the other evidently thinks this low price unnecessary. Buyers, however, hold off.

CAMPHOR.—Crude has been quiet this week, but the speculative "bulls" continue their course, and prices close dearer.

CARDAMOMS—Sold at slightly easier rates, fine bold pale Mysores, 2s. 7d. lb; good medium, 1s. 11d. to 2s. 1d.; seeds dearer at 1s. 9d. to 1s. 11d. lb.

CASSIA FISTULA—In better supply, but bulk proved poor quality; fair pods held for 20s. cwt.

COLOCYNTH.—Brownish Turkish apples held for 2s. 6d. lb.

DRAGON'S BLOOD.—Reed in better supply and rather easier; 3 cases sold at £10 17s. 6d. for dull and 1 case bright but damp at £11.

ERGOT OF RYE.—Very dull; 9 bags, small, weevily, sold cheaply at 5½d. to 6½d.

IPECACUANHA.—American orders at 5s. lb executed in part for their wiry quality; bold held for 5s. 4d. to 5s. 8d. Prices show a decline of about 3d.

MUSK.—Quite neglected; fine pile I. thin blue under skins, mixed with a few heavy backs, were not sold, although holder seemed willing to take the low price of 70s. oz. Pile III. in large supply.

MYRRH.—Good sorts sold at 67s. 6d., a low figure.

NUX VOMICA.—In very large supply, and sold at reduced figures.

OPIUM.—Fine druggists' qualities are in small demand at 8s. to 8s. 3d. lb, while seconds are quiet at 7s. 6d. lb.

QUININE—Has been on the move this week, and closes strong at 1s. 1⅜d. oz. for spot second-hand lots.

RHUBARB.—Stocks heavy and demand slow; only 27 cases, out of 186 offered, found buyers at easier rates.

SCAMMONY.—Resin is firm at 8s. lb, owing to the scarcity of roots, which are in small supply. It is said that the Turkish Government has prohibited the export of the roots, desiring to foster home industries. Certain it is that none have been shipped for some time, and 45s. cwt. is asked for the small stocks here. Virgins.—Not a single case is to be obtained in this market; one large consumer has just received 8 cases, which he bought to arrive at 30s. lb for firsts, showing a rise of 6s. lb.

SENNA.—About 370 bales Tinnevelly leaves, mainly of new crop, but containing a large proportion of low small quality, were offered, and practically the whole sold. The low qualities were cheaper, but for medium-sized leaves of good color the competition was very strong and prices in some instances were far above actual value.

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ALCOHOL BLANKS.

Section 61, Act of Congress, dated Aug. 28, 1894, provides for the refunding of the Internal Revenue tax on all alcohol used in manufacturing in the arts and in medicinal or other like compounds. Retail druggists to secure this rebate should be prepared to present accurate record and proof of such use. We have prepared for druggists' use some special ALCOHOL BLANKS for keeping a proper record of alcohol used for manufacturing purposes, with full directions for keeping the record and for preparing your claims to secure the rebates. If you are not keeping such records, *these blanks may save you a lot of money.*

If you are a subscriber to the Era, we will send you a package of these Alcohol Blanks on receipt of 16 cents to cover the expense. *To non-subscribers the Alcohol Blanks are strictly net 50 cents per package*, postpaid.

Address
THE PHARMACEUTICAL ERA,
New York.

THE N. W. D. A. MEETING.

Both national associations representing the drug trade of the United States have now completed the labors of their annual conventions. Both met in Denver, the retailers in August and the wholesalers and manufacturers last week. The National Wholesale Druggists' Association drew out a large attendance, and in every respect the meeting was a pleasurable one, its deliberations being markedly free from any indications of discord, a general fraternal feeling being exhibited. The most important action was the adoption, almost without dissent, of the new rebate plan, modeled after that in force in the grocery trade of New England, and which has been presented in former issues of this journal. The plan is in many respects a radical departure from the system now in force, and its practical operation is looked forward to with interest. The maintenance of a central committee to administer the rebate fund and the narrowing of accommodation to the retail purchaser of quantity lots, whereby he is given no advantage over the small buyer, are the most distinctive features. Proprietors present expressed their approval.

The president offered some most excellent suggestions, which were favorably received, particularly his recommendations that a committee on foreign trade relations and a bureau of information for advertisers be established. He was complimented by special resolutions commending his able and intelligent administration of the association's affairs.

The reports of special and standing committees were as usual full of interest and valuable information, and their recommendations received the customary careful attention of the general body.

In the selection of officers, Minneapolis was honored by the choice of Mr. J. C. Eliel, that city now being represented by two of its business men on the roster of officials, the veteran secretary, A. B. Merriam, of course being re-elected. The mantle of the deceased treasurer, S. M. Strong, fell upon the shoulders of his son, E. L. Strong, who has administered the affairs of the office since his father's untimely and much-lamented death. A general report of the proceedings is presented in the news department of this issue. As to entertainment, it may be said that Denver sustained her splendid reputation for hospitality, and her programme of pleasures had that druggy and characteristic flavor that the Local Committee and the General Committee on Entertainment so well know how to impart. Philadelphia was selected as meeting place for next year.

ALCOHOL CLAIMS.

A California correspondent writes that the wholesalers on the Pacific Coast do not keep record of the alcohol they use for manufacturing purposes, and seem to think that there is "nothing in it," although the retailers keep requesting them to sell alcohol in properly stamped packages. A Buffalo reader wants to know where he can purchase alcohol in stamped containers, saying that his jobbers refuse to sell him larger quantities than four and one-half gallons.

These instances are surely exceptional, for it is hard to believe that there are many wholesale druggists so blind to their own interests as the two types cited seem to be. They are generally credited as a class with greater business sagacity.

Replying to our first correspondent we may say that if the test cases are decided against the Government, the Coast jobbers will assuredly find justified their belief that they are not in it; they will be entirely out of it. Eastern jobbers think well enough of the matter to have already entered claims for many thousands of dollars of rebates.

To our second friend we would offer the advice that he deal with some other house. There are plenty of firms who will take his business, with thanks, and not complain of the little expenditure of energy required to secure these stamps and stick them on to containers.

DISPENSING PHARMACY.

In this issue is presented the paper by the writer on Dispensing Pharmacy, in the series on the Study of Pharmacy. Its scope has been somewhat circumscribed from the fact that other writers in this series have had more or less to say upon subjects generally considered as included in dispensing pharmacy, but it is believed the student will find much that will be of practical service to him in learning the intricacies of compounding.

Compounding prescriptions is essentially the professional part of the drug business, and if the apprentice would become a pharmacist in all that the name implies, he must become familiar with the necessary processes and technicalities of the art. Besides practice and experience, the dispenser requires a considerable fund of information to be satisfactorily equipped for this work. He cannot, of course, carry everything in his head, but he can have at hand a supply of authoritative information from which he can readily draw. Among works of reference and occupying first

place is the Pharmacopœia, which should be the authority and guide for the preparations it names and the substances it defines. This book should be supplemented by a dispensatory, dose book and just as many other works of reference as the dispenser can obtain. It is his mission to put into execution the orders of the physician in the preparation of remedial agents, and if he neglects to thoroughly and intelligently qualify himself for this work, if he neglects accuracy, cleanliness and, withal, gentlemanliness, just so far short does he come of satisfactorily following the course he has marked out for himself.

SOME REASONS FOR POISON LAWS.

The fact that disadvantage and danger lurk in some of the most beneficent agents of progress has led to the institution of various restrictions which apparently act to restrain progress. The latter is continually spurred onward by a demand that things shall be done better and quicker, but at the same time our ingenuity is taxed to provide efficient brakes for instant application when the danger point is reached. There are thus two forces at work, and these are quite evident in the domain of medicine. There is an undoubted tendency in treating disease toward the larger employment of agents which, outside of certain limits as to quantity, are destructive to human life. This statement may be qualified by saying that later developments of this tendency are more of the nature of a change in practice than in theory.

Toxic substances have always been used, but the modern method presents them in concentrated form, the ancient infusion or decoction giving way to the isolated active principle. This improvement has of course been accompanied by the exercise of greater care in the use of certain substances, and has necessitated a change in the classification of poisons. A drug in its ordinary marketable shape, which a few years ago might be sold unreservedly with the assurance that ordinary prudence would insure its proper use, must in its new form or active principle be used only with the greatest caution. In times past, "An eye for an eye, or a tooth for a tooth" formed part of the legal code, and in some of the less civilized countries it still has sanction. This feeling is still rife with us, though in a modified form. The most profound indignation is aroused when an accident occurs in which the slightest negligence is apparent, but instead of demanding a sacrifice in kind, there is a cry for restrictive legislation. This demand will grow greater before it grows less, and this brings us to a consideration of the legal safeguards which are thrown about the sale of the various destructive agents in which the apothecary deals.

From the standpoint of public safety that poison law is the best which throws the most safeguards around the sale of poisons, and in spite of the claim that many of the requirements are onerous, it is the best law for the pharmacist. The public demands all these safeguards, and the only difficulty which the pharmacist encounters is found in that difference between the desires of the individual and the desires of society. The fact that poisons may be used for an illegitimate purpose causes the individual to resent the imputation which is conveyed when society, through the druggist and his registry book, inquires the purpose for which the poison is to be employed. In this is found the reason why many druggists fail to obey the law. As a poison register must be open to the inspection of the local executive department of a State's government, and may become a matter of record in the judicial department, the pharmacist is really a legally qualified officer charged under penalty with the enforcement of a certain law, and it is as much his duty to help enforce it as it is that of the community to aid in protecting him against the depredations of thieves. In many cases of murder and suicide by poisoning justice demands that all evidence shall be easily available. In States where police officials know that the poison cannot be sold unless the pharmacist personally knows the buyer or unless the latter is introduced by an acquaintance of the seller, and where the registry book must be signed by the purchaser and all the details of the transaction recorded, the detection of this particular species of crime becomes much easier, and this risk of detection, made more possible through the law, has a tendency to diminish the frequency of such crimes.

As a good citizen the pharmacist is interested in the improvement of poison laws, and that improvement is desirable is shown by a comparative study of the essential features of the poison laws of all the States now being published in the Era.

A report read at the last meeting of the A. Ph. A. stimulated that organization to take action in the matter by the appointment of a committee to "draft resolutions regarding the registration of poisons." Unfortunately the committee did not have time to present its "poison-registration" resolution, and its declaration in the matter will only be known when the annual proceedings are published. There is surely a chance in this poison-registration matter for the association to do something to justify its existence.

Better poison laws are needed in some States. A national law is out of the question, but that uniformity which a national law would give is exceedingly desirable and its absence is a national reproach. The A. Ph. A. can do much to remedy this by affording representatives of different States an opportunity for meeting, agreeing upon necessary or uniform legislation, and then working for the proper enactment in their respective States. Let the committee appointed at Denver keep itself in existence until the next meeting, draft a poison law which will cover the ground completely, communicating with the various legislative committees of the State associations in the interval, and at Montreal next year, upon alien soil, far removed from local prejudices, an agreement may be reached which will pave the way for this desired uniformity in poison legislation. The individual druggist by reading the digest of laws in these columns may discover by careful comparison features which might make the laws of his own State more effective, and an expression of his views will not only aid the officers of the State and national organizations in determining what is needed, but will give them a stimulus for the work which will be heartily welcomed.

UNIFORMITY IS DESIRABLE.

A paper presented at the Denver meeting of the A. Ph. A. was of a nature to demand the most thoughtful consideration of that element among druggists which is working to bring order out of chaos in the matter of educational standards and legal requirements. The writer gives the results of correspondence with the State boards of pharmacy undertaken with a view of ascertaining their examination methods and requirements, in the hope of striking a fair average, or, at least, of presenting the facts gleaned from their replies in a manner to indicate the lines along which changes and improvements should be inaugurated.

The questions submitted to the board secretaries were simple and easily answered, yet replies were received from only half the number addressed, showing thus in some quarters a lack of courtesy and the existence of a "tired feeling" which are unpardonable. Still, from the meager returns one is able to form a general opinion of the diversity of our pharmacy laws which argues forcibly for the necessity for a general overhauling of them to bring them to a uniformity of requirement, so that a druggist found competent in one State may not be debarred from, but is found competent to follow, the practice of his profession in all other States. It is shown that the different boards have different grades of licentiates; the legal titles of the licentiates vary in different States; age requirements are not uniform and are frequently left to be fixed by the boards themselves. Half of the boards who reply state that they submit the same list of questions to applicants of both grades, making the grade of certificate issued to depend upon the percentage of correct answers returned. Thus, an applicant may fail to make the grade required for registered pharmacist, but may make the percentage required for assistant pharmacist, and be registered accordingly. All but one of the boards using this plan speak favorably of it, and believe it superior to the plan of using separate lists of questions. Against the latter method they urge the fact that it is almost impossible to make a proper difference between the two lists of questions, and argue that the answers to one list, selected from the questions which every one employed in a pharmacy ought to know, are sufficient to demonstrate the fitness of the candidate to receive either the first or second grade of certificate or his unfitness for either. Practical work, other than the identification of drugs and reading of prescriptions, is required in only a few

States. Nearly all the boards admit the necessity for practical work as a means of determining a candidate's fitness for registration, but plead the fact that their limited financial resources and the obligation of holding their examinations in three or four cities in the State render such examinations impossible. The experience requirement ranges from nothing at all to two years for assistants and five years for registered pharmacists. In the majority of cases three years is the requirement. In many States the law makes no provision as to the experience of the candidate, and the requirement, if one exists, is simply a rule of the board. In only a few cases where experience is required is any distinction made as to the kind, and then only to the extent of requiring that it shall be in a store where prescriptions are compounded, the character of the work done by the candidate not being specified.

These facts are not at all new, they have long been known to all of us, but the writer of the paper has done good service in collecting them into orderly form and presenting them in so convincing a manner. There is without doubt on the part of a few boards a laziness, supineness and lack of interest and desire to do their best and to benefit the profession, and the sooner such boards are given to understand that they must wake up and work or else resign their offices the better it will be for the trade in the States they misrepresent. But the majority of boards, we believe, are earnest and hard workers, laboring against discouragements and obstacles of infinite variety, despite all showing a record of improvement and advancement which is highly creditable.

Yet each of these boards is working independently, without regard to the purposes and results of others. Their lines of labor may be parallel, but they should be all in one plane, one line, with a like object and like methods of attaining it. Therefore does it seem a vital necessity that the boards should as soon as possible frame and adopt uniform requirements and some method of interchange of certificates. Just how to do all this may be safely left to the boards themselves, which are, as a rule, composed of the best posted, most practical and most truly representative pharmacists in their respective States. It is essential, however, that there be council between them, that they meet in convention and therefore the failure of the attempt at a gathering in Boston last spring should not deter them from another and still another effort to this end. Get together, gentlemen, and work this thing out.

King Bros., Fayetteville, N. C.—We read every word in the Era and believe it worth a great deal to any retail druggist.

C. R. Taggart, River Falls, Wis.—I am a subscriber to the Era and find it my most necessary and valuable periodical.

D. Stires, Carl Junction, Mo.—I read the Era every week and find many valuable things in it. The Era is a valuable journal to us and it is highly appreciated. We expect to continue the Era as long as we can pay for it.

PRACTICAL HINTS.

——A great many State laws give lists of poisons, some of which must be labeled and some labeled and registered. It is sometimes difficult to remember all of these. It is a good idea to place a label as a reminder upon every container or shelf bottle in which such substances are kept. The classes may be designated thus, "poison label" and "poison label register."

——A druggist needs lots of scientific knowledge to carry on his business, but he also needs a lot of tact and diplomacy to gracefully "turn down" a misguided customer who insists upon his buying old bottles. There are plenty of reasons why this should never be done, but in case the insistence is strong the price should be the market quotation for broken glass, and the purchase should be reduced to cullet. The reason for this operation should be fully explained to the customer.

——The druggist should be well informed concerning the articles he sells, so that he may assist, judiciously, the customer in his selection. This means, not especially the drug part and professional side of his business, for here the druggist applies his special knowledge, and the customer is not to be informed of the mysteries of the compounding table, but it has reference to the many lines and variety of articles which constitute the ordinary mercantile stock in the drug store. On these the druggist should be as well posted as should the grocer on the relative merits of sugars, spices and baking powder, or the draper on linens and silks. Whose brushes are the best and why they are the best, what are the excellences of one perfume over another, what are the general outlines of the processes of manufacture of the goods dealt in. Such a well-informed druggist gets and holds trade, as does any live merchant in other branches.

——A drug store in this city has a sign which is particularly noticeable, and suggests a direction in which druggists generally could do a good work for the benefit at least of the appearance of their premises, if not for their business in general. A bright, tasty, attractive sign may cost something, but it is far preferable to the dingy, weather-beaten inscription over the entrance to many an apothecary shop. The modern artistic sign painter can help you out to a very satisfactory extent. The sign alluded to above consists of a number of sheets of silvered glass framed side by side in a metal molding. Each sheet bears one letter of the proprietor's name cut from ruby glass and cemented to the background, which has been chipped to give a crackled appearance, and the whole effect is very brilliant and artistic. There should be novelty in signs nowadays as well as in other particulars, and it must be remembered that the object of the sign is to attract attention.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

Few people living in mosquito-infected sections of the country will bear the affliction of these pests if they know of any reasonable plan for getting rid of them. This willingness to spend money for a commendable purpose should be encouraged by the druggist. His representative the local paper, which is welcomed in every family, should spread the news that he has anti-mosquito preparations for sale. There are many people who are ignorant of the fact that relief can be found in the drug store, and the news will be welcome. They will be more apt to remember it if they have been impressed by a picture in connection with some talk on the subject. Our sample advertisement carries out this idea. There are many formulas for making the preparations indicated, and a few are given on another page.

(No. 30)

Freedom from the attacks of mosquitoes costs 25 cents.

People who have lain awake all night fighting these pests, or have had a picnic or fishing trip spoiled by them, are often willing to pay more. But we are reasonable in the matter, and charge only 25 cents for our Mosquito Lotion, and the same price for our Mosquito Pastilles. Both are effective.

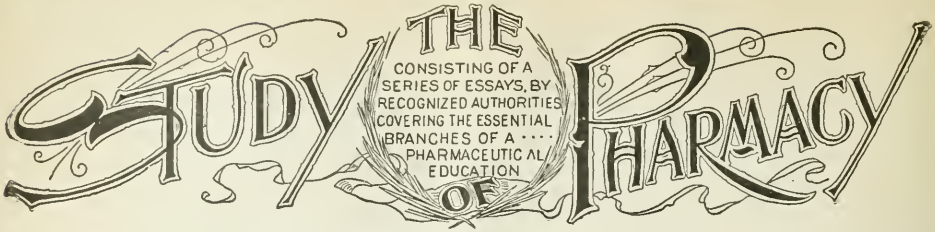
KNIGHT & DAY,
Druggists.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

DESERVES CREDIT.

D. J. Gunter, Ridgeway, S. C.—I consider the articles on the Study of Pharmacy to be the best I have ever read. They are scholarly, scientific and up to date. They will doubtless exert a salutary influence in pharmaceutical educational circles. The Era deserves credit for this display of characteristic enterprise. Success to the Era.

A. C. Beardslee, Hecla, Ind.—I think so much of the Era that were it to stop publication I would quit business. Cannot get along without it. It is always up to time, and is worth its weight in gold if the druggist follows half of what it tells him. The ads for retail druggists are worth each week the price of the paper for a year, if they advertise as they should.



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[Continued from page 295, September 5.]

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XXIII. DISPENSING PHARMACY.

By E. J. KENNEDY, Ph. C.

Dispensing in its broadest sense may be rightly understood to cover every act of the retail pharmacist in supplying medicines and remedies called for in the transaction of his business. Among pharmacists, however, it has a restricted or special application, and may be defined as that branch of pharmacy which deals with the preparation and compounding of drugs or medicines ordered upon prescriptions.

The Dispenser's Qualifications.

To ably and acceptably fill his position, the dispenser must possess many qualifications. It is a position that carries with it great responsibility and the one above all others where the pharmacist is a professional man. The dispenser must be an educated man, and, besides, have a thorough knowledge of the substances with which he deals. He must be proficient in chemistry, know the reactions and properties of substances which he combines, and understand their physiological effects upon the human economy. He must have at his command the resources of the materia medica and the substances which enter into the armament of the physician in combating disease. To make these qualifications apply to his everyday work, he must have at his fingers' ends, within easy reach, every article in his stock and know its cost and selling price. Besides, he must be an accurate, rapid and neat workman, conscientious and honest, a gentleman in dress, appearance and behavior. The person who would attempt to fill the position described will be handicapped to that degree in which he comes short of possessing the qualifications outlined. How then can the young man prepare himself for these duties?

His Training.

The necessity for a good general education as a foundation upon which to build a professional knowledge is so well recognized at the present time that no one of any standing argues against it, much less does he think that one can successfully follow a pharmaceutical career without it. Unless a person possesses such a sub-structure he would better, for his own good and the welfare of the community, adopt some other calling and leave the drug business alone. But given a good general education, dispensing pharmacy holds out to him who would thoroughly qualify himself to follow it many inducements besides that of financial remuneration.

All of the operations included in practical pharmacy are subservient to the art of dispensing or compounding prescriptions. The principles of chemistry, as set forth by previous writers in this series of articles and in text-books upon the subject, must be learned. Materia medica must be studied, and dosage, prescription Latin, weights and measures, etc., receive consideration. Supplementing this knowledge there is a training which cannot be gained from books, an equipment which must be acquired by actual experience behind the dispensing counter.

The Dispenser's Relations.

The dispenser occupies a peculiar position between the physician and the patient. In this capacity he is pursuing a distinct line of work, in which he is just as much of a specialist as is the physician in his sphere. These distinct lines must be preserved, and it is the duty of the dispenser to cultivate harmonious relations with the physician, and to do everything in his power to maintain them. This contact must be arranged upon the high plane of professional equality. The prescriber and dispenser are co-laborers in the cause of humanity. Neither can dispense with the services of the other, and both can accomplish more in the aggregate than either can accomplish by working alone. Upon his part, the dispenser must use every effort to stand in the good graces of the physician whose prescriptions he compounds, and to steer clear of the shoals in the stream between his own and the latter's field of work.

The Prescription.

Under the head of dispensing pharmacy are considered the preparation and dispensing of medicines as occasion demands, usually for immediate use and upon the order of the physician. This order, whether given verbally or written, is the prescription, a term employed by physicians and pharmacists for the formula and directions given by the former to the latter for preparing medicines to be administered to the patient. In its more popular sense it is given as a name for both the prescription and the paper upon which it is written.

For convenience, prescriptions are divided into those of a permanent character, that is, those in which the formula is given by some official or standard work, as a pharmacopœia or a dispensatory, and those written by the physician for a special purpose and to be prepared extemporaneously.

A typical prescription is written in the following order:

1. The superscription,
2. The inscription, Remedy.
3. The subscription, Misce.
4. The signature, Signa.
5. The prescriber's name.

Taking the parts of the prescription in their order for further explanation, we have the superscription, which is the sign ℞, an abbreviation for the Latin word recipe, "take." In this connection it is interesting to note that this sign, which is almost always placed at the head of the prescription, is derived, according to some authorities, from the astronomical sign for the planet Jupiter. In ancient times it was customary for the physicians who worshiped at the shrines of the gods of Olympus to invoke the blessings of Jupiter or others on the remedies to be taken by a formal prayer placed at the beginning of the prescription. In the process of time this prayer was contracted to the sign of the deity whose special blessing was invoked. The second part of the prescription is the "inscription," which consists of the names of the drugs in the genitive case (the vehicle in the accusative if "ad" is used with it), and their doses in the accusative. (For grammatical construction of the prescription see article, "Latin for Pharmacy Students," by Dr. F. H. Gerrish, April 4, 1895, Era, page 420.) The names of the various ingredients of a prescription, with their quantities, are usually arranged in the following manner: The basis or principal active agent; the adjuvant (assistant, auxiliary) or ingredients which are designed to assist or aid the action of the basis; the corrective (corrigent), the ingredient designed or calculated to correct or modify the action of the basis; and, last, the vehicle (excipient, diluent) which is designed to impart to the whole a proper form and consistence, besides diluting the active constituents and giving to them a pleasant and agreeable form in which to be administered. The subscription is the directions to the dispenser. Under the signature are the directions for the patient. These are followed, or should be followed, by the physician's name or initials, the patient's name (sometimes placed at the top) and the date. The

following prescription may serve to illustrate the above definition:

Superscription, ℞.
Inscription:
Basis, Tincturæ aconiti.....mxij
Adjuvant, Spiritiætheris nitrosi.f ʒ ij
Corrective, Syrupi aurantii.....f℥ss
Vehicle, Aquæ q. s. ad.....f℥iij
Subscription, Misce.
Signature, Sig. Teaspoonful in water every two hours.
Physician's name, Caldwell, M. D.
Date and name of patient, 7, 15, 1895. For Ned Hartshorn.

How Doses Are Calculated.

A dose is the quantity of a medicine which, when taken, will produce therapeutic effects. It varies with age, sex, idiosyncrasy and general condition of the patient. The method of administration also affects the size of the dose. Generally hypodermatically, but one-quarter or one-half as much as by the mouth is given, while enemata require about twice the ordinary dose. Then, too, the dose of the same remedy varies greatly with the object for which it is administered. For instance, ipecac in large doses is an emetic, while in small doses it is often prescribed to correct obstinate vomiting.

As already indicated, the dose must be diminished for children, females and aged persons. The following rules serve to proportion the dose according to the age of the patient:

For an adult, suppose the dose to be 1 or 1 dram (60 grains). A child under 1 year would require 1/12 or 5 grains; under 2 years, ⅛ or 8 grains; under 3 years, ⅙ or 10 grains; under 4 years, ¼ or 15 grains; under 7 years, ⅓ or 1 scruple; under 14 years, ½ or ½ dram; under 20 years, ⅔ or 2 scruples; from 20 to 60 years, the full dose 1 or 1 dram. Above 60 years an inverse gradation should be observed.

Doses for Children—Young's Rule.

Add 12 to the age and divide by the age. Use the quotient as the denominator of a fraction whose numerator is 1. This fraction will represent the size of dose compared with that for an adult. Example—For a child 2 years old: 2 + 12 = 14. Divide by 2 = 7. The dose is 1/7 of that for an adult.

Wiggins' Rules for Doses.

1. The dose of all infusions is 1 to 2 ounces, except digitalis, which is 2 to 4 drams.
2. All poisonous tinctures, 5 to 20 minims, except tincture of aconite, which is 1 to 5 minims.
3. All wines, from ½ to 1 fluid dram, except wine of opium, which is 5 to 15 minims.
4. All poisonous solid extracts can be given in ½-grain doses, except extract of calabar bean, which is 1/16 to ¼ grain.
5. All diluted acids from 5 to 20 minims, except hydrocyanic acid, which is 2 to 8 minims.
6. All waters from 1 to 2 ounces, except cherry-laurel water and water of ammonia, which are 10 to 30 minims.
7. All medicated syrups 1 dram.
8. All mixtures from ½ to 1 fluid ounce.
9. All spirits from ½ to 1 fluid dram.
10. All essential oils, 1 to 5 minims.

It is very important that the dispenser be familiar with the doses of medicines, and to this end he should have at hand two or three standard works upon therapeutics and posology for reference purposes. To determine whether a dangerous or excessive dose of any drug is given in a prescription it is necessary to calculate how much of that drug, and of the other drugs as well, is contained in a given dose. In writing his prescription the prescriber first determines what remedies he will give and their respective doses. Having decided upon the number of doses required, he, by multiplication of the dose of each remedy by the whole number of doses, arrives at the quantity of each ingredient needed for his prescription. In the above prescription the prescriber has decided to give tincture of aconite and spirit of nitrous ether in a suitable vehicle. He wants twenty-four doses which, if he gives a teaspoonful at a time, will make the mixture measure 24 fluid drams (1 teaspoonful = 1 fluid dram), or 3 fluid ounces. The doses of tincture of aconite and of spirit of nitrous ether (which he determines to give) are ½ minim and 5 minims respectively. Now, by multiplication he gets his quantities as follows: 24 doses of tincture of aconite (24 × ½ = 12 minims; 24 doses of spirit of nitrous ether (24 × 5) = 120 minims, or 2 fluid drams; 24 doses of syrup of orange (24 × 10) = 240 minims, or ½ fluid ounce. To these ingredients enough water is added to make the desired quantity.

To find the quantity of any drug in a dose of a given prescription, it is only necessary for the dispenser to reverse the method of calculation and divide the whole quantity of each drug prescribed by the number of doses in the mixture. Thus, in the above prescription we wish to ascertain how much tincture of aconite the patient will receive at a dose. He is directed to take a teaspoonful of the mixture which measures 3 fluid ounces. What part of 3 fluid ounces is 1 teaspoonful, or how many teaspoonfuls are there in 3 fluid ounces? Twenty-four. Then each time the patient takes a dose he must take 1/24 of everything there is in the mixture, and 1/24 of 2 fluid drams is 5 minims. In this way the dispenser should carefully ascertain and recalculate the doses of each ingredient in every prescription he compounds. It may be that the physician has made an error in calculation, and it is the business of the dispenser to note it.

For the dispenser's convenience the following table has been arranged, the use of which is self-explanatory:

TABLE OF DOSE EQUIVALENTS.

Showing the proportional amount of drug contained in each dose of any mixture from 1 ounce to a pint, with any given amount of drug.

SIZE OF MIXTURE AND GRAINS IN EACH TEASPOONFUL.

The amount of Drug in Grains contained in each dose or Teaspoonful will be	Size of Mixture													
If the Amount of Drug used is — Grains:	½ oz	¾ oz	1 oz	1½ oz	2 oz	2½ oz	3 oz	4 oz	4½ oz	6 oz	6½ oz	8 oz	12 oz	16 oz
	4 Doses	6 Doses	8 Doses	12 Doses	16 Doses	20 Doses	24 Doses	32 Doses	36 Doses	48 Doses	50 Doses	64 Doses	96 Doses	128 Doses
1/50	1/200	1/300	1/400	1/600	1/800	1/1000	1/1200	1/1600						
1/32	1/128	1/192	1/256	1/384	1/512	1/640	1/768	1/1024						
1/16	1/64	1/96	1/128	1/192	1/256	1/320	1/384	1/512						
1/10	1/40	1/60	1/80	1/120	1/160	1/200	1/240	1/320	1/360	1/480				
1/8	1/32	1/48	1/64	1/96	1/128	1/160	1/192	1/256	1/288	1/384				
1/6	1/24	1/36	1/48	1/72	1/96	1/120	1/144	1/192	1/216	1/288				
1/5	1/20	1/30	1/40	1/60	1/80	1/100	1/120	1/160	1/180	1/240	1/250	1/320		
1/4	1/16	1/24	1/32	1/48	1/64	1/80	1/96	1/128	1/144	1/192	1/200	1/256		
1/3	1/12	1/18	1/24	1/36	1/48	1/60	1/72	1/96	1/108	1/144	1/150	1/192		
1/2	1/8	1/12	1/16	1/24	1/32	1/40	1/48	1/64	1/72	1/96	1/100	1/128	1/192	1/256
1	1/4	1/6	1/8	1/12	1/16	1/20	1/24	1/32	1/36	1/48	1/50	1/64	1/96	1/128
2	1/2	1/3	1/4	1/6	1/8	1/10	1/12	1/16	1/18	1/24	1/25	1/32	1/48	1/64
4	1	2/3	1/2	1/3	1/4	1/5	1/6	1/8	1/9	1/12	2/25	1/16	1/24	1/32
8	2	1 1/3	1	2/3	1/2	2/5	1/3	1/4	2/9	1/6	4/25	1/8	1/12	1/16
10	2 1/2	1 2/3	1 1/4	5/6	5/8	1/2	5/12	5/16	5/18	5/24	1/5	5/32	5/48	5/64
16	4	2 2/3	2	1 1/3	1	4/5	2/3	1/2	4/9	1/3	8/25	1/4	1/6	1/8

Percentage Solutions in Prescriptions.

Very often a physician writes a prescription calling for a solution containing a certain percentage of a medicament, say 1 fluid ounce of a 4 per cent. solution of cocaine; the question arises, How much cocaine must the dispenser use, and how does he make his calculation? Percentage means for each 100, hence a 4 per cent. solution of any substance would contain in every 100 grains of the solution 4 grains of the substance and 96 grains of the solvent. Demonstration:

A fluid ounce of distilled water at normal temperature weighs 456.392 grains, so that 4 per cent. of 1 fluid ounce would be as the proportion 100 : 4 : : 456.392 : x = 18.25568. Subtracting 18.25568 grains from 456.392, or the weight of a fluid ounce of water, gives 438.13632 grains of water in which to dissolve 18.25568 grains of substance to obtain a solution weighing 456.392 grains. In this calculation it is assumed that 1 grain of the solution occupies the same volume as 1 minim of the water. This is not really the case, so that a 4 per cent. solution measures a little less than 1 fluid ounce. If it be desired to dispense exactly 1 fluid ounce of the solution, the only practical way is to prepare a little more than is wanted and throw away the surplus. Wilder gets the same thing and simplifies the calculation by taking the nearest convenient round number to the weight of the required quantity, dissolves in it the requisite number of grains of the salt, and, after filtration, measures off the required quantity, throwing away the excess. In order to make a fluid ounce of 4 per cent. solution of a salt in water, he takes the nearest convenient round number, which is 500 (a fluid ounce of water weighing 456.392 grains), and dissolves 5 times 4 grains of salt in 500 less 20 grains of water, and, after filtration, measures off 1 fluid ounce. Another method is the following: Let a represent the weight of the solvent, be it grains, grams or pounds; b the desired percentage strength of the solution to be made, and c the number of grains of salt required to be added to a. We now have the formula

$$\frac{a \times b}{100 - b} = c$$

The total number of grains, grams or pounds representing the weight of the finished solution must be a + c. Suppose we wish to make a 4 per cent. solution of cocaine with a fluid ounce of water as the solvent. How much cocaine will be necessary? Four per cent. denotes $^4/_{100}$ of the weight of the finished solution, and hence the weight of the water must represent 1 — $^4/_{100}$ or $^{96}/_{100}$ of it; $^{96}/_{100}$ of the solution (water) is 456.392 grains. If 456.392 is $^{96}/_{100}$ of some number, $^1/_{100}$ of that number must be $^1/_{96}$ of 456.392, or 4.754. If 4.754 be $^1/_{100}$ (or 1 per cent.), $^4/_{100}$ (4 per cent.) will be 4.754 × 4, or 19.0163 grains.

Another method of arriving at the same result is by proportion: Let 1 represent the weight of the desired solution, 4 per cent., or $^4/_{100}$ of which is cocaine. Then 1 — 0.04 = 0.96. We already know that 456.392 grains is 96 per cent. If 96 per cent. of some number is 456.392, how much is 4 per cent.? By proportion we get the following statement:

$$0.96 : 0.04 : : 456.392 : x$$
$$x = 19.0163$$

Now let us see if we can prove our demonstration. The solution when completed must weigh (456.392 + 19.0163) 475.408 grains.

$$475.408 \times 0.04 = 19.016 \text{ grains (cocaine)}$$
$$475.408 \times 0.96 = 456.392 \text{ grains (water)}$$
$$456.392 + 19.016 = 475.408$$

Prescription Files.

Not the least important among the necessities of the prescription store is the prescription file. One of the earliest methods in use, and perhaps the one most used, is to place the prescriptions in a large book, and retain them there by pasting the backs of the prescriptions upon the leaf upon which they are placed. Another method admits of placing a larger number of prescriptions in the same book. This is done by placing the number of the prescription on the upper corner at the right, then fold over the bottom, the lower edge appearing just below the number, then another fold may be made in the same manner. The prescription may then be secured to the book by pasting the upper edge on the back of the leaf; or the prescription may be folded from the bottom until it reaches the top, and the second fold may be made from the left and over to the right; the back of the upper corner at the right may be pasted to the book. In this case the number should be placed on the outside of the fold, for ready reference.

A device known as Colby's prescription file consists of a cloth leaf or sheet, on each side of which are 100 small pockets, adjusted in rows of 10 each way; the outer margin of the leaf on the top, and at one side, is marked with a number for each row. Thus any number may be readily found. The prescriptions are folded in such a manner that one may be placed in each pocket. Various other devices have been suggested to do away with the annoyance of pasting the prescription or having to lift a heavy book to the prescription case each time the pharmacist wishes to refer to an old prescription.

Another method is to keep the prescriptions put away in packages of 100 each, thus: Beginning with the first 100 prescriptions pass a very strong piece of twine through their upper right-hand corner, and attach to it, on each side, a heavy piece of cardboard a little larger than the prescriptions. Tie the two ends of the twine loosely against the prescriptions, leaving a few inches of the ends. On the outside of both cards write plainly the beginning and closing numbers, also the beginning and closing dates. Construct each succeeding hundred in the same way, and with the ends of the twine connect it with the preceding series. When a thousand have been so arranged, place them in a suitable box, recording on one end the beginning and closing numbers and dates.

Prof. A. B. Stevens some years ago proposed the following method, the advantages which he claims for it being convenience, compactness and inexpensiveness: The prescriptions are kept in a common drawer, of any length, but it should be 4½ inches deep and 5½ wide. Wider drawers may be used if divided by light partitions into spaces 5½ inches wide. The prescriptions are placed edgewise in the drawer, commencing at the rear of each space and continuing toward the front until the space is filled. Should any of the prescriptions be too large for the space, they may be folded to the desired size, though usually this is unnecessary. A piece of cardboard, a little wider than the prescriptions, should be placed between each hundred prescriptions, with the number of hundreds marked plainly on the top of the cards. Cards of different colors may be used to indicate the thousands and half thousands. This inexpensive device aids the eye, so that any desired prescription may be taken out instantly. A few blank cards of different colors should be kept in the front part of the drawer, to be used as marks when a prescription is removed, and should be allowed to remain until the prescription is returned to its place.

When the drawer is but partially filled with prescriptions they tip forward. This may be prevented by placing a small paper box in front of them, or better still, two pieces of wood, one nailed by the edge at a right angle to the center of the other. A sharp brad placed so that it will project from the bottom of the piece will prevent it working back and forth by the opening and closing of the drawer.

A ready method of binding prescriptions is furnished by the use of a Mann's binder, which is described in Remington's "Practice of Pharmacy." It consists of two durable stiff covers having a wrought-iron strip riveted to the edge of each; two long strips are fastened to one of the strips; these pass through two screw-holes in the other strip, and the covers are kept in place by two adjustable brass cylinders split longitudinally in the center, having a solid disk at the top with a screw-hole in the center, and at the bottom the same kind of a disk cut in two. The split cylinders are flared somewhat at the bottom, and are made to approach each other by a ring; by slipping this ring down, the edges of the bisected disks are brought together, and these can then be screwed down so as to hold securely; they can be instantly released, however, by pushing the ring up. The advantage of this binder is that it can be so readily converted into a temporary or a permanent binder. One month's prescriptions can be placed upon one screw by punching out a hole in the side of the prescription with a circular punch, and another month's upon the other screw; then, if the solid disks are screwed to the ends of the screws projecting from the screw-holes, the brass cylinders can be broken off, and the volume for two months is

completely bound; a stout piece of muslin should now be glued to the backs, and a finish given to the binding by gluing upon this a strip of red leather, labeled distinctly with the first and last number of the prescriptions.

Incompatibilities.

Incompatibility has been defined "as that condition in which there exists either a chemical decomposition, a pharmaceutical dissociation, or a therapeutical opposition of its constituents." By chemical incompatibility is meant that change which takes place when one or more new compounds are formed which were not expected by the prescriber. There are many prescriptions written, however, which are examples of chemical incompatibility, as for instance, the "washes" made by the addition of calomel or corrosive sublimate to lime water. In preparing these mixtures reactions occur which are intended by the prescriber. (See Lotio Flava and Lotio Nigra in the National Formulary.)

How shall I know when reactions are likely to occur in mixtures? This question can be pretty well answered by quoting the well-known laws of Berthollet:

1. When two or more substances are brought together in solution, if by any rearrangement of the atoms a product can be formed which is insoluble in the liquid present, that substance will form and separate as a precipitate.

2. When two or more substances are brought together in solution, if a gaseous or volatile body can form it will do so and escape as a gas or vapor.

In other words, if any aqueous mixture contains the elements to form an insoluble compound, that compound will be formed. The more common insoluble salts are the carbonates, borates, phosphates, arseniates, hydrates and tannates of the alkaloids and metals, sodium, potassium, ammonium and lithium excepted. The chlorides, bromides, and iodides of the first group metals, i. e., silver, lead and mercurosum, are insoluble.

The second law of Berthollet above quoted has its most frequent application in the combination of carbonates with stronger acids than carbonic, which, indeed, is about the weakest known. When powerful oxidizing substances, such as nitric and chromic acids, potassium chlorate and permanganate, are brought into contact, forcibly or otherwise, with readily combustible compounds like glycerin, sugar, phosphorus, sulphur and ether, highly explosive gases (or liquids or solids) are liable to be produced.

A few further rather axiomatic principles remain to be stated: Acids and bases are evidently incompatible, since when brought together they always unite to form salts, which may or may not be insoluble. Stronger acids will displace weaker ones from their combinations in salts; alkaline hydrates and carbonates likewise decompose salts with weaker bases, as salts of the alkaloids, etc. Glucosides are decomposed into glucose and other compounds by free acids and alkalies. An example of this kind is that in which ammoniated glycyrrhizin is directed to be compounded with quinine sulphate and sulphuric acid.

Following is a list of incompatible substances:

Acetanilide.—Ferric salts.
Acids.—Alkalies, acetates, metallic oxides and salts, alkaloids.
Acid Arsenous.—Lime water, ferric hydrate, dialyzed iron, salts of iron and magnesium, chromic acid, tannic acid, gold and silver salts.
Acid Benzoic.—Fuming nitric acid, chlorine, ferric salts, lead acetate, corrosive sublimate, silver nitrate.
Acid Carbolic.—Albumen, chloral hydrate, collodion, bromine, chlorine, nitric acid, salts of iron.
Acid Salicylic.—Salts of iron, potassium chlorate, lime water, hydrochloric acid, fuming nitric acid.
Acid Tannic.—Metallic salts, alkaloids, albumen, gelatin, mineral acids and heat.
Albumen.—Acids, corrosive sublimate, sulphate of copper, alum, substances containing tannin, carbolic acid, alcohol, collodion and aniline.
Alkaloids.—Tannin and substances containing it (alkaloidal reagents), alkalies, alkaline earths, iodine and its compounds, Donovan's solution, picric acid, gold salts, corrosive sublimate.
Alum.—Iron and zinc sulphates, alkalies, alkaline carbonates.
Amyl Nitrite.—Alcohol, tinctures, alkaline carbonates, calomel, lead salts, ferrous salts, alkaline iodides, morphine hydrochlorate, solution potassa.
Aniline.—Albumen, iron, zinc and aluminum salts (soluble), acids.
Antimony and Potassium Tartrate.—Alkalies, solutions containing tannin, alcohol, acids, soap, calomel.
Antipyrine.—Carbolic acid, nitric acid, nitrites, iodides, corrosive sublimate, calomel, tannic acid, chloral hydrate, sodium bicarbonate, sodium salicylate.
Apomorphine Hydrochlorate.—Carbonates of the alkalies, salts of iron, iodic acid, potassium iodide and permanganate, silver nitrate, mercuric chloride.
Barium Salts (soluble).—Sulphuric and phosphoric acids and their salts, carbonates, tartrates, medicinal wines, vegetable infusions.
Bismuth Subnitrate.—Tannin, ferrous sulphate, sulphur, chlorinated lime, mercurous and mercuric salts, sulphides, ethereal oils, antipyrin.
Bromides.—Mineral acids, many alkaloids, strychnine, chlorine, nitrate of silver, mercurous chloride.
Bromine.—Oil of turpentine, chlorine, vegetable colors, albumen, starch paste.
Cadmium Salts (soluble).—Alkalies, sulphides, soluble carbonates, oxalates and phosphates, potassium ferrocyanide.
Caffeine.—Silver nitrate, corrosive sublimate, chlorine.
Camphor.—Chloral, resins, carbolic acid, iodine (in the cold), bromine, sulphuric and nitric acids.
Charcoal.—Tannin, alkaloids, bitter principles, most metallic salts, iodine gases.
Chloral Hydrate.—Carbolic acid, camphor, antipyrin, hot water, alkaline carbonates, alkaline salts (from vegetable acids), mercuric salts, mercurous salts, iodides, potassium chlorate, nitric and sulphuric acids, cyanide of potassium.
Chlorine Water.—Alkalies and their carbonates, metals of the first group, salts of vegetable acids, substances containing tannin or other organic matter, vegetable colors, iodides, arsenous acid, emulsions, etc.
Copper Salts.—Iron, zinc or earth metals, alkaline carbonates, water of ammonia, potassium ferrocyanide and iodide, hydrogen sulphide.
Glycerin.—Borax, chlorine and chlorinated compounds, potassium permanganate, chromic acid, silver nitrate and all oxidizing agents.
Glycyrrhizin Ammoniated.—Acids.
Guaiacol.—Alkalies, gold, silver and copper salts, ferric chloride.
Gum Arabic.—Alcohol, soluble lead salts, tincture of iron, concentrated solution borax.
Gum Resins.—Metallic salts, camphor, ethereal oils, oxidizing agents.
Hydrogen Peroxide.—Vegetable preparations containing oxidizable substances, ferrous salts, arsenous acid, alkaline citrates and tartrates.
Iodine.—Water of ammonia, starch, metallic salts, oils, hydrate of chloral, carbonates of alkaline earths, gum arabic, vegetable colors, alkaloids, sulphites and hyposulphites.
Iodoform.—Alkaline hydrates, silver nitrate.
Iron (ferric).—Alkalies and alkaline carbonates, phosphoric acid and alkaline phosphates, sulphocyanides, ferricyanides, ferrocyanides, tannic acid, alkaline acetates, hydrogen sulphide and deoxidizing agents generally, gum arabic, creosote.
Iron (ferrous).—Alkalies and alkaline carbonates and sulphides, oxidizing agents, oxalic acid, potassium ferricyanide, ferrocyanide and cyanide.
Iron (reduced).—Vegetable extracts, metallic salts, acids, corrosive sublimate, potassium permanganate, alkaloidal salts.
Lead Acetate.—Gum arabic, tragacanth, lime water, mineral acids, carbonates, chlorides, sulphates, potassium iodide, tannic acid, many organic acids, soap.
Lime and Lime Water.—Acids, carbonates, salts of the alkalies, ammonium salts, soluble mercurous and mercuric salts.
Magnesia.—Acids.
Magnesium Sulphate.—Alkaline carbonates and hydrates, phosphate of sodium (ammoniacal solutions).
Manganese Dioxide.—Mineral acids.
Manganese Sulphate.—Sulphides, ferricyanide and ferrocyanide of potassium, ammonia, fixed alkalies and their carbonates, barium chloride.
Mercuric Chloride.—Carbonates, lime water, iodides, tannic acid, ammonia and the fixed alkalies, reduced iron, bromides, sulphides, alkaloids, silver nitrate.
Mercurous Chloride (calomel).—Acids, acid salts, alkaline carbonates, lime water, iodine and soluble iodides, silver nitrate, sulphur, vegetable extracts.
Morphine and Its Salts.—Fixed alkalies, tannic acid, corrosive sublimate, iodides, alkaline carbonates and cyanides, salts of iron, manganese and silver.
Pepsin.—Alcohol, tannic acid, powerful antiseptics, alkalies.
Phosphorus.—Carbon bisulphide, oxygen, sulphur, chlorine, iodine, bromine, oil of turpentine, potassium chlorate and substances rich in oxygen.
Potassium Bitartrate.—Silver nitrate, mineral acids.
Potassium Iodide.—Acids, acid salts, alkaloidal salts, silver nitrate, tartaric acid, chlorine water, salts of lead, iron and mercury, corrosive sublimate.
Potassium Permanganate.—All organic compounds, oxidizable compounds of sulphur, phosphorus, hypophosphites, iodine and iodides, soap, nitrate of silver.
Quinine.—See Alkaloids.
Saccharin.—Ferric chloride, potassium chlorate, oxidizing agents.
Salol.—See Acid Salicylic.
Silver Nitrate.—Albumen, chlorine and chlorides, sulphuric, acetic and tartaric acids and their salts, hydrocyanic acid and preparations containing it, iodides, bromides, carbonates of the alkalies and alkali earths, potassium ferrocyanide, sulphides, substances containing organic matter, and all reducing agents.
Silver Oxide.—Creosote, tannin, phosphorus, sulphur, sulphides of arsenic and antimony, bromides, chlorides, iodides, easily oxidizable substances.
Sodium Borate.—Mineral acids, alkaloids.
Sodium Hypophosphite.—Oxidizing agents, silver nitrate, corrosive sublimate.
Sodium Hyposulphite.—Mineral acids, iodine, salts of silver, mercury, alcohol.
Strychnine (see Alkaloids).—Bromides.
Sugar.—Oxidizing agents.
Sugar of Milk.—Alkalies or alkaline carbonates (heat), alkaline liquids containing salts of copper, bismuth, mercury or silver.
Zinc Acetate.—Ferric salts (see Zinc Salts).
Zinc Bromide.—Silver nitrate (see Zinc Salts).
Zinc Chloride.—Sulphuric acid, silver nitrate, zinc oxide, albumen.
Zinc Salts.—Alkalies and alkaline carbonates, ammonium sulphide.
Zinc Sulphate.—Lead acetate, barium chloride, potassium ferrocyanide

Pharmaceutical incompatibility is generally produced by adding one substance to another, by which, through differences in solubility, is caused a precipitation of solid matter or a separation of part of the liquid. Instances of this character are often met. A common ex-

ample is where some resinous fluid extract is directed to be combined with a liquid which varies greatly from that used in the menstruum by which the extract was prepared, as for instance fluid extract of cannabis indica is prescribed with aqueous mixtures, the resinous portion of the fluid extract being thrown out of solution. Water is the solvent for albuminous, gelatinous, gummy and saccharine bodies, and for a large number of salts. Alcohol dissolves resinous bodies, gum resins, volatile oils, etc.

Therapeutical incompatibility occurs when drugs are combined in which there is antagonism of physiological action, e. g., belladonna with calabar bean. In many instances, however, physiological antagonists are purposely prescribed together, one to counteract the action of the other.

Potter gives the following list of antagonists:

Aconitine.—Atropine, digitalin, strychnine.
Alcohol.—Strychnine.
Ammonium Chloride.—Chloral hydrate.
Atropine.—*Aconitine, *bromal hydrate, chloral hydrate, hydrocyanic acid, jaborandi, muscarine, *morphine, physostigmine, phytolacca, pilocarpine, quinine. (Those marked * will not prevent a lethal dose of atropine, though the latter will prevent death from a lethal dose of either of them.)
Barium Sulphate.—Sodium sulphate, potassium salts.
Bromal Hydrate.—Atropine.
Brucine.—Chloral hydrate.
Calabarine.—Chloral hydrate.
Carbolic Acid.—Chloral hydrate.
Chloral Hydrate.—Ammonium chloride, atropine, brucine, calabarine, carbolic acid, codeine, physostigma, picrotoxine, strychnine, thebaine.
Chloroform.—Amyl nitrite.
Cocaine.—Morphine.
Codeine.—Chloral hydrate.
Digitalin.—Aconite, muscarine, saponin.
Gelsemium.—Opium, atropine.
Morphine.—Atropine, caffeine, chloroform, cocaine, daturine, hyoscyamine, nicotine, physostigma.
Muscarine.—Atropine.
Physostigma.—Atropine, chloral, morphine.
Opium.—Atropine, gelsemium, veratrum viride.
Saponin.—Digitalin.
Strychnine.—Alcohol, chloral, hydrocyanic acid, nicotine, amyl nitrite.
Thebaine.—Chloral hydrate.

Explosive Compounds.

Explosive compounds generally result when powerful oxidizing substances are combined with substances which are readily oxidizable. Examples of this character are those in which nitric or chromic acid is directed to be combined with glycerin, sugar or alcohol. Potassium chlorate or permanganate with sulphur, sugar or glycerin is another common example. A mixture containing tincture of iodine and ammonia has been known to produce an explosive compound, iodide of nitrogen being formed. Substances rich in oxygen and liable to form explosive compounds when mixed with readily oxidizable substances are picric acid, the salts of potassium rich in oxygen (bichromate, nitrate, chlorate, etc.), the nitrate and oxide of silver, nitrohydrochloric acid, etc.

(To be Continued.)

DRUG STORE FOR SALE.

Many druggists have found customers for their stores by putting a "Want Ad." in the Era. These ads have a large circulation among the best druggists in the country, and give advertisers good returns. The price for each insertion is 50 cents for 25 words or less; additional words 2 cents each.

POISON LAWS.*

(Continued from page 297, Sept. 5.)

KENTUCKY.

Schedule B.

The following articles shall be considered poisons: Aconite (monk's hood) as follows—root and leaf, aconitia and its salts, solid and fluid extracts, tincture; acids (not diluted), nitric, sulphuric, chromic, hydrocyanic and muriatic; ether; arsenic and the following compounds and preparations: arsenic acid and its salts, arseuious acid and its salts, arsenic iodide, Donovan's solution, Fowler's solution, hydrochloric solution, arsenite of sodium, paris green; belladonna (night shade), root and leaf, atropia and its salts, solid and fluid extract and tincture; bitter almonds and its preparations; hellebore, green, black and white and their preparations; creosote; cohosh, black and blue, and their preparations; physostigma (calabar bean) cserine, solid and fluid extract and tincture; cannabis indica and sativa and their preparations; cantharides and the tincture; croton oil; cotton root bark and its preparations; conium (hemlock), coniа, bromohydrate of conia, solid and fluid extract and tincture; cocaine and its preparations; chloral hydrate, chloroform, cocculus (fish berries) and its preparations; curari or wourl (arrow poison) and its preparations; digitalis (foxglove), solid and fluid extract, tincture and digitalise; elaterium (squirting cucumber) and its preparations; hyoscyamus (henbane) and its preparations; hydrargyrum (mercury), mercuric chloride, bichloride of mercury, ammoniated chloride of mercury (white precipitate), perchloride, iodide, red and green, oxide, red and yellow, cyanide, yellow sulphate, and nitrate of mercury and all of their preparations; nitrate of silver (lunar caustic); Ignatiæ strychnos (bean of St. Ignatius) and its preparations; ergot and its preparations; nux vomica, strychnine, brucia, igasaria, solid and fluid extracts and tincture; opium, morphine and its salts, tinctures (laudanum deodorized, acetic and ammoniated), wine, vinegar, solid and fluid extracts, Battley's sedative, bimeconate of morphia; phosphorus (foxfire) and its preparations; potassium (mercish), caustic, cyanide and their preparations; ferrocyanide (prussian blue); poison oak (toxicodendron) and its preparations; savin and the fluid extract; scammony and its preparations; sodium, caustic and arsenite of soda; oil of tansy, oil of pennyroyal, stramonium (Jamestown weed), dawer, seed, datura stramonium, solid and fluid extracts; nitroglycerine and nitrobenzol, proprietary or secret medicines sold or advertised as emmenagogues or parturients, and all that are known to contain a large proportion of opium or other powerful narcotics.

Unlawful to sell any poison without labeling container and wrapper with name of article, the word "poison" and name and place of business of seller, nor unless seller is satisfied that the buyer has attained his lawful majority and that the poison is purchased for a legitimate use.

All sales of poisons must be registered in a book kept for that purpose only, arranged as set forth in Schedule A, which provides for date of sale, name and address of purchaser, name and quantity of article sold and purpose for which required. Such book must always be open to inspection of the coroner and officers of the different courts and must be preserved for five years after date of last entry.

Law does not apply to the compounding and dispensing of medicines and poisons upon the prescriptions of medical practitioners.

Penalty: Fine, $50 and liability for damage done.

*We have received so many inquires for a good poison register that we have had a special book prepared for the purpose, which we call the "Era Poison Register." It is specially ruled and printed for the proper entries on good folio record paper, securely bound with stiff board covers and contains spaces for 800 entries. Bound in with each book are the poison laws now in force in each State and Territory.

The price of this book, postage paid, is 60 cents per copy.

LOUISIANA.

All pharmacists, druggists or apothecaries shall label all bottles, vials, jars, medicines or chemicals sold or dispensed by them with a label in legible writing or printed letters, giving the name of the proprietor of the store, the name of the physician prescribing, or shop and the place of sale of said drug, medicine or chemical; and in case the medicine, drug or chemical be of a nature poisonous to the human system or to animals said label shall have printed thereon a skull and crossbones with the word "poison" in large, heavy lettering. All prescriptions shall have in addition thereto a number, the name of the person actually and personally compounding the same, the directions for its use internally or externally, and the date of its compounding.

MAINE.

A record book must be kept of the sale of poisons, as arsenic, corrosive sublimate, nux vomica, strychnine, prussic acid, etc., stating kind, quantity, date and name of person to whom sold. The article must be legibly labeled "poison" and can be sold only by a registered apothecary. Does not apply to physicians' prescriptions.

MARYLAND.

There is no law on the statute books concerning the sale of poisons by retail druggists.

MASSACHUSETTS.

Whoever sells arsenic (arsenious acid), atropia or any of its salts, chloral hydrate, chloroform, cotton root and its fluid extract, corrosive sublimate, cyanide of potassium, Donovan's solution, ergot and its fluid extract, Fowler's solution, laudanum, McMunn's elixir, morphia or any of its salts, oil of pennyroyal, oil of savin, oil of tansy, opium, paris green, Parsons' vermin exterminator, phosphorus, prussic acid, "rough on rats," strychnia or any of its salts, tartar emetic, tincture of aconite, tincture of belladonna, tincture of digitalis, tincture of nux vomica, tincture of veratrum viride, without the written prescription of a physician, shall keep a record of such sale, the name and amount of the article sold, and the name and residence of the person to whom delivered, which record shall at all times be open to inspection by police authorities, under penalty of fine not exceeding $50. Whoever sells any of the poisonous articles named shall affix to the container a label of red paper bearing in black letters the words "Poison" and "Antidote," name and address of the vendor, and name of an antidote. Every neglect to affix such label shall be punished by fine not exceeding $50.

Purchasers of poisons who give false or fictitious names are liable to a fine not exceeding $50.

Law does not apply to wholesale dealers or manufacturing chemists in selling to the retail trade.

MICHIGAN.

Every apothecary, druggist or other person who sells any arsenic, strychnine, corrosive sublimate, prussic acid, or other poison, shall keep a record of the date of such sale, the article and amount thereof sold, and the person or persons to whom delivered and their residence, which record shall be open to the inspection of any police officer or physician during the business hours of each day.

Penalty: A fine not exceeding $50.

Every apothecary, druggist or other person who shall sell and deliver at retail any arsenic, corrosive sublimate, prussic acid or any other substance or liquid usually denominated poisonous, shall have the word "poison," and the true name thereof, and the name of some simple antidote, if any is known, written or printed upon a label attached to the container.

Penalty: A fine not exceeding $100.

The giving of a false or fictitious name to the apothecary, druggist or other person from whom such poison was purchased shall be deemed a misdemeanor.

Penalty: A fine not exceeding $50.

MINNESOTA.

An apothecary or druggist, or a person employed as clerk or salesman by an apothecary or druggist, or any person otherwise carrying on business, who shall sell or give away arsenic or its preparations, aconite, belladonna, lead or its preparations, mercury or its preparations, hydrocyanic acid, oxalic acid, copper or its preparations, morphine, phosphorus, oil of savin,

oil of tansy, oil of cedar, strychnine, "rough on rats," cyanide of potassium, creosote, carbolic acid, tincture of nux vomica, fluid extract ergot, fluid extract cotton root, chloroform, chloral hydrate, croton oil, oil of bitter almonds, sulphate of zinc, mineral acids, stramonium, conium, digitalis, opium or its preparations, except paregoric and Dewees' carminative, without attaching to the vial, box or parcel containing such substance, a label with the name and residence of such person, the word "poison" and the name of such article written or printed, or partly written and partly printed thereon, in plain and legible characters, is guilty of a misdemeanor.

Seller must satisfy himself that such poisons are to be used for a legitimate purpose.

Unlawful to sell or give away arsenic or its preparations, aconite, belladonna, lead or its preparations, mercury or its preparations, hydrocyanic acid, oxalic acid, copper or its preparations, phosphorus, oil of savin, oil of tansy, morphine, strychnine, laudanum, "rough on rats," or cyanide of potassium, without first recording in a book to be kept for that purpose, the name and residence of the person receiving such poison, together with the kind and quantity of such poison received, except upon the written order or prescription of some practicing physician.

It is a misdemeanor to give to the seller of such poisons a false name for registration.

Law does not apply to the dispensing of physicians' prescriptions which specify any of these poisons.

Paris green must be labeled with name and the word "poison," but need not be registered.

Willful refusal to permit any officer or person acting under an officer to examine the poison register during ordinary business hours is a misdemeanor, the penalty being a fine, not to exceed $50.

MISSISSIPPI.

Unlawful to sell or give away, except upon written prescription of a physician, any article of medicine belonging to the class usually known as poisons, unless the name, place of residence, age, sex and color of person obtaining such poison, quantity sold, purpose for which required, date of sale, name and residence of party for whom article is intended, shall be registered in a book kept for that purpose. The word "poison" must be marked upon label or wrapper of each package.

Unlawful to sell or give away arsenic in quantities less than one pound without first mixing soot or indigo therewith in the proportion of one ounce of soot or half-ounce of indigo to one pound of arsenic.

Penalty: Fine not to exceed $500 or 20 days' imprisonment, or both.

Unlawful to sell or give away any poison to a minor.

Unlawful to sell, offer for sale, or give away any preparation of morphine, unless container is wrapped in scarlet paper and labeled with scarlet label lettered in white letters, giving name of contents.

Penalty: Fine, $10 to $50.

MISSOURI.

Schedule A.

Arsenic and its preparations, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnia and all other poisonous vegetable alkaloids and their salts, and the essential oil of bitter almonds.

Schedule B.

Opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce; aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, veratrum, digitalis and their pharmaceutical preparations, croton oil, chloroform, chloral hydrate, sulphate of zinc, corrosive sublimate, red precipitate, white precipitate, mineral acids, carbolic acid, oxalic acid.

Unlawful to sell any of the above-enumerated poisons unless container and wrapper are labeled to show the name of article, the word "poison" and name and place of business of the seller, nor unless, upon inquiry, it be found that purchaser is aware of its poisonous character and represents that it is to be used for a legitimate purpose.

Sales of poisons in Schedule A must be registered in a book kept for that purpose, such book to be always open for inspection by the proper authorities and to be preserved for five years. Such register must show name of poison sold, purpose for which it was represented by the purchaser to be required and name of dispenser.

Law does not apply to the dispensing of poisons in not unusual quantities or doses upon the prescriptions of practitioners of medicine.

Penalty: Fine, $25 to $100.

MONTANA.

From the Pharmacy Law.—Unlawful to retail arsenic and its preparations, corrosive sublimate, white and red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnine, and all poisonous vegetable alkaloids and their salts, the essential oil of almonds, opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce; aconite, belladonna, colchicum, conium, nux vomica, digitalis and their pharmaceutical preparations; croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic acid, oxalic acid, without labeling the container with the name of the article, the word "poison" and the name and place of business of the seller. Purchasers must be aware of the poisonous character of the article, and represent that it is to be used for a legitimate purpose. Law does not apply to the dispensing of poisons in not unusual quantities or dose upon the prescription of practitioners of medicine, nor to manufacturers making and selling at wholesale, provided, that each container shall be labeled with the name of the article, the word "poison" and the name and place of business of the seller.

The Penal Code makes willful or ignorant neglect to properly label any drug a misdemeanor, or if death ensues a felony.

NEBRASKA.

Any person who shall sell or give away, except upon the prescription of a physician, any article or articles of medicine belonging to the class usually known as poisons shall be required: First—To register in a book kept for that purpose the name, age, sex and color of the person obtaining such poison. Second—The quantity sold. Third—The purpose for which it is required. Fourth—The day and date on which it was obtained. Fifth—The name and place of abode of the person for whom the article is intended. Sixth—To carefully mark the word "poison" upon the label or wrapper of each package. Seventh—To neither sell nor give away any article of poison to minors of either sex.

Penalty: Fine, $20 to $100.

NEVADA.

Has no laws on the subject.

NEW HAMPSHIRE.

A record of the sale of arsenic, corrosive sublimate, nux vomica, strychnine, prussic acid, must be kept in a book, showing the kind sold, quantity, date, name of purchaser. Violation subject to fine not exceeding $100. Does not apply to physicians' prescriptions.

NEW JERSEY.

Schedule A.

Arsenic and its compounds or chemical derivatives, corrosive sublimate and other poisonous derivatives of mercury, phosphorus and its poisonous derivatives, prussic acid and its poisonous derivatives, tartrate of antimony, essential oil of bitter almonds, oils of tansy, savin or croton, chloroform, chloral hydrate, aconite, belladonna, conium, cantharides, digitalis, hyoscyamus, nux vomica, Indian hemp, veratrum viride, yellow jasmine, opium, their alkaloids or other preparations (except paregoric and other preparations of opium having less than 2 grains to the ounce), ergot, savin, cotton root and their preparations.

Unlawful to dispense any of the above-named or other poisons without attaching to the container or wrapper a red label bearing the word "poison" and name and address of seller, who must also be satisfied that the purchaser knows the poisonous character of the article and purposes to use it for legitimate purpose only. Physicians' prescriptions and sale of poisons for use in the arts, agriculture or manufacturing to persons known to be engaged in such pursuits are excepted from these restrictions.

Violation is misdemeanor; fine not less than $10.

NEW MEXICO.

Has no poison law.

NEW YORK.

New York City Consolidation Act provides that it shall be unlawful to retail any poisons enumerated in Schedules A and B, as follows:

Schedule A.

Arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnia and all other poisonous vegetable alkaloids and their salts, essential oil of bitter almonds, opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, digitalis and their pharmaceutical preparations, croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic acid and oxalic acid, without labeling the container and the wrapper with the name of the article and the word "poison," nor shall it be delivered unless the purchaser is aware of its poisonous character and represents it is to be used for a legitimate purpose. Such sale must be entered in a book, stating date, name and address of purchaser, name and quality of poison, purpose for which required and name of dispenser. Does not apply to physicians' prescriptions.

The Penal Code of the State of New York requires sales to be registered in a book, with the name and residence of a witness known to the dealer. This book to be open to inspection by any person, under penalty of fine not exceeding $50 for refusal. The container shall bear a label giving name and address of dealer, word "poison" and name of the poison. Morphine and other opium preparations, except paregoric and preparations containing less than 2 grains opium to the ounce, must bear a scarlet label, with name of the article in white letters and name and address of the dealer. Prescriptions in which the dose of opium is more than ¼ grain, or morphine 1-20 grain, must not be refilled except by order of the physician. Violation of these regulations is considered a misdemeanor.

(To be continued.)

[Written for the Era.]

Song of the Soda Fountain.

By John Talman.

Alike the churl
And summer girl
Regard me with urbanity,
For my compotes
Cool off the throats
Of overwarm humanity.
So those who swelter
Come helter skelter
And in my sweets participate;
No chastening rod'll
Give aching noddle
To thirsters who thus dissipate.
Discomfort its victims is sure to drop
When I for their benefit fizz and pop.

"In paradise,"
Says maiden nice,
"'Tis easy to imagine us,
Whence'er we hold
This nectar cold,
With ice cream oleaginous.
O, how I crave it!
My affidavit
That matchless is the charm I see
In this soul tonic,
The boon carbonic,
Inherent in pharmacy!"
Not the joys of champagne can overtop
The blisses forecast by my swish and pop.

O ye of earth!
Why suffer dearth
Of fluids that may glad ye all,
While I am here
To fill with cheer
The conduit esophageal
The driest palate,
Forever shall it
Of barnacles be plucked if I
Still hear the tickle
Of dime and nickel,
Wherewith my gases fructify.
Take not from beneath me the rhino pop,
And for you will I sizzle and froth and pop

A. Ph. A. PAPERS.

ANNUAL REPORT OF THE CHAIRMAN OF THE SCIENTIFIC SECTION.

By Alfred R. L. Dohme, Baltimore.

The eighteenth century as it drew to its close witnessed the birth of chemistry. Was there ever a more promising child and a more brilliant increase in the family of sciences? Whence sprung this precocious and wonderful infant? From pharmacy, its mother then and protectress ever since. Chemistry owes a great debt to pharmacy, for many of those pristine disciples of her teachings, such as Scheele, Liebig, Proust, Klaproth and others, began their career in pharmacies. It was because pharmacy was then purely empirical that chemistry, the science upon which pharmacy rests and depends, soon outran her parent. By lending her scientific spirit and results to her good mother, chemistry has endeavored to repay her debt of filial gratitude, and is today lending such aid to her sturdy parent that the latter has become rejuvenated, and after shedding her nineteenth-century skin deigns to again catch up to the rapid pace set by her daughter.

Yes, the scientific investigation of the many unsightly drugs that we must now handle will in due season bring to light many beautiful pure chemical substances that will replace their mother drugs, and because they are pure and hence always the same will enable that promising science, pharmacology, to render scientific medicine and prescriptions possible. Many conservative pharmacists and physicians will incredulously smile when they hear this, but it is bound to come, because the progress of science knows no obstacle and the field of vegetable drugs will present the widest and most fertile prospect to the scientific investigator of the twentieth century.

More and more chemists every year are putting their energies into the chapters of pharmaceutical chemistry, and no number of the Berichte der Deutschen Chemischen Gesellschaft, Annalen der Chemie, Journal of the Chemical Society, Journal für Praktische Chemie, Chemical News, etc., now makes its appearance that does not contain some valuable contribution to pharmaceutical chemistry. It is not the synthetic products that I refer to, for they belong to the province of pure chemistry, but to the thorough investigation of the natural constituents of drugs, such as alkaloids, glucosides, acids, etc., and derivatives of these. Does anybody present here know exactly what digitalis contains, or ergot, or cascara sagrada? If so he would render this association and the pharmaceutical and medical world at large a most invaluable service if he would unbosom himself. Exact modern persevering investigation has not yet been applied to them, and the best we can say of any of them is "probably about."

But one by one the more prominent drugs are being taken up by expert hands, and it will not be many meetings hence that one of my successors in this position will be able to report to you that digitalis contains so and so, and that such or such and such substances are the active principles of the drug. We will then know that digitalis contains such and such substances, possessed of such and such properties, and having such and such effects upon the human body. We will know that certain of them possess therapeutically valuable properties, possibly of different natures, and that others are therapeutically valueless. When this is done for all drugs we will have placed pharmacy on a very high and enviable seat among her sister sciences. So much in anticipation; now for the retrospect.

What has the past year added to our store of facts?

The discovery of argon by Lord Rayleigh and Prof. Ramsay, and of helium by the former, should perhaps rank first as the most momentous discoveries of the year. The former as the most inert substance known, not uniting even with halogens, was discovered as a result of a very slight discrepancy noticed by Lord Rayleigh in weighing what he knew to be pure nitrogen. He passed a weighed quantity of pure nitrogen over heated magnesium, which absorbs it readily to form magnesium nitride, and he found to his great surprise that something to the extent of 1 per cent. was left that could not be made to unite with the magnesium. It was made in quantity, found to be in the air, and its spectrum, atomic weight, etc., determined. The atomic weight was found to be 40, the same as that of calcium, and its molecule was found to be monatomic. Although so indescribably inert, argon threatens to cause an upheaval in the chemical world, for there is no place for it in the periodic system of the elements, a system which, as we all know, underlies our entire chemical fabric, and has been productive of more numerous and valuable results and researches than any other theory ever advanced in chemistry. We must await the result of a better acquaintance with this new element before anything definite can be stated.

Helium, also a colorless gas, is one of the elements known to be in the sun, but never yet found upon the earth. In making an analysis of a Norwegian mineral, "cleveite," Lord Rayleigh obtained this gas, together with argon, upon treating the mineral with sulphuric acid. The reports upon it are only vague as yet, although the spectroscope shows that its lines correspond to certain of the solar lines that have never yet been obtained from elements on the earth. Statments that helium is the basis of all elements are purely gratuitous and without foundation in fact. The scientific world awaits with bated breath further researches on helium and argon, as these elements possess properties that are new to chemists and different in nature from the chemical properties of any known class of substances.

The most actively-worked field of investigation for the past year or more is that of the essential oils, which, thanks to the great work of Professor Wallach, of Göttingen, and Professor Baeyer, of Munich, has at last been so worked up that daylight has been caused to shine upon many of them, and they are all being gradually studied and classified. The essential oils consist mainly of terpenes and camphors, are not only common substances and widespread in nature, but present to the chemist a most fascinating field of work on account of their subtle nature and ready manipulation and change. When we realize that practically all terpenes and camphors have the same empirical formulas, $C_{10}H_{16}$ and $C_{10}H_{16}O$ respectively, and they number many, while possessing such markedly different properties, we can appreciate the interest they present to the skilled investigator.

Professor Tschirch and his school of Bern have begun what promises to be a most interesting piece of work—the examination and origin of plant secretions. He has already taken up the balsams of Peru and tolu, as well as gum galbanum, and we will soon know all about these apparently unapproachable and chemically uninteresting though pharmaceutically valuable substances. He finds that besides containing benzyl benzoate and benzyl cinnamate, they contain the benzoates and cinnamates of a peculiar class of substances which he calls tanniferous resin-alcohols, and which are the true resins of these balsams. He has obtained thus from Peru balsam peru-resino-tannol and from tolu balsam tolu-resino-tannol, as he terms them, in pure crystals and has determined their properties, composition, etc.

Kostanecki has made synthetically gentisic acid and gentisin, and found that the former is hydroquinone cardonic acid. By heating this with phloroglucine he obtained gentisein, which is 1-3-7 trioxy-xanthin, and the monomethylester of this is gentisin. Beckurts has devised a method of determining theobromin in cacao and Palladino has isolated a new alkaloid from coffee, caffearine, $C_{14}H_{16}N_2O_4$, which is a narcotic and in doses of two decigrams has been found to kill frogs. In the field of alkaloids there has been the usual activity. Professor Fischer, of Berlin, has made a successful synthesis of caffeine, starting from urea. The process is rather complicated, including as many as six or more intermediate stages, but he thinks it will prove of value commercially. This is perhaps the most important discovery in the field of alkaloidal chemistry.

E. Schmidt has isolated a new alkaloid from golden seal, which he calls canadine and which he found is tetrahydro-berberine; Freund is busy with aconitine and thebaine, and we probably will soon know exactly what these substances are and be able to recognize them and determine them; Knorr is still busy with morphine, which he has definitely determined is a derivative of phenanthrene; Koenigs is plodding along steadily at quinine, and his work on this alkaloid will soon fill an entire book; there is no doubt that he knows more about the constitution of quinine than any other man living. Miller is endeavoring to settle what

cinchonine is, Petit and Polonowsky are doing the same for eserine, and Pinner has practically shown that nicotine is methyl-B-pyridyl pyrolidine. Emetine has been shown to consist of emetine and cepheline by Paul and Conrad, and the first result of the determination of the constitution of emetine has been published by Kunz-Krause and contradicted by Paul.

Klein has determined the formula of santonin. Goldsobel that of ricinoleic acid, the active principle of castor oil, and Taverne has shown that convolvulin is a glucoside of methyl-ethyl-acetic and oxy-pentadecylic acids. Kobert has isolated cannabindon, a red syrupy liquid from cannabis Indica, and shown that the narcotic effect of this drug is due to this substance. Griffith and Ladell have isolated a ptomaine from the urine of grippe patients, which is toxic and produces high fever.

Ciamician and Silber have shown that cotoin is mono-methyl-benzoyl-phloroglucin, and Lerchsenring has separated in pure form from kooso flowers, kosin, protokosin and kosotoxin, of which the latter only is an active principle. It has been shown that the orchid nigritella, which grows wild on the slopes of the valley of Lauterbrunnen in Switzerland and perfumes the air for miles around with the odor of vanilla, does actually contain vanillin and heliotropin.

A rather unexpected discovery is the fact that hydrogen dioxide when free from alkalies and any metallic impurities can be distilled undecomposed even at high temperatures. We have no doubt all read with much pleasure the interesting and valuable work of Emil Fischer on the sugars, by which this great investigator has so clearly shown what these complex and chemically unapproachable substances are. It is of value to remark that he has recently announced a general method of producing glucosides synthetically from glucose and the respective acid or alcohol. This may open the door to the synthesis of the glucosides of some substances that are unpalatable in their present form, and also be the cause of their activity being increased.

It is of interest to know that some of the prominent German universities are now endowing chairs of pharmaceutical chemistry, as they no doubt recognize the great benefit that the development of this branch of chemistry may have upon the nature of the medicines taken by the people, as well as the discovery of potent specifics against disease. There is a demand for this chair, as the number of students that evince a desire to work in this field of pharmaceutical chemistry is continually increasing, if one may judge by the current literature of the day. Prof. Erich Schmidt, of Marburg, has been called to the newly constituted chair of pharmaceutical chemistry of the University of Berlin, but has not accepted for the reason that there are no facilities for good work offered there, whereas at Marburg he has everything as he desires it.

In our own country competition for positions is not so great as to stimulate men to become investigators and indulge to any extent in original research, and, with few exceptions, pharmaceutical schools do not educate men up to the standard of undertaking original work. But the noble spirit and ambition which inspired our own Proctor, Parrish, Mahla, Maisch, Squibb, Prescott and many others of the founders and older members of this association and brought forth many valuable contributions to pharmaceutical science which found recognition in every part of the civilized world, is still alive among the host of younger members, and I know they will not fail to be worthy of the founders of this association.

Yes, we have good workers and well-trained and educated chemists and pharmacists here, and there can be no doubt that the standards of colleges of pharmacy are being and will continue to be raised in this country, so that when a man has the inclination and ability, he can fit himself for doing the very best of research work in pharmaceutical chemistry. We must develop the departments of pharmacology and physiological chemistry, besides pharmaceutical chemistry, in our colleges, because they are valuable and necessary adjuncts to a thorough and successful training in pharmacy.

German schools in pharmacy appreciate and have acted upon this, and we should not lag behind. We have helped along the great German chemical industries during the last thirty years, and placed them so very far ahead of all other countries. The great work of the German Chemical Society, founded by the late-lameuted father of these industries, August Wilhelm von Hofmann, whose Berichte penetrates wherever the word chemistry is known, and which numbers above 3,000 members scattered all over the globe, has so stimulated men to work in chemical research that every branch of the science has become overcrowded with workers, and this surging mass of keen, well-trained and highly educated men has by sheer competition in excellence and pride in their association and their country, forced the chemical industries thereof so far to the front that they have practically distanced all competition.

This is laudable, this is commendable, on the part of the Germans, this spirit to excel and push their society and their country forward by pride and their energy, and there is no reason why we should not develop this same pride in our association and country. Why cannot we make our proceedings so valuable and so interesting to all pharmacists and chemists the world over that they will be anxious for the day when the next current number arrives and pay willingly a reasonable sum to receive it? Why cannot this American Pharmaceutical Association occupy the place in the pharmaceutical world that the German Chemical Society does in the chemical world? We have the talent and ability in this country, but they are latent and need fostering and encouraging. We cannot reach the goal at one jump, but we should strive to reach it, for it is the most commendable and desirable one this association can look forward to. How can it be accomplished or rather how can we make a great step toward its accomplishment? Let me make a suggestion:

I would strongly recommend as a most desirable step the appointment by this association of a committee to be called the Committee on Pharmaceutical Research Work, to apportion out the work of research and and investigation in the various branches of pharmacy, and annually make a report to the association. If our association is to publish scientific and valuable knowledge for the benefit and enlightenment of its members and the scientific world at large, and I believe no nobler purpose could be engraved upon its escutcheon, how better can this be accomplished than by the systematic persistent work of an active committee capably directed?

A NATIONAL PHARMACY, FOOD AND DRUG LAW NOT POSSIBLE UNDER THE PRESENT UNITED STATES CONSTITUTION.

By J. H. Beal, Scio, O.

A paper upon this subject might be considered unnecessary, were it not that communications addressed to the pharmaceutical journals with increasing frequency indicate the existence of a widespread belief in the powers of Congress to enact laws regulating these matters that would be operative within the territorial limits of the several States of the Union. Of the desirability of such legislation, if it were obtainable, there can be no dispute, but that it would be inoperative within the territorial limits of the States is plainly evident from a consideration of several well-established principles of constitutional law.

The legislative powers of a State and of the nation are radically different in their origin, in their nature and in their extent. To determine whether or not a State has power to enact a given piece of legislation, it is only necessary to inquire whether such legislation has been forbidden to it by its own constitution, or by the Constitution, laws or treaties of the United States. If not forbidden by one of these, it is competent for the State to adopt the proposed legislation. With the legislative department of the general Government, however, the case is exactly reversed. While the State may legislate upon any subject not forbidden to it, the Congress may legislate only upon such subjects as the Constitution expressly or impliedly places within its jurisdiction. If the express or implied authority to legislate upon a given subject is not found in the Federal Constitution, then the power to do so is as completely denied as if expressly prohibited. To quote the language of Chief Justice Marshall in an early case: "The United States can claim no powers which are not granted to it by the Constitution; and the powers actually granted must be such as are expressly given, or given by necessary implication." (Martin vs. Hunter, Wheat. 326.)

It would puzzle the most ardent advocate of national sovereignty to find a clause in the Constitution even remotely sanctioning a law to regulate the practice of pharmacy or the manufacture and sale of food or drugs within State limits. It cannot be found within the power of Congress to regulate commerce, since this applies strictly to commerce between and not within the States. Neither could such matters be regulated by Congress under its police powers, since the general Government has no police powers, except such as are strictly necessary to the discharge of its governmental functions. To quote from a decision of the Supreme Court. "In the American constitutional system, the power to establish the ordinary regulations of police has been left with the individual States, and it cannot be taken from them, either wholly or in part, and exercised under legislation of Congress. Neither can the national Government, through any of its departments or officers, assume any of the police regulations of the States. All that the Federal authority can do is to see that the States do not, under cover of this power, invade the sphere of national sovereignty, or deprive any citizen of rights granted by the Federal Constitution."

The probable fate of a national food and drug law is fairly illustrated by the case of the United States vs. DeWitt, 9 Wall., 41. This was a decision upon a clause of the Internal Revenue act which attempted to regulate the character and quality and punish the adulteration of illuminating oils.

In delivering the opinion of the court, Chief Justice Chase says: "As a police regulation relating exclusively to the internal trade of the States, it can only have effect where the legislative authority of Congress excludes, territorially, all State legislation, as for example in the District of Columbia. Within State limits it can have no constitutional operation. This has been so frequently decided by this court that we think it unnecessary to enter upon the discussion."

It is clear from the decisions above referred to, and from many others which might be cited, that it is useless to expect national legislation upon the subject of food and drugs, or affecting the practice of pharmacy, that would be operative within State limits, without an amendment to the Constitution conferring upon Congress express authority to legislate upon these subjects.

IS THERE A CONNECTION BETWEEN THE PHYSIOLOGICAL ACTIVITY OF AN ELEMENT AND ITS POSITION IN THE PERIODIC SYSTEM?

By J. H. Beal.

The fruitfulness of the periodic law in other departments of chemistry caused it to be questioned whether it could not be made use of to throw light upon the physiological activities of the elementary substances as well. Much valuable work, though the results reached have been somewhat discordant, has been done upon the subject by Lauder Brunton, Cash, J. W. Blair, and other investigators. In the following pages no attempt is made to distinguish between the work of different investigators or between the results of their work and some suggestions which, rashly perhaps, are offered by the writer.

The periodic law, so called, is a concise expression of what becomes apparent when the elementary substances, taken in the order of their atomic weights, are tabulated so as to give twelve horizontal series or "periods" and eight vertical "groups," and may be simply stated as follows: "That the chemical properties of the elements are periodic and are functions of their atomic weights."

Accepting the law as valid, at least so far as the chemical properties of the elements are concerned, there are certain a priori reasons which would lead us to expect it to be valid for their physiological properties also.

The primary action of an active medicinal agent upon the animal organism must be a variety of chemical action, less understood perhaps, but not less definite than chemical actions generally.

This is indicated by the fact that the agents capable of originating changes within the organism are generally excreted in combinations different from those in which they are ingested. And again, that agents incapable of originating chemical action within the body are usually physiologically inert, or act mechanically only, and are either not absorbed, or, if absorbed, are excreted unchanged.

Indeed, the action of a medicinal agent is unintelligible unless viewed as a variety of chemical action. Both the active agent and the tissue constituents are definite molecular structures, and the only event which we can conceive of as following their juxtaposition is some alteration of molecular structure, and this would be a chemical change.

It is not intended to claim that chemical activity is the only result of a medicine. What the physician seeks may be the ultimate one of a long series of reactions, and may not in itself be a chemical phenomenon. What is meant is that the primary or initial action must be of a chemical nature, even though followed by transformations of a quite different character, just as the physical collapse of an inorganic structure may proceed from some chemical alteration of its substance.

If this conclusion be correct, viz., that the action upon the organism of a given medicinal agent is a species of chemical action, then we should be able to constitute the term "physiological properties" in the periodic law and read, "The physiological properties of the elements are periodic and are functions of their atomic weights." This antecedent probability is strengthened when the table of elements is critically scanned with their well-known physiological properties in view.

At the outset it is necessary to settle upon the method by which the physiological actions of the several elements are to be determined. The simplest method would be to administer each element in the free state, and note the reaction which followed, but in the majority of cases this would not be possible. Certain of the elements are not soluble in any of the body fluids, or if soluble, are unable to enter into combination with the tissues and hence are inert, while others are corrosive and instantly decompose the tissues when brought into contact with them. For this reason the properties of the elements must be determined from their compounds, selecting the most simple and such as are soluble and absorbable without corrosion of the tissues.

If a series of compounds which contain a common element exhibit a constantly recurring effect, this effect is attributable to the element which is a common constituent. For example, the constantly recurring feature in the action of the various bromides is their hypnotic effect, which is therefore assumed to be due to the presence of the bromine. By comparing the several elements in this manner, I think it can be shown that the periodic law is capable of rendering service to both medicine and pharmacy as well as to pure science.

In the comparisons given below, the term "physiological action" is limited to the action which follows absorption into the circulation. The term "poisonous action" is also limited to physiological actions which are of such severity as to endanger the life or seriously affect the well-being of the organism. These limitations exclude from consideration such substances as the concentrated acids, the caustic alkalies and similar agents. In all such cases death, when it follows, is due to the shock resulting from the destruction of important tissues and the inability of nature to repair the damage, and the mode of action is altogether different from the changes which follow absorption, and which are more properly denominated physiological or systemic.

Bearing the above limitations in mind, the conclusions which may be drawn from an inspection of a table of the elements based on the periodic system may be stated in general terms as follows:

1. Groups of elements whose members exhibit marked resemblances in their chemical and physical properties usually exhibit equally well-marked resemblances in physiological and medicinal properties. This is well illustrated by the group of alkali metals, the physiological and medicinal similarity of whose corresponding compounds, as the chlorides, bromides and iodides, has long been known and utilized. As other examples of nearly related elements whose compounds resemble each other in their physiological activity, we may allude to the well-known similarity existing between the medical properties of antimony and arsenic; between gold, platinum and mercury; between manganese and iron; between sodium and its relative magnesium; between copper and zinc; between potassium and calcium; between silver and cadmium; between strontium and barium, etc., etc.

2. When a series or group of elements presents a well-marked progression in chemical properties, a similar progression or increase of activity is usually to be observed in their physiological properties. As examples may be cited the increase in activity in the compounds of the alkali metals in passing from lithium to potassium or to rubidium and caesium. Also in passing from the mildly active beryllium to the more energetic calcium and strontium and the poisonous barium; from the mild activity of magnesium to the energetic activity of zinc, cadmium and mercury. Another example of increase in physiological activity is seen in chlorine, bromine and iodine. The chlorides are almost inert, unless they are the chlorides of poisonous elements; the bromides are more active and are administered in smaller doses, while the iodides are the most active physiologically of the group. A similar progression is also to be seen in the activity of the chemically closely related elements iron, nickel and cobalt.

3. In general, it may be stated that physiological activity increases with the weight of the atom, and that toxicity is especially characteristic of high atomic weight. As familiar examples of the rule may be mentioned arsenic, atomic weight, 75; tin, 119; antimony, 120; iodine, 127; gold, 196; mercury, 200, etc. All inorganic compounds of elements of high atomic weight may safely be put down as dangerous and to be handled with caution, provided they are compounds which are soluble and absorbable. Possibly an explanation of this is to be found in the fact that the elements normally present in the human body all have low atomic weights. The consequence of the introduction of elements of higher atomic weight is the destruction of old and the formation of new molecular structures which are unable to perform the work of normally constructed tissues.

4. The converse of the preceding rule is equally striking, namely, that the elements whose simple inorganic compounds are usually non-poisonous are elements of low atomic weight. As examples of such neutral or non-poisonous elements may be cited lithium, atomic weight, 7; boron, 11; oxygen, 16; sodium, 23; magnesium, 24; aluminum, 27; silicon, 28, etc. The dividing line between poisonous and non-poisonous elements seems to lie near the atomic weight of 30. As a rule of general application it may be stated that the binary compounds of elements of atomic weight less than 30 are not poisonous, provided they are not in the gaseous condition, and provided also that they do not belong to the class of compounds known as organic.

5. While it is true that in a general way activity increases with atomic weight, the degree of toxicity is by no means strictly proportional to the weight. This is illustrated by lead, which, with a weight of 206, is less toxic than antimony, whose atomic weight is 120, and the latter is in turn less toxic than arsenic, whose atomic weight is 75. Some of the exceptional cases can be explained by their varying solubility which promotes or retards absorption, but other cases do not readily yield themselves to this explanation.

6. The activity of an element seems also to some extent to depend upon and increase with the valence. As a general rule it may be stated that, with few exceptions, elements with a valence of 2 or over are capable of acting poisonously, provided their compounds are soluble and absorbable. This fact may be noted in passing from either side of the periodic table toward the center. Toxicity seems to culminate, along with valence, in the two central groups IV. and V., where are found the highly poisonous elements phosphorus, arsenic, tin, antimony and lead. So also when an element forms two or more series of compounds corresponding to different valences, the greater activity is usually manifested by that series in which it possesses the highest valence. In some cases the increased activity can be explained by the greater solubility of the higher salts, as in the case of the mercuric compounds, which are generally more toxic than the corresponding mercurous compounds.

7. The place of an element in the physiological series depends to a considerable degree upon the state of aggregation of its compounds, and upon their solubility or insolubility in the juices of the body. This evidently results from the difference in the rate of absorption, the compounds which are the most rapidly absorbed being, of course, the most active. Gaseous compounds are the most rapidly absorbed and are the most active physiologically. Carbon monoxide, cyanogen and the hydrides of sulphur, phosphorus, arsenic and antimony are examples of gaseous compounds, all of which are much more poisonous than the solid and liquid combinations of the same elements. Conversely, difficultly soluble or insoluble compounds are inactive or less active than freely soluble compounds. These facts tend to explain the exceptions to the rule that elements of high atomic weight are poisonous and those of low atomic weight non-poisonous. For example, carbon monoxide and cyanogen are both gaseous compounds of low atomic weight, but the great readiness with which they are absorbed tends to raise them in the scale of activity above compounds of other atomic weight.

An example of the reverse kind is seen in bismuth. This element, though having an atomic weight of over 200, is habitually given in large and frequent doses without any apparent evil results. The cases of poisoning which have occasionally been reported have generally been attributed to the presence of arsenic as an impurity. But even if it be conceded that pure bismuth preparations never act poisonously, its exception to the rule of high atomic weight indicating toxicity is at least partially explained by the well-known insolubility of its compounds in the intestinal juices.

8. The physiological properties of the simpler inorganic compounds are to a considerable extent intermediate to those of their constituents. Consequently the properties of a compound are a common resultant of the properties of its several constituents, which resultant will lie nearest to the side of the most active element, unless the effect of the naturally more active element is weakened by the presence of a large percentage of the less active element. For example, the properties of the alkaline arsenates and arsenites are almost purely those of arsenic, the slight effect of the comparatively mild base being lost sight of in the greater activity of the non-metallic constituent. On the other hand, elements of high atomic weight may have their activity reduced by being combined with others of low weight, as may be seen by comparing the properties of the sulphides, thiosulphates, the sulphites and sulphates, in which is seen a decreasing activity with the decrease in the percentage of sulphur present. The soluble sulphides are active compounds, the thiosulphates less active, the sulphites still less so, while the sulphates are not all poisonous unless the base which is present is poisonous. Many other facts of the same kind might be referred to.

9. Finally, and in conclusion, the evidences of a general correspondence between the chemical characters of the elementary substances and their physiological characters are too many and too striking to be missed as mere coincidences of no special meaning, and must proceed from some fundamental and deep-seated connection between the two. The rational explanation of the facts presented is to assume that within certain limits medical and physiological properties depend upon and follow chemical properties.

The exceptions which may be brought forward in opposition to this conclusion are not more numerous or more forcible than many others which appear in the periodic table when made the criterion of chemical relationship. It seems safe, therefore, to say that the table which exhibits the chemical relations of the elements also exhibits, in a general way, their physiological relations, and may thus be made to serve a useful purpose by indicating the physiological value of a given inorganic compound before it has received actual trial, and may even enable us to predict, within general limits, the physiological properties of elements yet undiscovered.

AFTER MUCH SMOKING the mouth feels like a furnace. To relieve that add to half a tumberful of water a teaspoonful of a solution of salol, 4 grains, tincture of catechu 20 minims, in 1 ounce of any nice aromatic tincture and use as a wash. (Chem. & Dr.)

ADULTERATED SANDAL-WOOD OIL.—T. H. Pearmain and C. G. Moor have recently met with some gelatine capsules labeled and sold as "pure sandal-wood oil capsules," the contents of which on examination proved to be castor oil mixed with a small quantity of an unsaponifiable oil which we have not been able to identify. The oil has the characteristic taste and smell of castor oil. (Analyst.)

[Written for the Era.]

THE COLORING PRINCIPLE IN BLOOD ORANGES.

By Chas. H. La Wall, Philadelphia.

A peculiarity in the color of the pulp in a blood orange led the author to investigate the subject in order to determine whether there is any reason to suppose that this fruit owes its color to artificial agencies and not to natural causes.

There has long been an idea prevalent, which periodically recurs in the scientific columns of some of the newspapers, that blood oranges are manufactured, that is, ordinary oranges are treated in some secret manner, whereby the pulp becomes colored like a true blood orange, thus enhancing the value of the fruit. One story was circulated which alleged that the operator visited the unripe oranges while yet on the tree, and by careful use of a hypodermic syringe injected the coloring matter, which diffused itself thoroughly throughout the entire pulp of the fruit during the process of ripening.

According to recognized authorities there are many varieties of the common orange (Citrus aurantium; nat. ord. Rutaceæ), and the blood orange, or Malta orange, as it is sometimes called, is one of these varieties.

For the purpose of making a few experiments on the subject, a number of blood oranges were procured from different sources. The color of the pulp varied from a light pink to deep crimson, and while it was uniform in the majority of specimens, quite a few had only scattered pulp cells containing the coloring principle. It was also noticed that dealers frequently substituted the common variety of orange, no external difference being discernible to the ordinary purchaser.

One dealer was interviewed, however, who was able to select blood oranges, apparently at random, from his stock of common fruit, although he could not or would not point out the peculiarities which enabled him to distinguish them. In the examination of the various samples identical results were obtained in all cases, upon the application of the various tests for the identification of coloring principles. The experiments were performed as follows:

The juice was first expressed and then filtered, after which it was treated according to Stein's scheme for the determination of coloring materials. (Prescott's "Organic Analysis," page 188.)

1. Boiled with aluminum sulphate, solution turns red without golden-green reflex.

2. Upon addition of sodium sulphite the solution becomes bleached.

3. No color is produced upon adding alcohol to 80 per cent. and boiling. (This excludes aniline reds.)

4. No color is produced when it is warmed with lime solution.

These reactions all correspond to those produced by the coloring principle of safflower, and the following changes are also produced by both:

The original solution is bleached by the addition of ammonium sulphide and also of lime solution, the color being restored in either case by acidulating with acetic acid. This fact of safflower coloring answering so completely to all of these tests, added to the fact that citric acid (which is normally present in oranges) is sometimes used in mordanting safflower color, led to a correspondence with several prominent fruit dealers and florists in the South. The facts just related were stated and information was desired, if they were at liberty to give it. A prompt and emphatic denial of any knowledge of such nefarious practices as had been alleged was received from every party interrogated. One firm also volunteered the information that "there is a fortune awaiting the person who can transform ordinary oranges into bloods."

The foregoing investigations were merely superficial and are published with the hope that some person who is fully conversant with the subject will publish some facts relating to it and thus relieve the public of their suspicions regarding the origin of this much-maligned fruit.

MOSQUITO BANE.

1.) Expressed oil bay.....10 parts
Oil eucalyptus .....20 parts
Ether .....20 parts
Alcohol .....70 parts

Dissolve the expressed oil bay in the ether and the oil eucalyptus in the alcohol. Mix the two solutions and filter rapidly in a covered funnel. This compound may be used for domestic animals as well as for man, or it may be placed about the house.

2.) Make a paste with mucilage of tragacanth of 500 parts charcoal in powder, 60 parts saltpeter, 40 parts carbolic acid, 250 parts insect powder. Divide into suitable-sized cones and use as fumigating pastiles.

3.) Wood charcoal .....1 pound
Potassium nitrate ...2 ounces
Carbolic acid .....1½ ounces
Persian insect powder 8 ounces
Mucilage tragacanth, sufficient quantity.
To form pastilles.

4.) Eucalyptol .... 5 parts
Talcum ....10 parts
Corn starch .....85 parts

Especially adapted for parties camping out. It may be rendered more effective by replacing 50 per cent. or more of the starch by naphthalin.

WALNUT SHELLS IN GROUND CINNAMON is an adulteration discovered in England.

ZYMOIDIN is a gonorrhœa remedy, composed of the oxides of zinc, bismuth and aluminum, iodine, boric, carbolic, gallic and salicylic acids and quinine. Used as dusting powder, solution, bougie or ointment.

ADHESOL is an antiseptic dressing or varnish, used in the treatment of superficial injuries and made by combining 3 parts each of gum benzoin, balsam tolu and alpha-naphthol, 35 parts copal resin, 2 parts oil thyme and 100 parts ether.

PHARMACY.

GLUCOSE IN FLUID EXTRACTS is believed by F. W. Haussmann (Am. Jr. Ph.) to be quite a frequent adulteration. He reports having found glucose to the extent of 5 per cent. or over in certain makes of fluid extracts and concludes that it is added to give body to the preparation.

SEX OF SUGAR.—The chemical section of the French Association for the Advancement of Science is puzzling its head over a problem which, fortunately, English-speaking chemists will never have to solve. (Lit. Dig.) It concerns the gender of such words as "saccharose," "glucose" and "maltose." Some grammarians maintain that they are feminine, since they have a feminine termination, and others that they are masculine, since they are varieties of sugar, and the word sucre is masculine.

OIL OF ROSES.—According to the report of U. S. Consul Theodore M. Stephan, Annaberg, the culture of roses in Bulgaria for the manufacture of attar is carried on principally in the valleys of Kazanlyk and Karlowo. The industry has, however, gone back considerably since 1890. While in 1889 and 1890 the value of the exports were $250,000 and $300,000 respectively, they disclosed a falling off to $67,200 in 1891, further a fall in 1892 to $54,800, and to $28,700 in 1893. A large part of the trade has gone to Southern France.

TREE TRUNKS AS FILTERS.—A well-known Austrian engineer, M. Pfister, is announced as having discovered a remarkable property of the trunks of trees, namely, that of retaining the salt of sea water that has filtered through the trunk in the direction of the fibers. He has consequently constructed an apparatus designing to utilize this property in obtaining potable water for the use of ships' crews. This apparatus consists of a pump, which sucks up the sea water into a reservoir and then forces it into the filter formed by the tree trunk. As soon as the pressure reaches 1.5 to 2.5 atmospheres the water is seen—at the end of from one to three minutes, according to the kind of wood used—to make its exit from the other extremity of the trunk, at first in drops and then in fine streams, the water thus filtered being potable, freed, in fact, from every particle of the usual saline taste which is such a drawback to water obtained in the ordinary manner.

DETECTION OF SULPHATES, SULPHITES, AND THIOSULPHATES IN THE PRESENCE OF EACH OTHER.—R. Greig Smith recommends (Ch. News) the following method for the satisfactory separation of these compounds. The presence of thiosulphate having been indicated in the preliminary test, to a dilute solution of the substance solutions of barium and ammonium chlorides in excess are added, the latter for

the purpose of facilitating the filtration of the barium sulphate. Hydrochloric acid is then added drop by drop, until it is evident that all the barium sulphite and thiosulphate are in solution, and only the sulphate remains. The solution is then filtered through a second moistened double filter paper. The filtrate must be perfectly clear. If it becomes opaque the solution should be thrown out and a more diluted one used. To half the filtrate iodine solution is added until a permanent yellow tinge is formed; a white precipitate then indicates a sulphite which has been oxidized by the iodine to sulphate, traces being more apparent by comparing the treated and untreated halves of the filtrate. They are then mixed, and more iodine having been added if necessary, bromine water is added to half, when thiosulphate is indicated by the formation of a white precipitate of sulphate of barium, caused by the conversion of thiosulphate to tetrathionate by the iodine, and oxidation to sulphate by the bromine. The absence of hydrosulphuric acid must be insured before carrying out this test by bubbling carbon-dioxide through the solution.

TO MEASURE SHADES OF COLOR.—In a number of industries, preparing printing inks, color illustrations, mixing dyes, estimating the quality of petroleum, lard and flour, detecting the condition of steel in a Bessemer converter, and so on, it is of great importance to measure very delicate shades of color most accurately. As the result of twenty-five years' study of the problems involved and experiments with various methods of dealing with them, J. W. Lovibond, of Salisbury, England, has invented a device which is said to perform the desired work easily and accurately, although any one employing it successfully must, of course, possess a keen sense of color. In two tubes, placed side by side for comparison, are placed the article to be tested (either a powdered pigment or a liquid preparation) and a number of transparent colored glass plates. The latter are properly selected and added until the light transmitted through them exactly matches the hue of the dye or pigment; and then the numbers are read off from the plates and summed up, very much as one would ascertain the weight of an article by a set of sensitive scales. Standards having once been secured for each of the three primary colors (red, yellow and blue), more than 100 different degrees of intensity in each color are obtained in as many different plates or disks. By properly proportioning and mixing those representatives of the fundamental colors all the possible tints and hues that the eye ever saw can be reproduced exactly. A record of the disks used in so doing having been made, it is possible to transmit merely a numerical memorandum instead of samples, to ascertain whether subsequent purchases are up to the original standard, and to detect any fading or change of hue owing to time and exposure. Mr. Lovibond calls his instrument the "tintometer."

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Correction.

In the Aug. 22, 1895, Era, page 230, third paragraph, middle column, Professor Coblentz' article, it was stated that Magendie's "Solution of Morphine" (Liquor Morphinæ Hypodermicus, N. F.) contains 1 grain of morphine sulphate to the fluid dram. It should read "2 grains to the fluid dram."

Pharmacists in the U. S. Navy.

(C. E. M.) See Era Aug. 1, 1895, page 143.

Blue Print Process.

(W. & F.) See April 11, 1895, Era, p. 464.

Hair Remover.

(G. W. H.) See reply to a similar query, page 430, April 4, 1895, Era.

Sweating of the Feet.

(F. B.) See issues of the Era for March 25, page 398, and April 25, 1895, page 524.

Roach Powder.

(G. D. S.) The sample powder you send seems to be composed principally of borax. Formulas for roach powders appeared on p. 271, last week's Era.

Plant Indentification.

(D. J. H.) Dr. Rusby, of the New York College of Pharmacy, reports that No. 1 is spearmint, No. 2 a variety of mentha canadensis and that he will report later upon No. 3.

A German Mixture.

Referring to the query under this title in the Aug. 15, 1895, Era, page 207, W. B., Cincinnati, O., writes that he has looked the subject up in Hoffmann's "German Translator," and he thinks that Durchgedrungengliederöl, or oil of hyoscyamus, is what is wanted. He attempts to give no information regarding the remaining ingredients, however.

Arnicated Almond Cream.

(J. H. B.) Almond meal is seldom employed in the preparation of liquid cosmetic creams. In the May 30, 1895, Era, page 688, is given a typical formula from which a preparation containing arnica may be made by incorporating with the almond cream a sufficient quantity of tincture of arnica. The presence of the other odors will satisfactorily disguise that of the arnica. Try it.

Hypodermic Tablets.

(R. G. M. & Co.) The diluent used in the preparation of hypodermic tablets differs with each individual manufacturer. Powdered cane sugar has been employed, but in some cases where tablets prepared with it have been used abcesses have been produced at the point of puncture of the needle. Sodium chloride has been recommended, but the best diluent is exsiccated sodium sulphate. It is non-irritating and readily soluble in the amount of water required for injection.

Water-proof and Gas-tight Varnish.

(J. R. B.) The following will probably answer your purpose: Cut up 500 parts of caoutchouc, and let it digest in 3,000 parts of oil of turpentine for 7 days, putting the vessel in a warm place; then heat the mixture in a water-bath until it is entirely homogeneous, add 2,000 parts of warm drying oil previously boiled, mix intimately, and strain the compound as soon as it is cold. Several processes for water-proofing fabrics were given in the June 13, 1895, Era, page 749.

Gelatin Hektograph.

(J. H. B.)

1.) Sugar,
Gelatin, of each.....1 ounce
Barium sulphate .....3 ounces
Hot water .....4 ounces
Glycerin .....6 ounces

Dissolve the gelatin in the water and then add the other ingredients, stirring until mixed. The warm solution is poured into a flat tin tray and allowed to cool.

2.) Gelatin ..... 12 parts
Dextrin ..... 10 parts
Glycerin .....100 parts
Barium sulphate ..... 8 parts

Rhus Aromatica.

(E. W. T.) Rhus aromatica (sweet sumach) is an indigeneous shrub of the natural order terebinthaceæ, growing about 5 feet high, and having yellow flowers in spikes. The root-bark contains a volatile oil, several resins, fat, tannin, etc. This drug is mentioned on page 1732 of the United States Dispensatory and the National Dispensatory treats of it at greater length. It is said to possess a selective action upon the urinary tract, and has been used to considerable extent for incontinence of urine in children. The fluid extract is given in doses of 10 to 20 minims.

Headache Powders.

(C. H. M.) The following are typical formulas:

1.) Acetanilid .....3 grains
Caffeine .....½ grain
Bicarbonate soda .....3 grains
Make one pill, powder or wafer.

2.) Acetanilid .....3 grains
Salicylate soda .....3 grains
Caffeine .....½ grain

3.) Acetanilid .....3 grains
Salicine.... .....4 grains
Caffeine .....½ grain

4.) Powdered guarana.10 to 15 grains
White sugar.....q. s.

To be taken once or oftener in the day. Consult indexes of previous volumes of the Era for similar formulas.

Dispensing a Rhubarb Mixture.

(B. F. C.) wants to know how the following may be dispensed:

Rhubarb, powdered.. 2 ounces
Jalap .....4 drams
Socotrine aloes..... 3 drams
Glycerin ..... 2 fl. ounces
Water ..... 2 fl. ounces
Simple syrup, enough
to make.....16 fl. ounces

In the absence of any directions it is difficult to tell just what the prescriber

wanted. While the drugs may be worked up into a mixture after the fashion of the old-time electuary, yet it is hardly possible that he intended it to be done. A satisfactory method would be to use an equivalent of the fluid extracts of the above drugs, or an aqueous infusion of them may be prepared, deducting, of course, the amount of water from the quantity of simple syrup directed in making up the mixture.

Hair Tonic.

(H. W. V.) See page 239, Aug. 22, 1895, Era. Here are some others:

Tincture rhatany	2 cc.
Tincture cantharides	1 cc.
Alcohol	50 cc.
Spirit lavender	5 cc.
Glycerin	7.5 cc.
Quinine sulphate	1 gram

Hager is authority for this one:

Tincture cantharides	1 gram
Oleo-balsamic mixture (N. F.)	50 grams
Tannic acid	5 grams
Rose water	50 grams
Alcohol, Glycerin, of each	100 grams

Make a solution and filter.

Carbolic acid	2 grams
Tincture nux vomica	10 grams
Tincture cinchona	40 grams
Tincture cantharides	3 grams
Cologne water	80 grams
Castor oil	40 grams

Shake well before using.

Bleaching Lard.

(C. E. T.) If lard be perfectly rendered, bleaching is not necessary. For use in the preparation of medicaments lard from some source of known reliability should be obtained. Then follow the process given in the United States Dispensatory for purifying through separation of all extraneous matter such as blood and tissues, carefully melt it to separate the moisture, strain through linen and pour into suitable vessels for keeping.

Potassium carbonate is sometimes used to impart an artificial whiteness to commercial lard. It also makes it possible to incorporate with the lard considerable proportions of water. Lard containing it does not answer the pharmacopœial requirements, and, of course, should not be used. To show how "bleaching" lard is said to be done upon the large scale by butchers' supply houses, we quote the following process recommended by a trade publication: One-half ℔ salts of tartar, 2 oz. acetate soda and ½ ℔ borax. Dissolve in hot water and use to 500 ℔ stock; when at a temperature of 160° agitate up to 200°, not over. Allow to settle and cool until ready to draw.

Books on the Manufacture of Acids, Alkaloids, etc

(A. D.) There is no one book which contains all of the information you desire. That can only be obtained by a systematic and prolonged search through many books, technical and periodical literature, etc. Considerable information on the manufacture of the various acids may be found in works on general chemistry and books of a technical character, like Thorpe's "Dictionary of Applied Chemistry," Spon's "Encyclopedia of the Industrial Arts, Manufactures and Commercial Products," Richardson and Watts' "Treatise on Acids, Alkalies and Salts." Lunge, "Theoretical and Practical Treatise on Manufacture of Sulphuric Acid and Alkali, With Collateral Branches," etc. A general scheme for the extraction of alkaloids is given in the Aug. 22, 1895, Era, page 228. This is by no means a comprehensive one nor does it give the details as carried out upon a manufacturing scale. We suggest you consult the following: Proceedings American Pharmaceutical Association, National and U. S. Dispensatories, files of pharmaceutical journals, Flückiger and Hanbury's "Pharmacographia," Hager's "Handbuch der Pharmaceutische Praxis," etc.

Remedies for Dandruff.

(H. W. V.) A good deal in the way of preventive treatment of dandruff can be accomplished by the proper care of the scalp and of the general health, and the nearer the body can be kept to the standard of health by means of bathing, exercise and good diet, the less likely is dandruff to develop. It is important, too, that local measures be supplemented, in the majority of instances, by internal treatment to render the cure permanent. This treatment must be along the lines marked out by a competent physician, whom you should consult. Following are some formulas for local application:

1.)	Resorcin	5 to 10 parts
	Castor oil	45 parts
	Alcohol	150 parts
	Balsam of Peru	0.5 part

Rub in daily with a piece of flannel.

2.)	Eau de cologne	1 dram
	Sulphurous acid	2 drams
	Glycerin	1 ounce
	Distilled water	4 ounces

Brush into the hair each day.

3.)	Caustic potash	8 grains
	Phenic acid	24 grains
	Lanolin	4 drams
	Cocoanut oil	4 drams

Rub into the scalp morning and evening.

4.)	Balsam Peru	½ dram
	B-naphthol	1 dram
	Lanolin	6 drams
	Benzoated lard	2 drams

5.) The head should be first well washed with hot water and alcohol soap. Alcohol soap consists of 2 ounces of soft soap (made from olive oil), ½ ounce alcohol and 10 minims oil of lavender. The soap is afterward washed away with plenty of hot water and the head thoroughly dried with a warm cloth. Then thoroughly and firmly rub into the scalp a glycerole of tannin, strength from 10 to 30 grains to the ounce, according to the gravity of the case. If the tannin fails, resorcin may be tried. The process should be repeated two or three times a week as required. After total removal of the dandruff apply daily a dressing of carbolic oil containing 1 ounce olive oil, 10 grains of absolute phenol and 1 dram oil of cinnamon, warm together and decant.

Herb Bitters.

(S. E. R.) We cannot give you the formula for the proprietary article. Here are, however, several formulas for bitters, some one of which may answer your purpose:

1.)	Ground gentain, Blessed thistle, Calamus, of each	¼ ounce
	Ground orange peel	1 ounce
	Oil orange	8 minims
	Sugar	5½ ounces
	Alcohol, 3 vols., Water, 2 vols., to make	1 gallon
2.)	Unripe dried oranges	100 parts
	Orange peel	30 parts
	Gentian	60 parts
	Cascarilla	30 parts
	Turmeric	15 parts
	Cinnamon	25 parts
	Cloves	15 parts
	Rhubarb	75 parts
	Alcohol	750 parts
	Water	1,650 parts

Digest and filter. Then add:

Oil of star anise	2 parts
Sugar	250 parts

3.)	Burdock root	8 ounces
	Stillingia	8 ounces
	Sarsaparilla	8 ounces
	Senna leaves	4 ounces
	Sassafras bark	2 ounces
	Potassium iodide	1 ounce
	Oil wintergreen	20 minims
	Sugar	1 pound
	Alcohol	3½ pints
	Water enough to make	1 gallon

Grind the drugs to a coarse powder, and having mixed a pint of the alcohol with a pint of water, macerate them for 24 hours with the liquid; then pack in a percolator, mix the remaining 2½ pints of alcohol with an equal measure of water and pour upon the drugs; set in a warm place for 24 hours, then percolate slowly, adding water to the drugs after the liquid has all disappeared from the surface, and continuing the percolation until 7½ pints of percolate have been obtained. Dissolve the oil of wintergreen in half an ounce of alcohol and add the solution with the sugar and potassium iodide to the percolate. Dissolve and filter.

TUBERCLE BACILLI IN BUTTER.—Roth, of Geneva, after demonstrating the frequency of the bacillus of tuberculosis in milk, relates his experiments with cooking such infected milk, from which it appears that a simple ebullition destroys the virulence of milk drawn from cows with sore udders and shown to be very infectious by inoculations on other animals. So far as butter is concerned, cooking changes its taste too much to be used as a means of prevention. Nevertheless, as Rang had already demonstrated, Roth proves that the cream and butter of milk from cows with tuberculous udders will infect guinea-pigs; with some samples of butter sold in the market he infected two out of twenty and Broferro has infected one in nine. Unfortunately, there is no method of promptly recognizing the bacillus in butter.

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DRUGGISTS INTERESTED.

SOME POINTS IN THE REMARKABLE BLISS POISONING CASE OF MOMENT TO THEM.

There are one or two features of the Mrs. Bliss poisoning case, the news sensation in New York City within the last ten days, which are of special interest to both wholesale and retail druggists. The victim was poisoned by antimony and arsenic, but as she was a user of the latter in small quantities, the principal efforts of the police have been directed to finding where the antimony was bought Tartar emetic, the form in which this poison was used, is rarely sold by druggists to other than professional men, so it was believed to be an easy job to find the druggist who had sold tartar emetic recently. Although every druggist within two miles of Mrs. Bliss' residence, the Colonial Hotel, at 125th Street and Eighth Avenue, has been visited and questioned, only one seems to have sold that article recently. It was ordered by a veterinary for an expressman whose horses were sick. The police believe that when they find the man who sold oxide of antimony or tartar emetic recently to the person now under arrest they will be able to present a very strong case in court.

The investigation into the matter by the police shows that antimony in its various forms is not on the list of poisons of which the druggist is obliged to keep a record of sales. Every druggist seen said that while he knows he is not obliged to keep a record he never sells tartar emetic without asking the purchaser: "Do you know how to use this?" and satisfying himself that the sale should be made. But, as one druggist says, there is absolutely no use for tartar emetic by the average person, and a customer asking for that drug is immediately looked upon with suspicion. There are various compositions in which tartar emetic figures, but they are always made up by the druggist and are not poisonous as a rule.

One of the New York police captains who is working on the case says: "What was to prevent purchasing the drugs anywhere, downtown, for example? There are almost as many drug stores in this city as saloons. I should say the total number would not fall far short of 4,000." A wholesale dealer who thought this was an insinuation that the poison could have been bought easily at a wholesale dealer's house said: "I should say it would have been almost impossible for the tartar emetic used in this case to have been procured at a wholesale house. To have obtained it the purchaser would have had to have an order blank from some pharmacy, and very likely the signature of the retail dealer would have been necessary on the order. We do not sell large quantities of such drugs to anybody who calls. If, on the other hand, the purchaser called for an amount very near to a fatal dose he would have been under suspicion, because we know he could get such a small quantity at the retail stores."

Druggists generally would be glad to see a better poison law embodied in the penal code, but admit that a law that would cover all poisons or poisonous combinations would be of extreme length and would have to be carefully drawn.

THE OUTLOOK PLEASING.

REPORTS FROM WEST AND SOUTH SHOW IMPROVED CONDITIONS IN THE DRUG TRADE.

During the past week there have been in town an unusual number of drug-trade men from the West and South. They were asked many questions about trade in their respective sections by the tradesmen here, and in almost every case the answer was a pleasing one. In Minnesota and Wisconsin, the reports said, trade is brightening up in a marked degree, and every druggist looks for a good fall and winter trade. They hear good news of business in Chicago, and welcome the boom gladly after six or seven months of rather dull times.

The reports from the South are even more encouraging. In spite of some local drawbacks, the druggists of Texas, Louisiana, Alabama and Georgia say they never saw any more promising signs of renewed business activity than those of the present season. This is especially true in Alabama. For eight years the tradespeople there have been trying to recover from the awful slump that followed the "boom" days, when Northern capital flowed in only to be totally lost. When land dropped, as it did in some sections, from $2,000 a front foot to nothing, all kinds of business suffered. The druggists felt it as much as any other class of business men, but now the depression has been checked. What is being done now is being effected in a solid way.

This news, taken in connection with the generally favorable outlook in the East, is very pleasing to drug-trade men. Collections have improved immensely. One big house in this city tells the Era that their losses on collections have for some time past amounted to only one-half of 1 per cent., a very low percentage. The house is a cautious one, it is true, but in other days a loss of 1 per cent. was considered quite within reason.

Trade-Mark Infringement.

The case of Thomas B. Hughes, the druggist at No. 281 Tenth Avenue, who was arrested for violation of the trade-mark law and the counterfeiting of the trade-mark of the Carter Medicine Co., has finally been settled by the sentence of Hughes to three months in the penitentiary. The trial was held in the Court of Special Sessions before Justices Jerome, Jacob and Hayes, and was a long and interesting one. The case was of such importance that the justices deferred their decision for nearly a week, requiring that the stenographic notes should be written out for them, so they might give the testimony their thorough attention outside the court-room. Their decision was unanimous that Hughes was guilty. The presiding justice, Jerome, when he delivered the sentence of the court on Sept. 4, made some serious remarks, which ought to be very interesting to the drug trade. He said in part:

"Hughes, the court, after a long and careful trial, having the minutes written out, having a record such as yours in the past before us, has come reluctantly to the conclusion that you are a guilty man. We have read the evidence with the greatest care, and the conclusion was irresistible that you were guilty of the crime charged against you. The whole value of many of these articles lies in the trade-marks. Thousands and hundreds of thousands of dollars are spent annually in placing them before the public. If the public cannot rely upon these articles, then a fraud is being practiced upon them and upon the proprietary rights of those persons who own the trade-marks. New York is a great commercial city, and trade-marks are as important to this city as integrity is to the coiner. This is one of the class of cases which this court does not look upon with any leniency at all. The sentence of the court is that you be confined in the penitentiary for a term of three months."

Justice Jerome intimated that but for the fact that Hughes had been in jail for some time already, and that this was the first charge against him, he would have received a much more severe sentence. This is the first case that can be recalled in which a man has been put in the penitentiary for the counterfeiting of a trade-mark or violation of the trade-mark law.

The Food Commission Active.

Cincinnati, Sept. 9.—The return of Professor Fennel from the Denver convention has caused a renewal of interest in the operations of the Food Commission and given rise to many rumors concerning future movements. When seen by the Era man Professor Fennel refused to give any inkling bearing on the nature of the articles submitted to him for analysis. It is intimated that the druggists of this city will be investigated again. There are quite a number of cases pending in court which in all probability will be called for trial shortly or dismissed.

A Drug Clerk Abroad.

John McGarigle, of Perry's Sun Pharmacy, who has recently returned from a six weeks' tour of France, Belgium and England, tells some interesting stories about foreign pharmacies. When he was in Paris he visited a drug store near the Rue St. Honore, not far from the Madeleine. He had a prescription for some cough medicine, and while he waited for the article he looked around the store. There were three clerks, besides the manager, and all wore Vandyke beards and were dressed in their best. It was Sunday and all felt pretty good apparently, for while two of the clerks were humming a nonsensical ditty called "En Voulez Vous des Homards," now all the rage in Paris, the other clerk fired corks at them, to the amusement of the stout woman cashier. Apparently time hung heavy on their hands. The cough medicine prescription called for Mist. glycyrrhiza co., among other ingredients, but there was no sign of it in the bottle, at least there was no precipitate as is usually the case. The cost of the 2-ounce bottle of cough cure was 20 cents. Among the oddities that struck his attention was the immense bottle used to keep sulfonal in. It must have held 2 pounds at least, so Mr. McGarigle concluded that insomnia is a common trouble in the gay city. At another time he took an Englishman who was suffering from an attack of nosebleed to the drug shop formerly kept by Tanret, where the clerk, who spoke German, French and a little English, fixed up a plug of cotton saturated with iron for 15 cents. The remedy proved efficacious.

While in London Mr. McGarigle looked around for some all-night pharmacies, but could find only one. That was on New Oxford Street, near Pears' headquarters. They return original prescriptions there, so the tourist concluded that that is the custom in England. One side of the 2-ounce bottle he received at that store was marked off into teaspoonfuls. He also noticed that almost every clerk in London drug stores wore a frock coat. Mr. McGarigle did not enjoy the best of health abroad, due to the damp air in Paris.

A Druggist in a Boston Suburb Robbed of $600.

Boston, Sept. 6.—W. E. Nichols, druggist, 697 Centre Street, West Roxbury, discovered this forenoon that his safe had been rifled of $600, and he accuses his clerk, Nathan Clouther, of being the thief. It was rather late this morning when Mr. Nichols opened the safe, and then he found that some time in the night somebody had been there and taken all the money. As the clerk had not appeared to-day at his usual hour, and was the only one besides the proprietor who was supposed to be in possession of the combination, it was very naturally concluded that he was guilty. Although no violence was used in opening the safe itself, the small drawers inside were pried open to get the cash. The missing clerk had a key to the store.

Baltimore Trade.

Baltimore, Sept. 9.—While there appears to be a slight improvement in the wholesale drug trade of this city, the retail business continues to languish; and although the causes are generally recognized, the application of the remedy seems to be beyond the ability of the pharmacists. Not only do they suffer through competition from without, but also, and perhaps equally as much, owing to want of co-operation among themselves. Yet there is evidently no way in which they can be brought together. In some few instances success rewards enterprise. One of these is the removal of Messrs. Moore & Copper to a location diagonally opposite from their old store on Lexington Street. Their sales have largely increased since the change was made. But where one firm which prospers, half a dozen others have a hard struggle. As an evidence of the pinching times for druggists it may be mentioned that a single issue of a daily paper recently contained four advertisements offering drug stores for sale. Three of them were in the city and one in Cecil County. The proprietors of all claimed to have satisfactory reasons for selling, as no doubt they did.

Indignant Druggists.

Rochester, N. H., Sept. 7.—There is excitement here over the order of the mayor compelling the closing at 10 P. M. of all drug stores where liquor is sold, and cautioning druggists to supply no liquor under any circumstances except on physicians' prescriptions, the same to be filled and treated as ordinary prescriptions. The druggists are indignant and refuse to furnish liquor at all. Naturally, the doctors also are provoked. The affair is causing a stir in other parts of the State.

Trade-Mark Decision.

The examiners in the Patent Office recently refused to register as a trade-mark for salmon the symbol "rosebud" in connection with the word "rosebud," the refusal being based upon the fact that the applicant was trying to register two symbols in one application, that is, a pictorial representation and the word describing it. Upon appeal to the Commissioner of Patents the latter said: "In refusing registration the examiner was following precedent, although some of the cases turn on the question whether the word and the figure are true alternatives. It seems that the trade-mark as offered is, so far as appears, a lawful common-law mark, and where the prescribed statutory requisites are present, it is thought that the administration of the law should be reasonably liberal concerning registration." The petition was granted.

☞ WANTED, A SALESMAN.

Manufacturers and jobbers when in need of good salesmen will find that a "Want Ad." in the Era will bring them many good replies. There are plenty of bright, active and capable drug clerks seeking such positions, and thousands of drug clerks are constant readers of the Era "Want Ads."

NEW YORK AND VICINITY.

——E. B. Norton, of Birmingham, Ala., has just paid his first visit to New York.

——Samuel W. Fairchild has been having good sport recently in the Adirondacks.

——W. R. Warner saw last Saturday's America Cup race from the deck of the flyer Monmouth.

——Geo. D. Feidt, of George D. Feidt & Co., Philadelphia, was in town on business last Friday.

——W. A. England has resigned his position at A. Gardner's pharmacy, 49 Myrtle Avenue, Brooklyn.

——J. B. Farlow, a druggist in the McCormack Building, Salt Lake City, was in New York last week.

——Charles O. Barker, a prominent Jersey City druggist, is one of Hudson County's grand jurors this month.

——Dr. Emanuel Driefus, a druggist and medical practitioner of New Orleans, is here with his family for a short stay.

——Eugene Ross, traveling man in the Northwest for Sharp & Dohme, is spending his vacation in and around New York.

——Harry Munson, a druggist at 160 Willoughby Street, Brooklyn, died last week of pneumonia after an illness of four days.

——C. R. Sanford, of the claims and allowance department at Schieffelin & Co.'s, is spending his vacation at Canaan, Conn.

——Charles Dyna, head clerk at J. Colp's pharmacy, 209 Bleecker Street, has just recovered from an attack of typhoid fever.

——S. A. Brown, of S. A. Brown & Co., Houston, Tex., has been North for a week or two, making a short stay in Boston and this city.

——Mr. and Mrs. Louis Rupp returned from their European trip last week. Mr. Rupp is in the drug business at Ninth Avenue and Thirty-sixth Street.

——I. I. Lourie, who was at one time the proprietor of a drug store at 432 Sixth Avenue, Brooklyn, is now fitting up a store at 435 Seventh Avenue in the same city.

——E. H. Cooper, of Eagle Pass and Piedras Negras, Tex., was here last week on his way to see his family, who have been located at Sag Harbor for the summer.

——Albert Fredericks, a clerk in Marrion Schwallie's drug store at No. 703 Third Avenue, Brooklyn, became violently insane the other day and was removed to the Seney Hospital.

——Among recent callers at the Era office was M. Clayton Thrush, graduate of the Philadelphia College of Pharmacy, now with H. L. Stiles, corner of Thirty-third and Haverford Streets, Philadelphia.

——John Irving, Jr., of New Brighton, Staten Island, has purchased the house and drug store of P. J. Dwyer at the same place and will conduct the business under the name of the Brighton Pharmacy.

——Two drug-trade men who spent a few days at the Knights Templar conclave in Boston and then saw friends here last week were S. A. McDonnell, of

San Francisco, and Robert C. Dickinson, of Erie, Pa.

——Samuel Colgate, of Colgate & Co., is rapidly recovering from the indisposition which attacked him at the office recently. He had to be taken to his home in Orange, N. J., but is now able to get around the house.

——D. H. Heaton, a native of Potsdam, N. Y., and at present a druggist at Cuero, Tex., has been on a tour through the West, and also spent the past two months at Potsdam. He visited New York City last week.

——In Lehn & Fink's office two show jars are on exhibition side by side, one filled with Siam gum benzoin and the other with an extra select gum asafœtida. Such a sample of asafœtida in tears is rarely if ever seen.

——W. H. Wickham, of McKesson & Robbins, has gone to the Adirondacks for a few weeks. He is stopping at the Prospect House, Blue Mountain Lake. Howard Kirkland has been away from business on account of illness.

——Theodore Weicker, of Merck & Co., reports the drug trade in Germany very quiet. While he was in Hamburg he met Messrs. Ruf and Cox. Mr. Weicker was absent from New York about two months, and returned in excellent health.

——George Steinheuer, N. Y. C. P. '95, has left his position, 48 Putnam Avenue, Brooklyn, to accept a position with H. A. Cassebeer, 292 Sixth Avenue, New York City. The vacancy in the latter store was caused by the resignation of A. C. Geist.

——Chas. E. Dohme, of Sharp & Dohme, and the first vice-president of the American Pharmaceutical Association, is expected to arrive here on the Spree. He went to Europe in April and has, with Mrs. Dohme, spent the time since then traveling over the continent.

——Henry Sasse, N. Y. C. P. '93, has just returned to the city after spending a two weeks' vacation at Far Rockaway and the Catskills. He has been with R. C. Knipe, 692 Grand Street, Brooklyn, for the past year, but resigned his position previous to taking his vacation.

——Word has been received here of the dissolution of the copartnership of W. H. King & Co., Raleigh, N. C. The firm was composed of Henry E. Litchford, John H. London and W. H. King. The latter assumes all the obligations of the firm and will continue the business.

——Frederick Cassebeer, of the Cassebeer Pharmacy at Seventy-second Street and Columbus Avenue, was married on Aug. 28 to Miss Steinheuer at the home of relatives of the bride at Hanau, Germany. Mr. and Mrs. Cassebeer will sail for America the latter part of this month.

——The Undertakers and Medicinal Supply Co. of Brooklyn has filed a certificate with the Secretary of State at Albany announcing that its capital stock has been increased from $5,000 to $20,000, in shares of $50 each. Among the directors of the company are Machman Firestone and Adolph Firestone.

——There is no more popular salesman in the business than S. H. Carragan, and his hosts of friends will be sorry to hear that he has met with a great sorrow. Mrs. Carragan, who had been ill for a long time, died at Saratoga last Saturday. The body was brought to her home in Brooklyn on Monday. The funeral took place the following day.

——Chas. N. Crittenton's traveling car, of which mention was made in a recent issue of the Era, was robbed of $1,600 worth of furnishings while standing in the yard of the Wisconsin Central road in Chicago. Mr. Crittenton paid $10,000 for the car and had just had it refurnished. The thief carted off the furnishings in a wagon, even taking the organ.

——Of the Southern men in town last week and the early part of this week may be mentioned J. Hicks Bunting, of Wilmington, N. C., W. A. McBeth, of Knoxville, Tenn., J. H. Maxwell, of Austin, Tex., W. H. McNair, of Tarboro, N. C., P. C. Candidus, of Mobile, Ala., and E. S. Burnham, of Charleston, N. C.

——Richard Herzschuck, superintendent of the shipping department of Merck & Co., died last week at his home in Newark, N. J. He came from Germany eight or nine years ago, and had since been an employee of the William Street firm. About four weeks ago he began his vacation, but was compelled to keep to his house by a complication of diseases. The immediate cause of death was heart failure.

——W. L. Brower, of Schieffelin & Co., has been spending a few days in New Brunswick and from there will go to the Adirondacks for the rest of his vacation. W. N. Clark is just back from the Adirondacks and Dr. Wm. Jay Schieffelin is also home from Bar Harbor. The employees of the firm have almost all finished their outings. E. H. Wiswell, of the sundries department, and J. A. Jamison, of the receiving department, are at present away for two weeks.

——A Harlem druggist is credited with having an up-to-date method of attracting customers to his soda counter. One of his signs reads: "Soda as cold as charity. On Tuesday next we will serve our delicious chocolate cream soda for 1 cent per glass between the hours of 2:30 and 3:30 P. M." Under this sign, as if he knew that many of the gentle sex would crowd around the counter to the injury of their garments, the manager has a sign which says: "Cleanine removes cream soda, chocolates and all stains from gloves and fabrics."

——Leopold Becker, a Brooklyn Eastern District druggist, has been spending his vacation at Clinton, Conn., and tells the prize fish story of the season. He was fishing with friends off Cornfield Reef when he hooked a monster, which pulled so hard his friends had to help him with the line. The monster turned out to be a 10-foot shark, which was so goaded by the fishermen that he bit a great piece out of the gunwale of the boat. Then the shark snapped the line and made off. It is said that Mr. Becker proposes next season to go a-fishing with a Gatling gun.

——Druggist Van Horn, of Van Horn & Ellison, Park Avenue, has made a statement in regard to the case of Mrs. Gertrude Lyons, which has attracted much attention lately. A grave injustice was done the druggists by the statement that they had furnished the wrong medicine to the woman, who was a guest at the Murray Hill Hotel. Mr. Van Horn says that Mrs. Lyons was suffering from an eruption and the physician who attended her ordered bitter oil of almonds. The prescription was filled to the letter. All reports that the woman died of poisoning were untrue, as the autopsy showed she died of convulsions from cerebral congestion and cardiac dilation.

——William Rust, one of the oldest citizens of New Brunswick, N. J., and a widely-known druggist, died recently in that city. He was born in New York City in 1810, and from 1834 to 1854 was a wholesale druggist here. In the latter year he established the business since conducted in New Brunswick, having a large plant at Peace and Burnet Streets. Two of Mr. Rust's sons have been associated with him, the house having patented and manufactured several medicines and toilet preparations. When the New Jersey Pharmaceutical Association was formed Mr. Rust was chosen its treasurer and served in that position for nineteen years. Two of his sons, Wm. H. and Schuyler S. Rust, will continue the business. The other son is Frank H. Rust, a druggist at Lakewood, N. J.

Minnesota Mention.

St. Paul, Minn., Sept. 6.—The scientific department of the St. Paul Seminary, the Catholic institution which was formally dedicated this week, will have the best-equipped laboratory in the Northwest. Father Shields, graduate of the Johns Hopkins University, is in charge of the department. Apparatus and other supplies are being imported from England and Germany by Noyes Bros. & Cutler for the seminary, and no expense is being spared in fitting up the laboratory and other branches of the scientific department.

D. R. Noyes attended the national convention of the wholesalers at Denver.

W. F. Michel is running a drug store at Olivia, now the county seat of Renville County.

It is reported that E. O. Lyders, who was for years in the drug business at Sacred Heart, is about to resume it at the same place.

B. O. Kreuger, who was so long the pharmacist of Lauer's drug store, Winona, is now employed in the same capacity by F. P. Parks, Tracy.

The wholesale drug houses here report constantly improved business and a greater demand for stocks and clerks than at any time before for the past two years.

W. J. Martin, formerly of Winnipeg, lately returned from Vancouver, B. C., and is now in charge of the drug store of Merrill & Clark at Stillwater while the clerks take a vacation.

Dr. J. P. Omich, who has owned a drug store at Northwood, N. D., for several years past, is visiting in St. Paul. The doctor did a cash business all through the hard times and is looking happy.

HERE AND THERE.

——A cut-rate war is threatened for the druggists of Kansas City, Mo.

——J. B. Kerr, cor. Lake Street and Bryan place, Chicago, has made an assignment.

——Geo. A. Graves has opened a branch store at Ellis Avenue and Oakwood Boulevard, Chicago.

——W. H. Klepinger, druggist at Frankfort, Ind., lost his only child, a daughter, aged 20, on Aug. 17.

——Chas. Matthews, of Sharp & Dohme's Chicago office, went to Denver to attend the N. W. D. A. meeting.

——Ashman & Temple, druggists at Frankfort, Ind., have added a line of queensware and glassware to their stock.

——Mr. S. A. Humiston, of Humiston, Keeling & Co., Chicago, has returned from a month's vacation spent at Swampscott, Mass.

——E. A. Medler, the St. Louis druggist at Twentieth and Ferry Streets, was married recently to a pretty North End society belle.

——The Mount Pleasant Drug Store, St. Louis, has closed up on account of "too much business." It was started only a short time ago.

——The man who says he will welcome death as a release from a life made up of sorrow, generally sends for four doctors when he has the colic.

——Ambrose Mueller, a St. Louis druggist, is visiting friends and relatives at Leavenworth, Kan., and on his return will enter the Missouri Medical College.

——A new drug store is in course of erection on Chestnut Street between Seventh and Eighth Streets, St. Louis. It will be known as the El Merito Pharmacy.

——Druggist Chas. H. Scobey, formerly of Hamilton, O., then of Denver, Col., and now of Cripple Creek, Col., is being sued for divorce by his wife, who alleges cruelty.

——R. W. Clark, druggist at Lewiston, Me., has been spending the summer at China, Me., recuperating. He was seriously ill, but is now back to business much improved in health.

——Arthur Emery, a young commission merchant, died in Baltimore Aug. 26. His prolonged illness had much to do with the assignment of J. K. B. Emery, a druggist, several weeks ago.

——The Pharmacy Exposition at Chicago was not a success. It opened about the middle of last week, but only remained open a couple of days. A dearth of exhibits is said to be the cause.

——Mr. Isaac H. Fry, first-vice-president of the Chicago Retail Druggists' Association, who has been spending his vacation in Glenwood Springs, Col., is expected to return in about ten days.

——The leading manufacturer of druggists' boxes tells us that Germany is about to enter this field with a new paper bottle cap which is not only cheaper than those now sold in this country, but it is claimed that they will be better; the outer cap being reinforced by an inner cap of parchment paper which will make it stronger and capable of retaining its shape longer.

——The Board of Aldermen of Denver, Col., has passed an ordinance licensing drug stores to sell liquors. The fee is $400 for bottled goods and $600 to sell by the drink. Only one alderman voted against it.

——Alfred Rodenbach, son of Christopher Rodenbach, a Buffalo, N. Y., druggist, committed suicide recently. He was a graduate of the Buffalo College of Pharmacy, class of '93, and 23 years of age.

——Mr. W. G. Taylor, traveling for Morrisson, Plummer & Co., went to the Denver meeting in the interests of the firm, but was called back to Des Moines, Ia., on account of the death of his mother.

——Mr. W. A. Sallade, who has charge of the Wisconsin trade of Morrison, Plummer & Co., reports business in that State as excellent, with the prospects good for further improvement in the near future.

——A druggist in Salem, Mass., W. J. Gearon, accompanied by his wife, is taking a vacation trip through Maine on a bicycle. The plan is to go wherever good roads lead them, no route having been laid out.

——At Eureka, Cal., Edward Skinner, of R. W. Skinner & Co., has been appointed deputy coroner for Humboldt County. Chas. Fitzell will associate himself in the drug business with his brother Lincoln Fitzell.

——E. H. Luce, of Luce & Co., Pueblo, Col., accompanied by his wife, took advantage of the Knights Templar conclave to visit the East on a six weeks' trip. A visit was made to Mr. Luce's father at Waltham, Mass.

——Among the Knights Templar who took part in the recent triennial conclave in Boston, as a member of California Commandery was Dr. S. A. McDonnell, who established the first drug store in San Francisco, about 1850.

——Percy R. Brown, of New Orleans, was in the city last week. Another New Orleans gentleman in town recently was L. N. Brunswig, who, besides being one of the drug trade lights of the South, is a police commissioner of New Orleans.

——A young man of Longview, La., was given a key to a local drug store to get soda water whenever he wanted it. One night recently he went for a glass, but used an aconite preparation instead of syrup and shortly died from the effects of the drink.

——A Kansas correspondent writes: "Business is good, and prospects for a magnificent fall and winter trade the finest we have ever had. Kansas will produce this year the largest corn crop in the history of the State, and that means good times all around."

——Druggist George W. King, of Muskegon, Mich., who was recently on trial for conspiracy in the murder of Nathan Douglas, was married on Sept. 2 to Miss Albina Germain. Mr. King has been a much-accused man, having at another time been charged with setting fire to his own drug store. Of both charges he was cleared.

——E. A. Craighill, Lynchburg, Va., has purchased an interest in the drug business of Messrs. Hudson & Freer at that place. The business will be conducted at Mr. Craighill's old stand, Tenth and Main Streets, and the firm name will be Craighill, Hudson & Freer.

——Wedding ceremonies do not occur very often in drug stores. That is the reason why W. W. Armstrong, of Calistoga, Cal., will long remember the ceremony which occurred in his store some months ago. The nappy pair were well-known people of San Francisco.

——Nathan Gould, a druggist in Berea, a suburb of Cleveland, O., has been sued for $5,000 damages by a woman of that town who alleges that she was poisoned through the carelessness and inexperience of a clerk employed by Gould. She called for cream tartar, but she says she got poison.

——The cut-rate war among the druggists of Des Moines has assumed a very ridiculous aspect. One druggist gives away a newly hatched chick with each glass of soda, others present bread, brooms and base balls, cigars are sold at wholesale prices, ordinary soda water two glasses for a nickel, etc.

——At Fostoria, O., E. P. Austin has left the employ of Campbell & Sons to fill a position with Walding, Kinnan & Marvin, at Toledo. Charles Myers, with Ethelman & Harbaugh, goes on the road for an Eastern house. James Tritchey resumes his old position with Campbell & Sons after a vacation of three months.

——Gilbert Bros. & Co., wholesale druggists in Baltimore, Md., have been sued in the Superior Court there for $2,500 damages, the complainant being Mrs. Emma Edwards, who alleges that she sustained personal injuries on June 25 by falling over obstructions on the pavement in front of the firm's premises.

——Dr. Edward J. Williamson, a well-known practitioner of St. Louis, who for many years conducted a wholesale and retail drug store at the corner of Ninth Street and Franklin Avenue, died in that city on the 19th ult. He was born in New York in 1839, and was a chemist and pharmacist for a number of years.

——In Marion, O., recently, a spotter employed by the city attempted to purchase a drink of whisky at Haberman's drug store, in search for evidence against Sunday violators. Mr. Haberman learned of his purpose and taking a poker ran him out of the store and set a dog on him.

——The South St. Louis Drug Club gave an enjoyable steamboat excursion on the evening of Aug. 30. The club has been laying rather low of late, and its reappearance in the social world was hailed with delight by most of the drug clerks and their friends in the city. A large crowd attended the excursion, and the affair proved a most enjoyable one.

——Druggists John G. Steketee and John A. Hoedamaker, of Grand Rapids, Mich., have been sued for $2,000 damages by Mrs. Lottie McAstockard, who claims that they sold brandy to her

9-year-old daughter without a written prescription or order; also that they sold liquors to her husband, thereby contributing toward making him a drunkard.

——The news that A. S. H. McFarland, a young druggist, died very suddenly in Pennsylvania has caused sincere regret in Baltimore, where he had a large circle of acquaintance. Mr. McFarland was the junior prize man of the Maryland College of Pharmacy this year, having come from Siam to take a course. He also intended to study medicine. Upon graduation it was his purpose to return to Siam, where he was attached to the court.

——A thorough canvass of the drug stores of Detroit has been instituted by the State Board of Pharmacy, the object in view being to determine just how well the stores are equipped with registered help. According to law, every drug store must have at least two registered pharmacists, unless the druggist lives at his store, in which case he is not required to hire any one. The canvass showed that several druggists are violating the law.

——Alpena, Mich., items: King & Vaughan, druggists, have dissolved partnership, the business being continued by Mr. King, who also owns a store at Oscoda, Mich. A. G. Hopper, of the firm of J. G. Field & Co., attended the Knights Templar conclave in Boston. He was accompanied by his wife. Ed. Kinsel, a retail druggist of Detroit and a member of the firm of Kinsel Bros., Alpena, has been looking over his interests at the latter place.

——Miss Olga Bredemeyer, the handsome and accomplished 17-year-old daughter of Charles Bredemeyer, the druggist at 3826 South Broadway, St. Louis, is making quite a reputation as a pianist, and promises to climb the ladder of fame at a lively rate. Miss Bredemeyer recently finished a course in Chicago under the supervision of Professor Goldbeck. While there she was highly complimented as having wonderful talent. Druggist Bredemeyer is justly proud of his daughter.

——Dr. C. O. Rice, one of the foremost physicians of Pueblo, Col., and a member of the drug firm of E. H. Luce & Co., was married to Mrs. Anna May Ingersoll, at the home of the bride's sister, Mrs. Albert J. Deniston, 3230 Rhodes Avenue, Chicago, Aug. 22. After the ceremony the pair started for a tour in the East, including Niagara Falls, Montreal, New York and Dr. Rice's old home, Ashland, Va., and other places of interest in the East. They will arrive home in Pueblo about Sept. 10.

——The Medical and Chirurgical Faculty of Maryland is having erected in the rear of 847 North Eutaw Street, Baltimore, a hall to be used as a meeting place for the State society and also for the local organization. It will have a seating capacity of about 250. A feature of the new building will be a spacious exposition hall on the first floor for the display in connection with the annual conventions of surgical instruments and pharmaceutical preparations. The faculty will celebrate its centennial in 1897.

——Dr. Richard Sappington, a pharmacist at 330 North Gay Street, Baltimore, whose home is on the old York Road, has been on his anniversary pilgrimage to Darlington, Harford County. It is just fifty years ago that he left the parental roof to seek his fortune in Baltimore, after asking a friend by letter to secure him a position. He stipulated, however, that the place was not to be in a drug store. Dr. Sappington studied medicine, his father, uncles and grandfather having been doctors, but delicate health induced him to choose an avocation which would not take him outdoors.

——A small fire in Max Kuhnze's drug store, at No. 1369 West North Avenue, on the morning of Aug. 22, was of peculiar origin. Late Wednesday night when Kuhnze closed his store a piece of shelving dropped upon several bottles of chemicals. He paid no attention to the matter at the time and went to his room. The next morning an officer from the West Chicago Avenue station discovered the fire in the store and turned in an alarm. An investigation showed that the shelf falling upon the chemicals caused them to ignite. The flames smoldered for nearly four hours before they gained headway. The loss to the building and stock was about $300.

——It is whispered that the grand jury is investigating charges of official misconduct brought against Judge Morrow, the United States Commissioner at Chamberlain, S. D. Several months ago C. G. Le Blond, a druggist, of Chamberlain, sold some whisky to an Indian under prescription written by the Indian agent. When Le Blond did it he was proceeded against, and it is said that affidavits are at hand to prove that Judge Morrow said that he would bind Le Blond over because Le Blond, as president of the School Board, dismissed Morrow's daughter from the Chamberlain school. The grand jury refused to indict Le Bond. Then complaints were lodged against Morrow.

——During the great Knights Templar conclave in Boston, not only did many of the druggists elaborately decorate and illuminate their stores, but the Theodore Metcalf Co. filled prescriptions free for all knights, from twenty to fifty of whom called for that purpose daily. The prescriptions brought in were varied in kind, most of them being for trifling indispositions. The greatest amount of trouble was caused by clams, as quite a number of the knights who partook of a Rhode Island clambake as guests of one of the Rhode Island commanderies suffered a good deal therefrom. The visiting knights seem also to have suffered a good deal from the water; not, of course, because they had never taken water before, but because it is not the particular kind to which they are accustomed.

——There is a feud between the Salvation Army and Druggist A. W. Roth, of Detroit. It appears that Mr. Roth objected to having the army hold a prayer-meeting in front of his place of business, and ordered them to move on, claiming that they blocked the street and hurt his business. The army refused to budge, so Mr. Roth turned the hose on them and soaked them until they were obliged to go. But the water didn't seem to dampen their ardor a bit, for they returned to the same place next night. Mr. Roth asked a policeman to interfere, but they paid no attention to his orders to "move on." The officer then undertook to get the names of some of the leaders, and when Mr. Roth stepped out to give him a lead pencil, with which to write, he was roughly treated. A friend came to the druggist's help, and the row was ended by the policeman taking this friend and the army captain to a police station. The captain charged Mr. Roth with assault and battery. In police court Mr. Roth pleaded not guilty, and he was released on $300 bail for examination Sept. 9.

Drug Notes of Oakland, Cal., and Vicinity.

The store of Bowman & Co. has come out of the hands of the carpenters and decorators as the largest and most beautiful store in Oakland. The firm have just succeeded in having the branch money order and post office located in their place of business, and they say it brings them lots of business.

Collins Bros., recently from Eureka, Kan., have purchased the store of F. Calegaris & Co., at 904 Broadway, and are looking for a location uptown. It is understood they would prefer Washington Street, having confidence in the future development of this comparatively new street as a business center.

Geo. B. Flint, of Flint's pharmacy, has practically severed his interest in the drug trade in Oakland, being now connected with the O. P. Downing Co. of San Francisco, in the capacity of president. Mr. Flint is one of the most popular and successful druggists of Oakland, and his change of base will be regretted equally by his competitors and his many personal friends.

The firm of Henderson & Graham, located at the corner of Tenth and Washington Streets, have been succeeded by Dr. John Fearn. Dr. Fearn was one of the few physicians who were able to make a success of the drug business, having established this store some fifteen years ago. Finding professional duties to require practically all of his time, he disposed of his store to Messrs. Henderson & Graham, who conducted it for four years, but owing to dull times have transferred the store to the original owner.

The store of Mr. John Donaldson, at Twenty-sixth Street and San Pablo Avenue, is still closed by the creditors, the San Francisco Board of Trade having a claim of about $400 for Redington & Co., also the owner of the building, putting in a claim for $300 for rent due. It is a pity to see this store forced to the wall as it has been one of the best suburban stores in the city, but dull times and the fact of the downtown stores using heavy advertising of cut-rates to the lowest notch had drawn much trade away from the outside stores.

TWENTY-FIRST ANNUAL MEETING

NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION,

DENVER, COLORADO, SEPTEMBER 2 to 5, 1895.

The sessions were held at the Brown Palace Hotel, and the excellent arrangements of the local committee together with the great interest in the work of the convention, served to make the attendance at every session all that could be desired.

First Session, Monday Evening, Sept. 2—Was devoted to an address of welcome delivered by Mr. Platt Rogers on behalf of the city of Denver, reception to delegates of the various allied associations, and the reading of reports of Committees on Membership and Memorials to Deceased Members.

Second Session, Tuesday Morning, Sept. 3.—The president's annual address was read, the reports of the secretary and treasurer were presented, and the Committee on Fraternal Relations reported. Appropriate resolutions in memory of the late treasurer, S. M. Strong, were adopted, and the Committee on Arrangements presented the association with a gavel; the handle made from pine brought across the plains by ox-team in 1862, the head made from sandalwood obtained at the World's Fair and ornamented with bands of Colorado silver.

Third Session, Tuesday Afternoon, Sept. 3.—The treasurer's report was presented by Mr. Myers, of Cleveland. It showed cash on hand last year, $16.61; receipts, $8,097.65; total, $8,113.26; disbursements, $8,111.86; balance in treasury, $1.40.

Report on Transportation.

The committee expressed its disapproval of the dilatory tactics of transportation companies in adjusting claims for damage, overcharge, etc., and pointed out some injustices in the freight classification of several commodities. It also approved of the National Transportation Association, and recommended that the N. W. D. A. become a member of that body.

Legislation.

This report dealt with the free-alcohol, bankruptcy and pure-food matters which have been so prominent during the past year. The correspondence and action of the committee upon these questions were reviewed, and in commenting upon the diverse opinions, interests and prejudices which the free-alcohol matter had disclosed, the committee said: "In this conflict of opinion, interests that fancied they were not to be benefited; that supposed others—and these of inimical classes—would receive the 'lion's share' of advantage; that objected simply because they did not 'see the way clear;' that had all kinds of objections to urge; have naturally been influential in making it difficult for government councils to determine just what seemed to be the best course to pursue. Had all interests affected unitedly exerted their influence for tax-free alcohol, the law would now likely be in force, and every legitimate interest, large and small, would be enjoying its advantages." The action of the committee in working against the Bailey Bankruptcy Bill and in favor of the Torrey bill, also the opposition to the Hatch Pure Food Bill, was also fully detailed.

Drug Market Report.

This was presented by Chairman Geo. L. Muth, of Baltimore. The depressed condition in all lines of trade was referred to, and the agitation of financial questions was suggested as one of the probable causes of the slowness of improvement. The fact that there had been less failures in the drug trade than in any other was, however, a matter for congratulation. The report dealt with the fluctuations in 137 drugs and chemicals, the most important features being references to the manufacture of benzoic acid in this country, 5 tons having been placed on the market at prices under those for the imported article. A lessened consumption of genuine Bermuda arrowroot was noted, and it was recommended that the practice of labeling and selling fine grades of St. Vincent as Bermuda, though sanctioned by custom, be discontinued.

Proprietary Articles.

In the absence of Mr. Kline the report of this committee was presented by Mr. G. A. Kelly, acting chairman. The report recapitulates the action of the committee during the past year in its efforts to find a new plan for the handling of proprietary goods, as the belief was growing that the old rebate system was slowly becoming ineffective through changed trade conditions, and the lack of loyalty to the plan which these changes caused. The investigation of the plan of the New England Grocers' Association and its adoption and submission to members of the N. W. D. A. were referred to, and the committee was able to procure favorable responses from all but seven members of the N. W. D. A. regarding the plan, and out of 51 jobbing druggists to whom the plan was referred, 47 signed acceptances. The expenses of the committee during the past year had been large, and a number of instances were related of the work of ferreting out complaints and tracing shipments to cutters.

After the presentation of a supplementary report by Mr. Kelly, there was presented the following

PLAN.

A committee of fifteen, to be known as the Proprietary Goods Committee, consisting of one representative of the jobbing drug trade from each of the thirteen sections of the United States, is to be appointed annually; each section naming its own representative annually not later than thirty days after the adjournment of the regular annual convention of the N. W. D. A.; failing to make this appointment within this time, the chairman of the committee shall make the appointment, from among the wholesale druggists of that section; the committee to include further a representative selected annually by the proprietors adopting this plan, if they so elect, the chairman of this committee to be elected at large by the members of the N. W. D. A. at each annual convention.

Duties of the Proprietary Goods Committee.—1. The committee shall issue a list of all parties who are and shall hereafter be classed as wholesale distributers of proprietary medicines. This list shall be submitted to each proprietor desirous of working under this plan, who shall then suggest to the committee for their decision the names of any others he may desire to add to the list, stating his reasons with the name proposed. All those included in this completed list to be eligible as sub-agents in the manner hereinafter prescribed, it being the intention to provide a sufficient number of sub-agents to insure, by reason of the commission paid to them, a thorough distribution of the proprietor's products in all sections of the United States, and the maintenance of his terms and prices.

2. They shall select a capable man, whose name shall be presented to the several proprietors adopting this plan, with the request that they each appoint him as his general sales agent, and the said agent shall give bond, to be approved by the committee, for the faithful discharge of his duties.

3. They shall serve as an arbitration committee on all questions arising between the proprietors, the general agent and the sub-agents, a majority decision to be final, on the rights of all interested or concerned.

4. They shall select a reliable banking institution as the depository of all commissions to be paid to the general sales agent by the proprietors adopting this plan.

Each proprietor who adopts this plan shall announce that his prices hereafter to all dealers will be his lone prices only, freight upon quantity orders from the parties who shall be designated by the general agent as his sub-agents to be prepaid or deducted from the bill. He shall further agree, on receipt of remittances from authorized sub-agents, during the continuance of the sub-agency, and no longer, to pay to the general sales agent — per cent. commission, in consideration of said agent furthering the sale at wholesale of his preparations at the prices designated by him.

Duties of the General Sales Agent.—1. He shall offer to each of the parties designated by the committee as wholesale distributers a sub-agency for the distribution of the various proprietary articles represented by him. The conditions of this sub-agency shall be a strict compliance with the terms of sale as prescribed by each proprietor for his own products.

2. He shall pay quarterly to each sub-agent, during his continuance as such, a commission on all goods represented by the general sales agent and purchased by the sub-agent during the quarter, the commission to be the same as that allowed by the proprietor to the general agent upon these purchases.

Manner of Paying Sub-Agent.—At the expiration of every three months the general sales agent shall fill out an order upon the banking institution selected by the committee as above provided, in favor of each sub-agent for the amount of commission allowed him for sales under the plan to date, mailing same at once to the respective sub-agents.

The sub-agents shall sign a contract with the general sales agent, setting forth the conditions under which each proprietor acting under this plan desires his preparations to be sold, the form and specifications of these several contracts to be decided by agreement between the proprietor and the Proprietary Goods Committee. If the proprietor or the general sales agent shall be of the opinion that any sub-agent has violated the terms of any of these contracts, the general agent shall revoke said sub-agency, and the appointment of said sub-agent shall thereupon cease and determine. Upon an appeal by the sub-agent to the Proprietary Goods Committee from the decision of the general agent, it shall be the duty of the committee to pass immediately upon the matter, and if the committee reverse the action of the general agent, the sub-agent shall proceed as though his sub-agency had not been revoked, and all commissions shall be paid to him as provided, until some new reason shall occur.

Upon a majority of the wholesale dealers in good standing in the section in which any discharged agent is located, in favor of said dealer's restoration to a sub-agency, and upon the presentation of his name for

reinstatement to the Proprietary Goods Committee by the representative on that committee from that section, and if approved by a majority vote of the said committee the general sales agent shall agree to again allow a commission for service rendered by him as distributor of ——— products, upon receipt of another sub-agency contract, properly signed, rebates to begin from the date of said new contract.

Each sub-agent shall agree to pay an assessment to cover the expenses of this agency, which is to be fixed by and under the control of the Proprietary Goods Committee for the United States.

Intermediate Quantities.—Intermediate quantities are considered desirable if sold by proprietors to sub-agents only; rebates to be paid by the general sales agent. Quantities and terms to be agreed upon between proprietors and the committee, and to be included in agreement between the general sales agent and the sub-agent.

CONTRACT

Between the Proprietor and the General Agent.

We hereby agree that upon all orders of not less than ..... gross at one time, and for one delivery received by us from the wholesale houses that you may designate as your sub-agents and accepted by us as such, we will pay you a commission of ..... per cent. per gross, upon receipt of payment of each invoice. This commission is paid you in consideration of your services as distributing agent at wholesale for our preparations throughout the United States and for your services in assisting us in maintaining our prices. To this end it is agreed by you to refuse the application for a sub-agency, or the continuance of any sub-agency, from any wholesale house that shall be found to violate our selling prices as per our price list issued ..... date, until you can be assured that such house will strictly maintain our terms of sale.

Terms of Sale (or Contract) Between General Agency and Sub-Agency.

As you are considered a distributer at wholesale of the preparations represented by this agency, you are respectfully solicited to accept a sub-agency upon the following conditions:

Upon purchases at one time and for one delivery in quantities of not less than ..... gross, and upon agreement not to quote or sell the preparations of ....., either directly or indirectly, or permit them to be disposed of in any way by your salesmen or others, at less than the prices stated on the inclosed price list, dated ....., upon receipt of remittances in full, a commission of ..... per cent. on the net amount will be allowed, payable quarterly each year, provided that you have strictly complied with these terms above set forth.

Should this agency have reason to believe that you have violated these terms of sale, the sub-agency will at once be canceled and there shall be no allowance upon any sales thereafter made. If you shall have received notice from this agency that your sub-agency has been revoked owing to reported violations of terms of sale, this agency will allow you an appeal to the committee known as the Proprietary Goods Committee, to be chosen by the jobbers of the United States, and if the committee decide that the complaint is not well founded you shall be entitled to continue to act as sub-agent.

As it is a well-known fact that to thoroughly maintain the prices of ..... preparations is of great benefit to your individual business and to the trade, the wholesale house whose signature is attached hereto, and who purchase through this agency any of these preparations, hereby agrees, in order to cover the expenses incurred, to pay a per capita assessment, to be fixed by and be under the control of the Proprietary Goods Committee.

The above conditions of sale are thoroughly understood, and we hereby agree and consent to be bound by the same.

These were made a special order for business for Thursday morning, and the following reports were presented:

Local Associations.

This report was a strong plea for more local work to bring the jobbers whose interests are identical into more harmonious relations. The advantages of frequent meetings and quick settlement of grievances which such organizations could secure were strongly presented, and the best efforts of the incoming committee were requested in pushing local organization.

Fire Insurance.

This report advocated greater effort on the part of wholesale druggists to protect their premises by employing all the best appliances to be found, but there seemed but little prospect for a reduction of rates from the old stock companies in view of the great expense which they have to bear in simply getting business. The committee strongly favored the Lloyds system of fire insurance, and gave reasons for considering it safe and cheap. The formation of a mutual insurance company by members of the N. W. D. A. was also advocated. The plan of the Factory Mutual was fully explained and indorsed.

Paints, Oils and Glass.

The unsatisfactory condition of the trade in these commodities was referred to in the committee's report, but the belief was expressed that the revival in building and manufacturing would soon have its effect upon these articles. A special committee of three was suggested for the purpose of arranging better terms for the handling of white lead. The present stock of linseed oil is very light, and the outlook seems favorable for the crusher, and an increased demand for window glass at better prices than last year is anticipated.

Mr. J. A. Gilman, chairman of the Committee on Infringements and Trade-Marks, congratulated the association on the fact that he had nothing to report.

Fourth Session, Wednesday Afternoon, Sept. 4.—Active members to the number of 10, with 11 associate and 2 complimentary, were elected, and committee reports presented as follows:

Credits and Collections.

This report, read by A. S. Brooks, referred to the excellent work done by previous committees, but deplored the lack of results which had attended their efforts. This condition was in part due to the fact that the matters handled by the national committee were being taken care of by local organizations, which were better qualified to treat local conditions. The work, therefore, of the national organization should be to harmonize as far as possible the workings of these local bodies.

Adulteration.

The committee found some adulterated powdered opium upon the market, and suggested the following price test: The cost of powdered opium is easily ascertained, as 100 pounds of the gum yield from 78 to 82 pounds of powder; add to this 12c. to 20c. per pound for powdering, which will give the cost. Thus when the gum costs $1.75 per pound the powder will be worth from $2.31 to $2.39 exclusive of containers. The committee was of the belief that competition instead of lowering the quality of drugs and chemicals was raising the standard.

The Board of Control then reported and moved the adoption of the report upon adulteration; recommended the appointment of a freight classification committee; disapproved of the project to join the National Transportation Association; approved the reports upon the drug market, fire insurance, paints, oils and glass, legislation, local associations, etc. The report upon commercial travelers was also read, and the Committee upon Nominations named the following as

E. L. STRONG, Treasurer N. W. D. A.

Officers for Next Year.

President, J. C. Eliel, Minneapolis, Minn.; 1st vice-president, W. A. Hover, Denver; 2d vice-president, Henry B. Gilpin, Baltimore; 3d vice-president, James R. Owen, Chicago; 4th vice-president, F. W. Braun, Los Angeles; 5th vice-president, N. A. Fall, Atlanta; secretary, A. B. Merriam, Minneapolis; treasurer, E. L. Strong, Cleveland, O.; Board of Control, C. F. Weller, Omaha; Fred L. Carter, Boston; Frank A. Faxon, Kansas City; Daniel Myers, Cleveland; D. D. Phillips, Nashville. All these were elected before the adjournment of the session.

The Committee upon President's Address commended the suggestion that a standing committee upon box and cartage be appointed, and that friends of the open charge, east and west, be represented upon it. The matter of "free delivery in cities and suburbs" was deemed to be one for local action only. The box and cartage matter caused considerable discussion, which developed the fact that the jobbers of Cleveland, Pittsburg, Indianapolis and other central cities have for a long time maintained a sort of Chinese wall between the free box and cartage of the East and the "open charge" of the West, and that they declined to act as a buffer for the two conflicting systems after December 1. The gravity of the situation was recognized, and the sentiment of the association advocating the open charge for boxes and cartage was duly impressed upon the new committee.

Fifth Session, Thursday Morning, Sept. 5.—The Board of Control moved the adoption of the new rebate plan. A lengthy discussion ensued, in which it was opposed by Mr. Van Schaack, of Chicago, and championed by Messrs. Kelly, Noyes, Faxon, Eliel and Robinson. After all the points had been fully discussed the plan was adopted.

Sixth Session, Thursday Afternoon, Sept. 5.—The following resolutions bearing upon the new rebate plan were adopted unanimously:

Resolved, That in order to carry out the plan adopted, it is the sense of this association that the members of the Proprietary Goods Committee (of the jobbing drug trade of the United States) shall constitute the Committee on Proprietary Goods (of the National Wholesale Druggists' Association) except those who may not belong to our national association; and the president is hereby instructed to act in accordance with this resolution.

Resolved, That the present N. W. D. A. Committee on Proprietary Goods be authorized to act in the discharge of the duties of both of the above committees until the Proprietary Goods Committee (of the jobbing drug trade of the United States) be appointed as provided by the new plan, and that they be authorized to divide the country into such sections as will insure every locality a representative on the committee, and if it is found that the number of sections necessary be more or less than thirteen, as provided in the statement of the plan, then the new committee to consist of such members instead of thirteen.

Resolved, That M. N. Kline be elected by this association as chairman at large of the Proprietary Goods Committee of the jobbing drug trade of the United States, in conformity with the new plan.

Resolved, That the chairman of the N. W. D. A. Committee on Proprietary Goods be given authority to draw upon the treasurer of the N. W. D. A. for all moneys necessary for preliminary expenses to put in operation the new plan; such moneys to be repaid to the treasurer as early as practicable.

Upon a call for speeches upon the new rebate plan, Dr. Pierce, A. C. Morrisson, of the Pabst Brewing Co., E. A. Bigelow, of J. C. Ayer & Co., H. M. Sharp, of Dr. D. Jayne & Son, C. A. Pinkham, R. S. Robb and others spoke strongly in its favor.

Philadelphia was decided upon as the next place of meeting and the time Sept. 30, 1896.

Seventh Session, Thursday Evening, Sept. 5.—This session was devoted to the installation of officers and the usual expressions of good feeling which distinguish the closing session of the N. W. D. A.

MEETING OF THE PROPRIETARY ASSOCIATION.

The sessions of this association, held Sept. 3 and 5, were devoted to routine matters such as the reading of reports, the election of ten new members, the adoption of a memorial resolution upon the death of John Hodge, and the election of the following officers for the ensuing year: President, R. E. Queen, San Francisco; 1st vice-president, E. G. Wells, New York; 2d vice-president, Thomas Doliber, Boston; 3d vice-president, C. C. Voorheis, Woodbury, N. J.; 4th vice-president, A. C. Morrison, Milwaukee; secretary, Joseph Leeming, New York; treasurer, H. B. Harding, New York.

—The Mount Vernon, O., Druggists' Association has by a unanimous vote settled the Sunday question by an agreement of its members to keep open shop but two hours on that day, viz., 8:30 to 9:30 A. M. and from 4 to 5 P. M., standard time. It was also agreed to quit selling cigars, tobacco and soda water on the Sabbath.

—The twelfth annual convention of the Association of Official Agricultural Chemists met in the Lecture Hall of the National Museum, Washington, Sept. 5. President H. A. Huston, State Chemist of Indiana, was in the chair. Nearly 100 members were present.

R. E. QUEEN, Pres. Proprietary Association.

NEW YORK BRANCH OF THE LEAGUE.

The regular meeting of the New York branch of the Interstate Retail Druggists' League was held at Mott Memorial Hall, 64 Madison Avenue, Sept. 6. President A. M. Rontey in the chair. As no meeting was held in August the secretary began the proceedings by reading the minutes of the July meeting, which were adopted. The co-operative purchasing plan was discussed and the secretary read letters from several manufacturing concerns which he had received in reply to communications the branch had instructed him to write. In a reply to a request for quotations on its goods the Lambert Pharmacal Co. stated that it could only sell through the jobber, as its products were sold upon the "rebate" plan, a copy of which was inclosed. Eisner & Mendelson, New York City, sent a copy of their price list to jobbers. A large number of manufacturers written to by the secretary made no response. A number of members present made up a "pool" for $100 worth of bromo-seltzer, which the secretary was directed to purchase.

Wants the Poison Law Amended.

The question of selling poisons and the practicability of asking the next Legislature to amend the present poison laws came up for discussion, ending in the adoption of the following resolutions introduced by President Rontey:

Whereas, The laws regulating the sale of poisons in the city of New York (of the Penal Code and Consolidated act) are conflicting and at times impracticable, misleading as to the rights of druggists to sell drugs of a poisonous nature, and causing unreasonable hardship; therefore be it

Resolved, That this association petition the coming Legislature to so amend the present statutes relating to the sale of poisons in this city that there shall hereafter be but one law regulating same; also

Resolved, That the poison law of 1882 for New York County is a good law, and that in an amended form it be made part of the Criminal Code of the State to the exclusion of all other acts and parts of acts, and that the various boards of pharmacy and pharmacists' organizations of this city and State be furnished with a copy of these resolutions and of the proposed amendment and asked to concur and co-operate with this association in obtaining the same.

Following is a preliminary draft of the proposed amendments:

Proposed Poison Law.

It shall be unlawful for any person to retail or deliver any poisons enumerated in Schedules A and B without first ascertaining that the purchaser, who must be known to the seller, is aware of their poisonous nature; that they are to be used for a legitimate and stated purpose; and distinctly labeling, with a "poison" label bearing the name and address of the proprietor, and the name of the article contained in the bottle, box, vessel or paper delivered. And as to the poisons included in Schedule A, besides complying with the foregoing, an entry shall be made or caused to be made, in a book kept for that purpose, stating the date of sale, the name and the address of the purchaser, the name, quantity and quality of the poison sold, the purpose for which it is represented to be required, and the seller's name; said book to be always open for inspection by the proper authorities, and to be preserved for at least five years. The provisions of this section shall not apply to the dispensing of poisons, in not unusual quantities or doses, upon the prescriptions of practitioners of medicine.

Schedule A.

Arsenic and its preparations; corrosive sublimate, white precipitate, red precipitate and biniodide of mercury; cyanide of potassium, hydrocyanic acid, cobalt and its salts; calabar bean, St. Ignatius bean, opium (excepting Dover's powder and the syrup or other equivalent liquid preparations of the same, and other pharmaceutical preparations containing not more than 9 grains of opium to the ounce, but not that preparation known as "lead and opium lotion"), aconite, nux vomica, Indian hemp, belladonna, conium, savin, cotton root, ergot, henbane, curare, hellebore, coeculus Indicus, stramonium seeds and their oils, tinctures, extracts and alkaloids, and all such preparations into which these substances enter in poisonous quantities; cantharides and its preparations, except the plaster made therefrom; creosote; chloroform; ether; croton oil; chloral hydrate; crystals of carbolic acid, or solutions of same containing more than 10 per cent.; oxalic acid; essential oil of bitter almonds; cocaine and its salts, etc.

Schedule B.

All other drugs, chemicals and pharmaceutical preparations not enumerated in Schedule A, and ranked as poisonous in standard works on materia medica.

The whole subject was then referred to the Committee on Legislation, with instructions to bring it before the various boards of pharmacy and pharmaceutical organizations in the State and to ask their co-operation. This committee consists of Messrs. Erb, Latham, Osmun Bender and Tanszig.

Wants Free Alcohol.

The committee to whom was referred the request of the Chicago Retail Druggists' Association asking that the branch indorse its position upon the "free" alcohol question made its report through L. F. Stevens. He said that the committee could not indorse the resolutions sent out by the Chicago druggists, but that it would offer the following resolutions, which the branch adopted. He also stated that he had assurances from the German Apothecaries' and Kings County Pharmaceutical Associations that similar resolutions would be indorsed by them, and he asked that the Chicago association be notified of the league's action in the matter.

Resolved, That whereas the laws at present on the statute books of the United States allow rebate of revenue tax on alcohol when used in manufacturing, to wit, Clause 61, act of Aug. 28, 1894, which reads as follows:

"Any manufacturer finding it necessary to use alcohol in the arts or in any medicinal or other like compound, may use the same under regulations to be prescribed by the Secretary of the Treasury, and on satisfying the collector of internal revenue for the district wherein he resides or carries on business that he has complied with such regulations, and has used such alcohol therein, and exhibiting and delivering up the stamps which show that a tax has been paid thereon, shall be entitled to receive from the Treasury of the United States a rebate or repayment of the tax so paid."

And whereas, other lines of our trades and occupations are preparing to take advantage of this statute;

And whereas, in retail drug stores the larger portion of alcohol purchased goes while in the hands of the retail druggist into manufactured articles distinctive from the original foundation;

Therefore, We hereby resolve that it is the duty of the retail drug trade for self-protection to keep an accurate record of alcohol used for such purposes, in accordance with present regulations of the revenue laws, in order that in proper time and condition the retail maker shall receive the benefit designed by the above-quoted statute.

It is also further resolved, That the New York City branch of the Interstate League shall organize a bureau or committee for imparting information regarding the many steps in this matter and appoint competent counsel to take charge of any litigation which may arise in the process of the work, the said bureau or committee being authorized to collect and expend moneys for this purpose, rendering strict account thereof at each meeting of this branch of the Interstate League.

This committee consists of Messrs. Stevens, Molwitz and Breen.

In a speech on the subject of free alcohol Mr. Stevens said he was sure the Government would have to allow the rebate on alcohol used in manufacturing, and that the retail druggist was just as much entitled to that rebate as a large manufacturer, and he wanted him to get it. He thought the A. Ph. A. had been led into passing the resolutions it did at the Denver meeting by the influence of delegates opposed to the law. He also referred to the work the Kings County Pharmaceutical Association proposed to do this winter in having the Excise laws remodeled and a "telephone bill" introduced into the next Legislature. He outlined the work done by the association on the telephone subject last winter, which he said cost it but $25, while it cost the telephone corporation $45,000 "blood money." In pushing telephone legislation the society would co-operate with the New York Board of Trade and Transportation, which was working toward the same end. After a general discussion on various subjects the branch adjourned to meet Friday, Oct. 4.

AMERICAN CHEMICAL SOCIETY.

The eleventh general meeting of the American Chemical Society was held in Springfield, Mass., on Aug. 27 and 28. Mayor Charles L. Long made the address of welcome and the response came from President Smith. Evangelist Hall, on State Street, was the meeting place, and the sessions were held mornings and evenings, the afternoons being devoted to visits to the paper mills, the Merrick thread mills in Holyoke, the United States armory and the Hampden Paint and Chemical Works. Some members who remained after the session visited the Union Electric Light Co.'s plant. The papers read before the society were as follows: "Determination of the Heating Effect of Coal," W. A. Noyes, J. R. McTaggart and H. W. Craven; "Determination of Methane and Hydrogen by Explosion," Augustus H. Gill; "On the Substitution of Thioacetate for Hydrogen Sulphide in Qualitative Analysis," T. H. Norton; "Use of Aluminum for Condensers," T. H. Norton; "A Case of Mistaken Identity," F. P. Venable; "The Determination of Sulphur in Refined Copper," Geo. L. Heath; "The Possibility of the Occurrence of Hydrogen and Methane in the Atmosphere," Francis C. Phillips; "The Evolution Method for the Determination of Sulphur in Iron," Francis C. Phillips; "A New Electrical Process for Making White Lead," R. P. Williams; "Estimation of the Extraction in Sugar Houses," M. Trubeck; "Tellurium, Its Separation from Copper Residues with Notes on Some New Reactions," Cabell Whitehead; "Arsenic in Glycerol," Geo. E. Barton; "The Occurrence of Trimethylene Glycoll as a Bi-product in the Glycerin Manufacture," Arthur A. Noyes; "The Electrolytic Reduction of Paranitro Compounds in Sulphuric Acid Solution," Arthur A. Noyes; "Speed of Oxidation by Chloric Acid," Robert B. Warder and Herman Schlundt; "Acidimetric Estimation of Vegetable Alkaloids," Lyman F. Kebler; "Chemistry as a Liberal Education," Peter T. Austen; "A Study of Some of the Gas-Producing Bacteria" (by title), A. A. Bennett; "Picrates," George B. Pfeiffer.

The American Chemical Society now has 838 active members, 54 associate members and 8 honorary members, making a total of 900. The 1894 report showed only 790 members, so the gain is very considerable. There are also 95 new proposed members up for qualification and election. The next semi-annual meeting of the society will be held in Cleveland during the last week in December.

Immediately following the sessions of the American Chemical Society came those of the American Association for the Advancement of Science, many gentlemen being members of both associations. The meeting was the forty-fourth in the history of the organization.

St. Louis Drug Clerks' Society.

St. Louis, Sept. 7.—After enjoying a good summer's rest the St. Louis Drug Clerks' Society will get together again on Sept. 12. Several important matters will come up for action, among them the selection of a new president. A short time ago, it will be remembered, Max J. Schneider, who made an efficient president for the past year, discarded the title of clerk and became a proprietor, opening a store with a gentleman named Smith at Laclede and Boyle Avenues. As the rules of the society do not allow a proprietor to hold office, Mr. Schneider has sent in his resignation with regret, but coupled with the wish that the society enjoy long life and prosperity. Who Mr. Schneider's successor will be is not clear, but a great many of the members are pushing Rudolph S. Vitt, the secretary, for the place.

BOARDS OF PHARMACY.

——The License Commissioners of Lawrence, Mass., have revoked the licenses of John H. Cronin and D. A. Sullivan, druggists. Simon B. Harris, agent of the State Board of Pharmacy, found that they neglected to keep the registry book required by law.

——Of the 20 candidates examined by the Michigan State Board of Pharmacy, at Sault Ste. Marie, Sept. 3, only 9 were successful in getting certificates. They are: Samuel B. Young, of Carsonville; Charles A. Beeton, Joseph Maltas and Arthur E. Morrish, of Sault Ste. Marie; George Chantler, of Manistique; Henry A. Barkley, of Clio; Wm. W. Fiero and John P. Toomey, of Detroit; and Telliphore Colier, of Marquette.

——The Nebraska Board of Pharmacy examined 28 applicants for registration at its last meeting in Lincoln. The following received certificates: H. E. Bodie, York; W. S. Gerhart, Lincoln; Bert Goodwin, Omaha; Charles F. Haman, Battle Creek; Frank Holcomb, Seward; W. H. McCaw, Hooper; A. J. Pollard, Newark; Fred Schroeder, Omaha; H. A. Vincent, Cambridge; F. L. White, Battle Creek; Horace F. Woodworth, Peru; Will Neimeyer, Juniata. Meetings of the board will be held in Lincoln, Wednesday, Nov. 13, and in Omaha Nov. 14.

——A seventeen-year-old drug clerk in the store of George A. Bolster, Jamaica Plain, Mass., has been arrested under the law prohibiting persons who are not registered pharmacists from preparing prescriptions. It is said that a prescription was brought in and was filled by the boy clerk. The prescription was for a child, and it is charged that in making it up the clerk used an excessive amount of opium. The medicine was given to the child on Sunday, and it died soon afterward. A doctor notified the medical examiner of the facts in the case, and a warrant was sworn out for the clerk's arrest. Learning of this he went to the police and gave himself up. Later he secured bail. He says that the prescription called for two ounces of opium, and knowing that to be an error, he presumed that the doctor intended to call for two drams.

——Wisconsin Board of Pharmacy closed a three days' session Aug. 17. Fifty-three applicants were examined, and certificates were granted as follows: First grade certificates: W. W. Brewster, of Fond du Lac; J. Went, Jr., Juneau; J. C. Bouhn, New Holstein; J. O. Saxton, Clear Lake; G. W. Tinn, New Holstein; W. H. Evans, River Falls; Wm. Heitman, H. Adka, A. J. Jones, Milwaukee. Second grade certificates were granted to R. J. Rudiger, Durand; J. Schowalter, F. Vogel and H. J. Schwanberg, Milwaukee; H. C. Rustad, Clinton; O. A. Fells, Fond du Lac; J. H. Pierson, Oshkosh; W. E. Bohman, Eau Claire; W. H. Sund, Watertown; H. C. Reinhardt, Reeseville; E. C. Sugina, Fountain City; E. L. Hazwell, Windsor; W. A. Kalk,

Sheboygan: J. C. Toreoney, Racine; S. J. Seresee, Fond du Lac; Q. U. Frost, Washburn; A. C. Morboi, Waupaca; C. V. Madsen, Racine; S. W. Cook, Ripon; C. Sibesy, Augusta. Twenty-one were rejected. By the amendment of the Pharmacy law, last winter, general dealers are not allowed to sell poison of any kind, even if done up in a package. Patent medicines that are done up by a physician or a druggist may be sold, but none others. A test case will probably be begun soon to decide this clause, but the Supreme Court has generally held that such a law was valid. The next meeting of the board will be held at Prairie du Chien, Oct. 9. The secretary reported eight cases in court since the last meeting. One verdict was for the defendant, in which the board took an appeal to the Circuit Court. Four were decided in favor of the law, and the parties fined $50 and costs in each case, which were paid. Three cases will come for trial some time this month. Certificates by registration were granted to H. T. Blanchard, of Milwaukee, from Nebraska, and James Peterson, of Oshkosh, from Illinois, they having passed an examination in those States.

What the Bay State Board is Doing.

Boston, Sept. 6.—It is probable that the Massachusetts Board of Registration in Pharmacy will obtain an increase in its appropriation this year. The $2,000 regularly appropriated for enforcing the law of 1893 in regard to druggists, plus the $5,000 obtained for the general enforcement of the liquor law, will be inadequate to carry on the work for the coming year on the same lines that have been recently followed. At least $10,000 will be needed, and the board will probably ask for that amount.

Since the board came into existence it has been growing more and more difficult for liquor dealers to masquerade as druggists. The laws of last year and 1893 went a long way toward accomplishing this result, for they not only gave the board the power to revoke the license of any druggist about whom well-founded complaints were received, but they made it necessary, before a druggist could secure a license, for him to obtain a certificate from the board stating its belief that the applicant was a proper person to have a license, and that the license would be for the public good. Now, however, the board has found that in giving its opinion in regard to the druggist as a proper person to have a license, it has been obliged to go largely on its general impression from reports received; and in order to get something to strengthen this impression, the board will probably attempt to secure a change in the law, making it necessary for the druggist who wishes a certificate to go before a notary and make affidavit that he is a "proper person" to have a license, and that the license would be "for the public good." This work in reducing the amount of illegal liquor-selling among druggists has been not only the most interesting, but the most important, work of the board during the past year. In all, about 1,200 applications for certificates have been received; all of these have been carefully considered, and about 300 have been refused. The work has been done carefully, and so strictly that the applicants for liquor certificates are already seen to be, as a class, of much better standing than those of a year ago. The wise measures of the board have been the means of doing away with more than a few cheap "drug" stores, and several dealers, after frankly admitting that they could no longer make a drug store pay without a liquor license, have sold out and gone into other lines of trade.

Another gratifying change shown since the board began to work is in the character and mental equipment of the persons who present themselves for the examination by means of which they become registered pharmacists. Not only are the applicants of a better general appearance, but they do not present themselves so poorly prepared to take the examinations as formerly. They have learned that some real knowledge is necessary in order to become a drug clerk. Some few succeed at the first trial, and there are instances where an applicant has made 15 trials before being passed.

[Written for the Era.]

A BIRD'S-EYE VIEW OF THE EXAMINATIONS OF THE MASSACHUSETTS BOARD OF PHARMACY.

By Harry Beckwith, Ph. G.

In endeavoring to give a necessarily inadequate idea of the directions in which the efforts of the Massachusetts Board of Pharmacy are expended in examinations of applicants for registration, the writer does not think himself committing a censurable act nor coaching the applicant in a manner which will incite undue cramming. The standard which a pharmacist ought to attain to reach highest usefulness, a standard whose character is in all cases dependent upon the individuality of the man, is quite a different thing from the standards, differing alike in quality and character, held up and made compulsory by the different State boards of pharmacy. Their ideas of what a pharmacist should know and be are ludicrously irregular; and 'tis a versatile student indeed, however scientific and practical his knowledge and technical his skill, who passes all boards alike.

A knowledge, then, of the character of standard upheld by the board before whom he intends going, as well as of the board's technique, is but just for the student to possess; and this knowledge is quite as essential to success before the Massachusetts board as is a well-rounded pharmaceutical ability, the character of which is determined by the individuality of its possessor. It is almost a necessary complement, unless, indeed, one's own peculiarity of standard is synonymous with what might be called the "hobbies" of the board in question; and this is likely in only a small percentage of cases. Those students who are fortunate enough to strike an analogy in the nature of the board's requirements are the ones who are, generally speaking, successful, rather than those whose pharmaceutical ability is of a superior character; though in some cases the two are synonymous.

One has but to consult the reports of examinations in the drug journals to be convinced that severity of some sort is practiced; for of an average of 45 applicants but 6 or 8, sometimes but 4, are successful. However, this severity, rather than being consequent upon a possibly required high competency, is due to the peculiarities of the board. And these peculiarities, if dissimilar to those of the student, which is quite natural since individualities differ so widely, must be known by him in order that a successful acquittal may be had at the hands of the board. They are generally learned by actual experience before the board, and become quite apparent to the competent student after two or three failures. The writer does not feel himself competent nor has he a desire, if competent he were, to render unnecessary by any system of coaching this "education." But a part conception of the methods of the examiners and the character of the examinations will be of great help to all who have attained within themselves a standard sufficient to render it possible for them to be benefited thereby; otherwise, it will avail nothing.

The examination, which is conducted at the board's rooms at the State House in Boston, is divided into three parts: oral, written, identification of specimens. Upon the opening of the examination at 9 o'clock A. M. the applicant is given his question paper, together with a pad of common lined paper, commercial size, upon which the answers are to be written. The paper has 25 numbered questions, but nearly all are subdivided, many of them several times. Each paper has a number in ink at its top, which number, together with the applicant's name, must be placed by him at the top of the first sheet upon which his answers are written. The papers distributed to the different applicants are not all alike, which difference makes necessary the use of the numbers. There is but one "watcher" in the room, who conducts the examination of course, and whose characteristic feature is that he never speaks unless spoken to, except in case a "crib" is detected in use or one unwittingly attempts to tear up one's figuring paper. He is not a member of the board. Those of the members who are present are closeted in the "torture" room, and before them all applicants are taken singly, beginning in regular order soon after the general examination opens; this constitutes the oral examination. The applicant is here kept from 10 to 30 minutes. If what he does not know can be discovered in 10 minutes he is allowed to go; otherwise he is kept longer.

The specimens to be identified are twenty in number, or thereabout, and they are numbered from one upward. Marks other than numbers they have not. A sheet is given the applicant on which are these numbers, and opposite the numbers blank spaces to be filled in

with the names of the specimens as identified. The applicants are called to this examination one after another, in regular order as they are seated in the room, leaving their papers temporarily as when called into the oral room. After the applicant has identified such of the specimens that he feels able, and has been through the "torture" room, he is free to finish the written paper at his leisure. If the paper proves comparatively easy, two hours spent on it should suffice for its completion, outside of time spent in the two other branches, which together should not consume over an hour. After beginning the examination in the morning no one is allowed to go out until his paper is completed, so that if one gets hungry it must be borne in silence.

A percentage of 70 must be reached in each and all of these foregoing divisions of the examination, and never, except in rare cases, is a high percentage in one branch of use in balancing a deficiency in another. Each division is virtually a separate examination, and all three examinations must be passed, 70 being the required percentage.

The written examination is quite general in its scope of subjects, and versatility is an essential factor in successfully acquitting one's self. Some of the questions will ask for a definition of collyrium, discutient, depilatory, emetic, diaphoretic and other terms descriptive of the action and properties of drugs. Latin terms and phrases receive their full share of attention, and many are given to be converted into their English equivalents. Synonyms, or common names, of medicaments, in contra-distinction to the Latin official names, are given great prominence, especially of vegetable drugs, like the differentiation of the snakeroots, for instance. These three foregoing directions figure quite prominently in one form or another. Some attention is paid to best solvents for certain important salts and dry soluble medicaments, as tannin, for instance, or pepsin. Much stress is laid upon the metric system, and all calculations are directed to be made with it. Conversion from system to system is also a feature. Problems in alligation will be given, applied to lots of opium powder of different percentage, strengths of morphine, in getting a desired amount of a desired strength, etc. The U. S. P. method for making certain preparations will be asked for, as also the reason in some cases why some named and seemingly preferable method is not resorted to instead. The formula or the ingredients of some of the greater-used preparations will be asked for, compound cathartic pills, for instance.

In the identification examination a variety greets the student: Two or three each of the greater-used waters (peppermint, etc.); tinctures (gentian, etc.); compound tinctures (cinchona, etc.); one or two each of essential and fixed (olive, for instance) oils; a few salts (like alum and chlorate potash); seeds (mustard); barks; a gum or two, etc., etc. By becoming familiar with the articles daily handled in the store, one will experience no serious difficulty. Tact, however, is a necessary factor to success. One's sense of taste needs to be reserved until its use is actually necessary, identifying first all specimens possible with the senses of sight and smell. A glass of water is given the applicant with which to rinse out the mouth, but some tastes cling tenaciously. A too promiscuous use of the sense of smell where unnecessary is also to be avoided, for it, too, soon becomes unable to discriminate. If two preparations containing peppermint, for instance, be found, and one turns a little water held in the palm of the hand milky white, it is most assuredly not an aqueous preparations, and it is safe to suppose it alcoholic—a spirit. Many little resorts, assisted by judgment, perception and calmness, will assist in surmounting a great many seeming obstacles. One should be constantly thinking of practicing things of like import in the store, not in preparation for the board necessarily, but in acquiring skill and usefulness that are of benefit in the prosecution of one's professional duties.

In the oral examination one runs the gauntlet of three or four members present, whose sole purpose, apparently, rather than finding out an applicant's knowledge, is to discover his weak points and make them weaker. Here is where the applicant generally fails, if he is to fail: the odds are too great. It is clearly a case of three wise men against one fool. By this is not meant that the board endeavor to perturb the applicant and thus render him unfit to acquit himself of the knowledge he does possess. They beseech him to be cool, etc., yet they resort to methods which tend to render him inert. A favorite trick is to skip about from one subject to another radically different in character, the idea being to "duplicate as nearly as possible the daily exigencies of the store and prescription desk." They apparently forget that while the theory is the same the conditions in each case are widely different, and while some temperaments will be equally supreme over both, others just as responsive and proficient in the store will fail ignominiously under a different environment. Quite as essential as knowledge here are tact, acuteness and, above all things, coolness. One needs to keep one's faculties clear, to answer only after due deliberation, but yet promptly when sure of correctness, and to stop when enough has been said. Difficulties and severities must be expected and moral preparation made for them. The general character of the examination is quite the same as the written, except that, as previously inferred, the board is governed in each instance by conditions upon which, to a certain extent, depend the degree, kind, quality and quantity of the questions asked. The individual ideas of the board also are here given greater prominence, made evident by a preponderance of attention along certain lines, with almost comparative disregard for others of quite as much, if not of more, importance. Special attention is paid to the three directions pointed out as important in connection with the written examination; and if in any one the student is found at all weak, as in certain other directions as well, his weakness will be the signal upon which depends the character of the questions which follow. And the student's rating is directly dependent upon the proportion of correct answers.

It will readily be seen that a more adequate idea of the board's requirements could not be given, because of the variability of conditions which encompass each student. But if this, at best inadequate, conception will serve to prepare the student, so that, aware of the methods and peculiarities of the board, he will be able to use to best advantage that knowledge which he does possess, as well as to augment this knowledge along certain lines which meet favor with this board, as well with others also, the writer's purpose will have been achieved. It goes without saying that the knowledge possessed by the applicant should be adequate, in keeping with the individual standard herein first alluded to; otherwise a superficial and useless cramming will succeed a basis incapable of fostering or of giving material strength to this spirit of adaptation to conditions. And besides, outside of the prosecution of these favorite ideas of the board the examination is quite general in its character, rendering necessary a fair degree of competency. Reference to a paragraph outlining briefly the line of special preparation made for the New York Board of Pharmacy, in a paper on that board by the writer in the May 23 issue of the Era, present year, will be of benefit in calling attention to points it will be advantageous to consider in this connection.

The peculiarities of the board, so designated arbitrarily, are, when broken into their constituent atoms, commonplace in themselves, and it is only in their combination, with a preponderance of component parts which ought not to be given precedence and of lines along which the applicant is deficient, that peculiarity is aptly expressive of the result. When consideration is taken of the infiniteness of direction which the pharmacist must follow of necessity, it is patent that he cannot be possessed of an inordinate knowledge or proficiency in any one direction, more so than in others, unless, as previously mentioned, his individuality of taste and idea leads him into special directions. But this very thing should be avoided by State board examiners, since their examinations must be of a character to suit all individuals. The effort should certainly not be made to suit all adversely.

And yet this is what, to a lesser extent generally, the applicant has to contend with before all boards. It is an injustice which has not a single argument in its favor. If it gave to the people necessarily competent men, there would be ample excuse, but it falls far short of this. It is very evident that a radical change in the system should be inaugurated. It is not the writer's purpose to suggest what that change should be in its entirety, but it should be productive of definiteness and fairness, should be devoid of individuality of idea, and, instead, the result of many and diverse minds and abilities, and each board should be dependent, to a greater or less extent, upon the others. The standard of proficiency could then be raised, fully as many applicants would be successful, and more competent men would be given the public.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ALABAMA.

Bessemer.—W. H. Johnson & Co., W. H. Lewis, sold interest to William L. Rush; firm name unchanged.

ARKANSAS.

Little Rock.—John I. Hancock, 16th and State, removed to Capital Hotel; to be known as Capital Pharmacy.
Quitman.—R. D. England, removed to Russellville.
Russellville.—J. W. Wells, sold to R. D. England.

CALIFORNIA.

Oakland.—O. B. Thomas, deceased.
San Jose.—D. M. Livingston, sold by sheriff.

COLORADO.

Trinidad.—Riverside Drug Store, Commercial St., new store.

CONNECTICUT.

Danbury.—Thomas F. Lavin, deceased.
Dayville.—George J. Harrison, out of business.
Ridgefield.—H. K. Scott, sold to Harvey P. Bissell.

GEORGIA.

Augusta.—Johnson Drug Store, sold to R. J. Videtto.

IDAHO.

Hailey.—J. I. Durham, sold out.

ILLINOIS.

Belleville.—The Central Pharmacal Co., incorporated.
Chicago.—J. B. Kerr, assigned.
Kunze's drug store, 1369 W. North Ave., damaged by fire.
Lincoln.—E. E. Wodetzki, new store.
Naperville.—Edwin Thomas Drug Co., removed to 52 Wells St., Chicago.
Quincy.—Germann's pharmacy, now H. Germann & Co.
Willow Springs.—J. G. Bodenschatz, new store.

INDIANA.

Gas City.—Brashear, Lay & Kyle, now Garthwait & Kyle.
Indianapolis.—M. Y. Shaffer, 658 N. West St., sold to C. W. Harding.
Marion. A. J. Murphy, receiver appointed.
Princeton.—Jones Bros., sold to Chas. Leich & Co.
Summitville.—E. P. Searle, sold out.

INDIAN TERRITORY.

Tahlequah.—A. E. Brown, damaged by fire.

IOWA.

Alta.—L. H. Mudge, burned out.
Blanchard.—Mudge & Sons, damaged by fire.
Colfax.—Dixon Gearhart stock, sold to E. R. Tainter.
Des Moines.—Hansen Drug Co., damaged by fire
Lake City.—McMackin Bros., sold to the Martin Drug Co.
Le Claire.—J. C. Davenport & Son, sold out.
Van Meter.—Clarence Chapman, removed to Des Moines.

KENTUCKY.

Hopkinsville.—S. Taliaferro, assigned.
Marion.—Henry K. Woods, sold out.

LOUISIANA.

Gallion.—G. H. Ogburn, burned out.
New Orleans.—Mrs. Henry Homburg, sold out.

MAINE.

Gardiner.—J. M. Colby, damaged by fire.
Thomaston.—F. E. Bickmore, deceased.

MASSACHUSETTS.

Cambridge.—Reycroft Bros., North Ave., near Porter Station, new store.
Clinton.—Morse's Pharmacy, W. F. Heagney (now H. B. Merchan) & Co.
No. Andover.—C. S. Stearns, sold to J. P. Murphy.
Springfield.—W. H. Blake, 360 Bay St., new store.
Stoughton.—Dr. Swan's drug store, new store.
W. Springfield.—A. W. Browning, deceased.

MICHIGAN.

Grand Rapids.—Schepers & Jongejan, Grandville and 5th Aves., new store.
Harbor Springs.—Atkinson's drug store, new store.
Marshall.—Green's drug store, damaged by fire.
Menominee.—Sprong's drug store, sold to Ray Moyer.
St. Joseph.—Howard & Pearl Drug Co., incorporated.

MINNESOTA.

Brooten.—L. O. Langnard Co., sold to Walter F. Williams.
Duluth.—A. Lofgren, removed to Central Ave.
Lindstrom.—Holcomb Bros., now Holcomb & Landeen.

MISSOURI.

Chillicothe.—Beasley & Buford, now J. L. Buford.
Halls.—Skinner's drug store, burned out.
Maryville.—G. A. Taylor, sold to Dr. H. E. Moss.
Palmyra.—Earhart & Stone, sold out.
Sedalia.—Dr. H. W. Wood, sold to O. M. Brooks.
Wellston.—Wellston Pharmacy Co., incorporated.

MONTANA.

Butte.—Martin & Finnegan, new store.

NEBRASKA.

Diller.—Miller & Lightner, dissolved.
Nebraska City.—F. F. Ware, sold to F. H. Ellis.
Omaha.—De Cou Pharmacy, in creditors' hands.
Osceola.—D. E. Kinnard, damaged by fire.

NEW HAMPSHIRE.

Portsmouth.—Boardman & Norton, new store.

NEW JERSEY.

New Brunswick.—Baldwin & Dreshler, sold to C. L. Van Nuis.
William Rust, deceased.
Trenton.—Spark's Bros. drug store, closed.

NEW YORK.

Albany.—Walker & Gibson, damaged by fire.
Atlanta.—J. A. Reddish, sold to L. Adams.
Brookiyn.—Frank J. Munson, deceased.
Buffalo.—Edw. Dwyer, assigned.
Lyman & Sloan, damaged by fire.
Cooperstown.—American Spirits Mfg. Co., incorporated.
Morrisville.—E. H. Chapin, sold to Mr. Van Rensselaer.
N. Y. City.—C. V. Kieferdorf, receiver appointed.
Nyack.—The Broadway Pharmacy, sold to L. R. Edwards.
Poughkeepsie.—Claud Hicks, sold to Walter Van Steenberg.
Syracuse.—Henry B. Fox, deceased.
Whitesville.—L. H. Fortner, sold to G. E. Colvin.

OHIO.

Cleveland.—E. Bejcek, 1164 Clark Ave., new store.
East Palestine.—E. Greenamyer, sold to J. M. Hartford.
Findlay.—Dr. J. M. Teal, 309 Walnut St., new store.
McConnelsville.—Ewing Drug Store, sold to Gibson Bros.
Orangeville.—McFarland House Pharmacy, sold to J. A. Canon & Son.
Ridgeway.—Orr & Temple, Barrett Block, new store.

OREGON.

Portland.—S. G. Skidmore Co., removed to 151 3d St.

PENNSYLVANIA.

Bradford.—Wilson & Boyd, sold to E. P. Southwick & Co.
Mars.—Kerr & Sons, new store.

RHODE ISLAND.

Natick.—John McQuade, Sr., deceased.

SOUTH CAROLINA.

Darlington.—Willcox & Co., sold to O. B. Davis.
Mt. Carmel.—Black & McAllister, now J. A. McAllister.

TENNESSEE.

Murfreesboro.—J. H. Nelson, sold to Jordan Bros.
Nashville.—C. C. Beerman, Jr., sold to T. H. Coussens.
T. H. Coussens, 508 Main St., sold stock.

TEXAS.

Angleton.—H. H. Pearce, new store.
Austin.—J. J. Tubin, sold at auction.
Eagle Lake.—F. O. Norris, now Norris & Gilmer.
Elmont.—Durning & Co., damaged by fire.
Moody.—R. A. McClain & Co., now McClain & Porterfield.
Karnes City.—S. A. King, now of King & Bailey.
John B. Pollock, sold to King & Bailey.
Stephenville.—Murphy Bros., now Joseph Murphy.
Webster.—Dr. Mallinson's drug store, new store.

VERMONT.

No. Bennington.—Dr. F. T. Kenyon, sold to Houghton & Co.
St. Johnsbury.—Gordon's drug store, new store.

VIRGINIA.

Lynchburg.—Hudson & Freer, now Craighill, Hudson & Freer.

WASHINGTON.

Excelsior.—A. C. Harris, receiver appointed.
Walla Walla.—J. S. Galloway, sold to Chas. Besseaor.

WISCONSIN.

Mukwonago.—Archer's drug store, new store.

NEW BRUNSWICK.

Fredericton.—Hugh H. McLean, deceased.

NOVA SCOTIA.

Halifax.—The Champion Medicine Co., incorporated.

Buffalo College of Pharmacy.

Professor Wende has been working up material for the next winter's work in the microscopical laboratory.

Professor Gregory is to deliver the opening address before the Medical Department, University of Buffalo, on Sept. 25.

The Medical Department University of Buffalo have made their jubilee year the occasion for a very fine announcement.

Dr. Benedict is experimenting with formal, which is claimed to preserve plants and flowers so they can be studied in the winter as though freshly collected.

Professor Hill takes another party into the Adirondacks for deer. Starting Sept. 7 they will be away about two weeks. He has a permit for his party to camp in Dr. Webb's preserve.

Prof. John R. Gray and family, with a party of friends, have started on a trip in a house boat through the Welland Canal, visiting points on Lake Ontario and later going up the Grand River.

The Board of Pharmacy held a meeting Aug. 31, to make up a list of cases for the grand jury. It is rumored that some men who have failed to pass the college examinations but started a drug business will receive attention.

Professor Gregory, dean of the faculty, recently addressed a letter to each of the alumni, calling attention to the increased advantages offered at the beginning of the second decade, together with a copy of the handsome new announcement, which is attracting a great deal of attention both as an example of the printer's art and for the inducements offered within its pages.

Catalogues, Price Lists, etc., Received.

E. A. Yarnall Co., Philadelphia.
Powers & Weightman, Philadelphia.
Rosengarten & Sons, Philadelphia.
New York Quinine and Chemical Works, New York.
College Catalogues: Montreal College of Pharmacy; Report of Council Pharmaceutical Association, Quebec; History and Description of the College of Pharmacy of the City of New York; St. Louis College of Pharmacy.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

WHAT DRUGGISTS MUST KNOW.

—SPaven cure fir Humen Liniment.
—Iron Bybudron.

J. H. Hale,
Nacogdoches, Texas.

—1 oz. sweet Sprts.
½ qubeb.
½ dopvia balsam.

Hiram Arthur,
Dowagiac, Mich.

—5c. Rose supplement,
Scyena 5c.
Esiphidtea 10c.
rose shell salts.
pasaie asset 15c.
1 sheet paper butterfly. (Poison fly paper meant.)
1 oz. Skewbobs to smoke.
1 Bx. Bowel Beans.
Simmons Liver investigator.
Cuticura Dissolver.
Mckinzies Wine of Cordial.

J. A. Settle,
Yukon, O. T.

—Corocin of supeliment 10c.
pint of trumping.
(I supplied corrosive sublimate and turpentine and labeled it "Bed-bug Poison.")

W. B. Hendricks,
Winfield, Kan.

—Gross of Supermon, 25 cts. (Corrosive sublimate.)

Churchill Drug Co.,
Burlington, Ia.

—please send me one bodle of the beast cochmuchlen it is fore the lunges.
—please send me 10 cts of quick silver and a nickle worth of Bitter alway's please say wheather it is poison or not and oblige

Patton & Brennan,
Mount Carmel, Ill.

—5 cts worth of Kameral blows. (Chamomile flower.)

J. Erskine Mills,
Middletown, N. Y.

—1 doz. Confound Pathartic Pills.
1 doz. Autichamine, 10c. Nox Vomit Buttons.
10c. Vile of Syrup Squeals.
1 botal of Sweat speeret Night.
10 gr Dover's tooth powder for baby.
Clove potash, and 1 powder Calamus, hipetack and sody.

D. J. Gunter,
Ridgeway, S. C.

—please let me have 50 cents wurth of penerrolpeals. now and if you will be kind enough to put the Box one side and I will take them I am poor and cant buy them all but take little by little.

L. P. Hubbard,
Plymouth, Mass.

—5c worth McNegia. (Magnesia.)

Edward Mitchel,
Philadelphia, Pa.

—Cobbolickasid.
—half a nounce of tincture of Banzoin.
six-teen nounces Best rosewatter.
ten drops attar of roses.
an equal weight of refined linseed oil.

No Name.

Merrymatic acid.
Crivilic oint.
Dulcimer pencil.
Gum conchin and Iodine potash.
Sizzle powder.
Captures.
Glisrene.
Eirgott.
Scotts Emulation.
Chicoos.
Crossop Upamint.
Broidymide Potash.
Rheumatic Syrup of Rhenbarb.
1 Epidemic needle.
Salmiack.
1 stick of Spermatic.
Macrochelle Responds.
1 Package of Addition powders for horses.

Jenney & Waterhouse,
Weiser, Idaho.

Book Reviews.

THE POCKET MATERIA MEDICA AND THERAPEUTICS. A Résumé of the Action and Doses of all Officinal and Non-Officinal Drugs now in Common Use. By C. Henri Leonard, A. M., M. D., Professor in the Detroit College of Medicine; member of the American Medical Association, etc. Second edition, revised and enlarged. Cloth, large 16 mo, 387 pages. $1.00. Detroit, 1895: The Illustrated Medical Journal Co., Publishers.

The second edition of this popular work shows considerable improvement over the first in typographical appearance and in the addition of 87 pages. Part of this increase is devoted to a copious index, occupying 67 pages, upon which are found between five and six thousand references.

The descriptive arrangement of the drugs is as follows: Alphabetically the drug, with its pronuncintion (officinal or non-officinal standiug indicated), genitive case-ending, common name, dose and metric dose. Then the English, French and German synonyms. If a plant, the part used, habitat, natural order, botanic description, with alkaloids if any; if a mineral, its chemical symbol, atomic weight, looks, taste, how found, its peculiarities. Then the action and uses of the drug or compound, its antagonists, its incompatibles, its synergists and then antidotes. Then follow its officinal and non-officinal preparations with their medium and maximum doses. Altogether it is a handy volume for physician, druggist or student, and will be frequently appealed to if in one's possession.

PRINCIPLES AND PRACTICE OF AGRICULTURAL ANALYSIS. A manual for the estimation of soils, fertilizers and agricultural products. By Harvey W. Wiley, Chemist of the U. S. Department of Agriculture. Volume I. Soils. Cloth, 607 pages. $3.75. Chemical Publishing Co., Easton, Pa.

The appearance of the first volume of this work marks a notable addition to the literature of a subject which was greatly in need of a comprehensive presentation, both of its well-known facts and the later investigations which have so distinguished it. The chemistry of agriculture now occupies a position of commanding importance in the scientific world; in fact, investigations of this particular line are encouraged and fostered by the governments of nearly all civilized countries. A compilation therefore of existing literature for the general analyst and a text-book for the student who wishes to extend his researches into an inviting field are necessities which the author has succeeded most admirably in satisfying.

The book is well printed, handsomely illustrated, and while the subject matter is not of a character to be of practical benefit to one not well grounded in the theory and practice of chemical science, the style in which it is written is particularly entertaining and will stimulate the student to acquire a knowledge of first principles for the sake of applying them in this particular field.

The work is divided into eight parts. Part I. gives various methods of sampling soils, describing the necessary apparatus and giving minute directions. Part II. gives methods for the preliminary treatment of samples, such as separating, sifting, etc., in the laboratory. Part III. is devoted to the determination of the physical properties of soils, their color, odor, specific gravity, specific heat, cohesion, absorptive power, capillarity, porosity, etc. Part IV. relates to mechanical analysis by flocculation, elutriation, boiling, microscopical and mineralogical examination, measurement of crystals, etc. Part V. is devoted to the estimation of gases held in soils. Part VI., which includes 158 pages, is devoted to the chemical analysis of soils, and Part VII., owing to recent advances in the investigation of this particular branch of chemical analysis, consists of 116 pages, devoted to the origin and estimation of oxidized nitrogen in soils, rain and drainage waters. Part VIII. is devoted to special examinations of waters, vegetable soils and unusual soil constituents.

Volume II. of this work will be devoted to methods of analyzing agricultural products, including starch, sugars, honeys, oils, waxes, fats, plant constituents as they exist in combination in nature, cereals, fruits, vegetables, meats, milk, butter, cheese canned and preserved foods, etc.

—The Richardson Drug Company has brought suit in the Circuit Court of St. Louis against John R. Farrar to revive a judgment for $413.

—Samuel R. Gibson, Thomas A. Pugh and William Graham were arrested in Baltimore, Md., last Saturday on the charge of obtaining money under false pretenses. They had been doing a thriving trade by filling bottles with colored water and selling it as Pain's Celery Compound. One specific charge was preferred against each of the men, but the city detectives say the accused have been operating all over town. Gibson and Graham gave bail for their appearance before the Criminal Court, and were released. Pugh was held.

—When the contents of the drug store at the northeast corner of Baltimore and Eutaw Streets, Baltimore, conducted for some years by Hoke & Swartz, were put up at public auction some weeks ago, they were withdrawn, because the highest bid reached only $900, this sum being regarded as insufficient. Last week another sale was arranged and the fixtures and stock were offered in lots. This time the aggregate received was only $500. Everything went without reserve. The store had been one of the best-paying establishments in Baltimore, but business had gradually declined.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

How is your stock of petrolatum? It makes no difference whether it is high or low, it will pay you to read the announcement of Morrisson, Plummer & Co., of Chicago, in this issue. They quote some figures on this article.

C. W. Ferber, 101 Beekman Street, New York, calls the attention of large buyers to his present stock of cocaine, Rochelle salts and sponges, upon which he is prepared to make special quotations in quantities.

You can't go wrong if you specify the morphine and quinine sulphate of the New York Quinine and Chemical Works. One is made in cubes and the other in loose crystals. You can almost distinguish them in the dark.

The two extremes, highness in quality and lowness in price, meet in Buffalo, N. Y., at the office of Fred. N. Burt, maker of labels and boxes for druggists. He is sending out samples of his work which prove this.

The Flag Salt Remedy Co., of Savannah, N. Y., advertise Flag Salt, their headache remedy, by furnishing cartons for window displays. They send a dozen or more free to druggists who wish to make such displays.

The Standard Thermometer with dial and indicator is so easily read that most customers prefer it to the ordinary straight tube. They are made by the Standard Thermometer Co., Peabody, Mass., and circular describing them will be sent upon application.

If many manufacturers realized how much a corkscrew is appreciated with every bottle of medicine, they would be tempted to supply one. If they knew of the cheapness of the corkscrews made by the Clough Corkscrew Co., Alton, N. H., they wouldn't hesitate a moment.

Manufacturers of pills and tablet triturates who feel the necessity of cutting down cost without affecting quality should investigate the pill and tablet machinery of Arthur Colton, Detroit, Mich. His appliances for this work are made to economize in labor and time.

A medicated toilet paper in which the best known remedies for hemorrhoids are incorporated ought to be a good seller. The A. P. W. Paper Co., Albany, N. Y., put up such a paper in rolls or pocket packets. Write for their catalogue, which describes it and gives prices.

People who have bottle-fed babies take kindly to the advice to put a sterilizer between the cow and the baby. Their chief concern is in getting the sterilizer. They want the best—one that is effective and sure. Here is the druggist's opportunity to recommend Arnold's. The literature issued by the manufacturers, Wilmot Castle & Co., of Rochester, N. Y., is a great help, and it is furnished freely.

The season for special drinks for the hot-soda fountain will soon be here. The list of Beach & Clarridge Co., Boston, will be just as handy to select the proper flavors from as it has been during the past summer. If your copy of their catalogue has been mislaid, send for another.

"Teutonic," the malt extract made by the S. Liebmann's Sons Brewing Co., Brooklyn, bases its claim for superiority upon the amount of nutritious material it contains, viz.: 12 per cent. of extract. Its sale is extending because it is being advertised in the leading daily, weekly and illustrated papers, magazines, etc.

J. B. Burr & Co., Hartford, Conn., are specialists in the manufacture of prescription blanks of all kinds. They make this particular branch of druggists' printing a specialty, because a big business means low prices and low prices more business. Get their samples which explain this.

The deaf and the blind of this country are perhaps unacquainted with Mellin's Food, but everybody else has seen it or heard of it. Its name is oftenest at the tip of the tongue when the customer enters a drug store in quest of a food for infants or invalids. It should always be in stock.

Packer's Tar Soap is easily thought of when the shampoo, the baby's bath or skin diseases claim attention. This is because people have heard of it before—they couldn't help it, because it has been and still is advertised in the most attractive manner. The druggist can sell it as long as people want a tar soap.

The Pharmacopœia tells the pharmacist what kind of wax to use in his cerates and unguents, and Theodor Leonhard, of Paterson, N. J., can tell him where to get such wax. If your jobber does not have the "T. L." or "Diamond L." brands in stock, Mr. Leonhard will send a sample cake for test or inspection.

J. H. Day & Co., of Cincinnati, O., make such a complete line of machinery for the manufacturing pharmacist that their catalogue should be in the hands of every manufacturer. When a saving in labor or time is necessary, a reference to it will often show a machine which will do certain work in grinding, mixing, sifting, emulsifying, etc., at a greatly lessened expense.

Although during the Knights Templar conclave in Boston there was utter demoralization in many lines of trade, owing to the general desire to have a share in the pleasure of the week, it appears that druggists from at least a dozen States, some far away, took pains to spare enough time for a short call at the warerooms of the Low Art Tile Co. Mr. Henry Spavin took particular interest in showing the visitors his new patterns of hot-soda fountains; styles that are sure to bound into popularity. The Low Co. has just been fitting up Reycroft Brothers' new pharmacy in North Cambridge, Mass.

Through the liberal policy of the manufacturers, Raymond's Pectoral Plaster is undoubtedly known to every druggist in the country. Now that the season for their greatest demand is approaching, a little advertising should be done just to remind people. If you have them in stock send to Raymond & Co., 62 Carroll Street, Brooklyn, N. Y., for a supply of advertising matter.

The trade evidently appreciates the action of the Merz Capsule Co. in refusing to enter the capsule combination, and has shown this appreciation by using Merz' goods in such quantities that the company was obliged to start its factory Aug. 15 for the fall season, instead of Sept. 1, the usual date. Work by both day and night is now necessary to fill orders.

The people of the United States used nearly 8,000 pints of "Sweet Chimes" perfume last year, and they are going to break the record this year by making it their holiday favorite. Order a pint now from your jobber at $4 and get a dozen 10-cent size free. If you are a pharmacist, the manufacturers, French, Cave & Co., Philadelphia, will send you a free sample upon request.

The testimony of other druggists is valuable when the selling qualities of a new article are to be judged. The American Silver Truss Co., 290 Main Street, Buffalo, publish a pamphlet telling what dealers say about the silver truss. If you are looking for a truss which is easy to fit, easy to sell and perfectly satisfactory to the wearer, this testimony will interest you.

On July 1 H. Scarborough assumed the joint management of the Chicago branches of Jas. W. Tufts, Chas. Lippincott & Co., A. D. Puffer & Sons and the John Matthews Apparatus Co. This affords a great economy all around, as the prospective buyer can by visiting Chicago find an elegant display of all the different styles, grouped together so that comparison and choice can be easily made.

Since July 1 the following apparatus have been sold by the different Chicago branches:

Jas. W. Tufts—Blakely & Co., Springfield, Ill.; W. B. Mayer, Galva, Ill.; H. F. Kruger, Chicago; Chas. Hirsch, Chicago; Batcher & Conklin, Chicago; Anton P. Freund, Chicago; Thos. S. Bidwell, Roby and Taylor Streets (new store).

Chas. Lippincott & Co—Stoehr's Pharmacy, Elgin, Ia.; Dr. B. S. Turner, Forty-third Street and Wabash Avenue, Chicago; Lansberry & Spring, Des Moines, Ia.; E. B. Elder, Watseka, Ill.; Chester Bolles & Co., Springfield, Ill.; Dr. G. C. Fisher, Indianapolis, Ind. (new store); Jos. B. Cleghorn, Rosedale, Ind.; C. A. Kratz, Winona, Minn.; Henry Othmer & Co., Chicago (new store).

A. D. Puffer & Sons—Chas. W. Green, Chicago; Otto L. Fleugel, Chicago; F. Dignam, Chicago; J. M. Kline & Son, Rock Falls, Ill.; Geo. A. Graves, Chicago.

Fosgate's Anodyne Cordial will after Sept. 3 be sold on the rebate plan. This well-known remedy, now in its ninety-fifth year, makes friends wherever known. It is an old reliable family medicine, speaking for itself. Retail trade, by obtaining supply of reliable wholesalers only, will avoid counterfeiters. Retail price, 35 cents; three bottles for $1. WILLIAM FOSGATE, Jr., sole proprietor and manufacturer, Auburn, N. Y.

Dodge & Olcott, New York, have taken special pains to give the pharmacist and physician an oil of sandalwood which is perfect in every respect. They simply ask the druggist to give it a trial, paying the same price as for an ordinary article. They put up a package containing 4 ounces for the pharmacist to make his first trial with. All jobbers have it.

Ease and rapidity of absorption make lanolin an ideal base for various toilet specialties, and an elegant line of these is handled by Schulze-Berge & Koechl, 79 Murray Street, New York. The line includes a soap, ¼ dozen in a box; pomade and cold cream, each packed in porcelain jars; and a toilet cream in collapsible tubes, two sizes, retailing at 15 and 25 cents respectively. These goods will please the most discriminating trade and their prices afford a good profit.

A. Sanabrah, 216 W. Sixty-seventh Street, New York, has issued a little folder telling of a paper deal in which the manufacturer made a mistake—made it heavier than usual and then reduced the price to have it accepted. Mr. Sanabrah is now making this paper up into prescription blanks at prices which are greatly in favor of the retail druggist. Sample and prices will be sent upon application, also one of the handsomest 108-page label catalogues ever printed.

Although the interest in the serum cure for diphtheria has disappeared from the public prints, the medical profession during the summer has done much in the way of compiling figures to show its value. Instead of unfavorable conclusions, which so many prophesied, the consensus of opinion is most favorable toward it. The literature upon the subject thus becomes of interest, and the pharmacist who wishes to post himself will be supplied upon application to Schering & Glatz, New York, who are sole agents for the Schering solution.

Possibly "there are others," but not in the cork line. "Circle A" corks are known as the perfect prescription cork. They are manufactured exclusively by the Armstrong Cork Co., and are handled by all jobbers. The stock from which they are made represents the highest grade of corkwood, and their manufacture is in the hands of experts who have made the production of a perfect cork a study. These corks come in eleven sizes and three lengths, and are put up in five-gross bags, each bag bearing the "Circle A" label as a guarantee of identity and superior quality.

GOOD ADVERTISING.

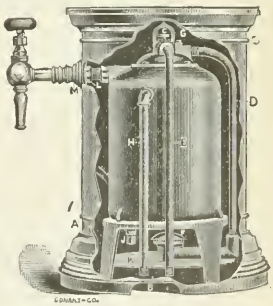
There is money enough expended every year in this country for advertising, in one form or another, to pay the national debt. Not only does the sum so expended mount to figures almost beyond comprehension, but every year adds to the sum total. Fortunes are made by it and millions uselessly or unintelligently spent. In recent years advertising has been adopted as a profession by many skillful writers, who seek and find ready employment by large advertisers who lack the time, or gift, or both, to express themselves with tact or grace enough to catch and hold the attention of a public already surfeited with every device that members of this lately created profession are able to invent. I am informed that one of these writers in England has made both fame and fortune by adopting what is termed, I believe, the impressionist style. Enough examples of this have been seen in this country to make it familiar to all, one of which seems to consist of a rather indefinite but fantastic female figure, reminding me somewhat of the bewilderment in drapery and trappings of the Japanese thunder god.

It is a large world we inhabit, and when any considerable part of its citizens glance our way in a financial sense, it means much. Business men of to-day must recognize and act upon this fact or soon be relegated to the rear. Every successful business man of the future must become in some way an advertiser. He must, by one device or another, secure attention. I have dinned this into the ears (through the eyes) of the druggist so long that it may seem tiresome, but allow me to say that it is not by many times the last I propose repeating it. So long as it means increased trade, so long must it be a subject worthy of your attention. By this article I wish to impress upon you the necessity of advertising as a means toward the best attainable in a business venture. As you have no money to expend foolishly, let us consider how you may make your expenditure wisely—where every dollar may count for every day and year of your business career.

If you are starting in business you have your reputation to gain; if already established a possible necessity or desire for improving it exists. How? By doing what every skillful advertiser does—attracting attention. Ordinarily you would not think a druggist who devoted a dollar a day to this object extravagant. If he should expend $5,000 in the fitting and decoration of his store, which would be in interest a sum equivalent to one dollar per day, nine out of ten would say his extravagance would ruin him. Not that this amount, in most cases, would be necessary for the full equipment of his store, but because I wish to state the case broadly to cover nearly all contingencies. Be the sum whatever it may that is required for this purpose, whether five hundred or five thousand dollars, the majority look upon it as so much money lost, or as good as lost, beyond recovery, even where it has been conclusively shown that in nearly all cases the money has been returned in twofold amount within a period of three to five years, while the original investment remains intact. Meantime it has secured for you a reputation for quality and character in business that you could not buy for thousands in your local advertising columns. This I consider economical advertising. I have proven it and know wherof I speak. You have attained, ultimately without expense, the desideratum of every advertiser—attention, business and reputation.

As an advertiser of some experience, covering nearly twenty years, the subject has naturally involved a great deal of thought. Every advertiser of experience will vouch for the correctness of my conclusions—that it requires considerable of a demonstration in a newspaper or otherwise to gain the immediate recognition of the public. When druggists inform me, as they often do with that assurance evidently born of a positive conviction, that they can get as good a recognition with a five hundred-dollar expenditure as with a five-thousand-dollar one, they may as well tell me that a square inch of advertising in their newspaper will count as well as an entire page, the same excellence being devoted to both. Of course, you understand, one advertiser who is expert will make a given expenditure go much further toward securing the desired result than another, and this fact has brought into the field the professional writer of advertisements and the professional store fitter as a branch really of the same family. There are as many degrees of excellence in this profession as in the medical or any other. Some cure and some only profess to do so. My advice to all my clients on advertising is to make their professions no greater than they are prepared to execute. State their purposes honestly and as convincingly as possible. It pays to be square with the public, and by the way, such an advertiser is quite original, since the most of them deem it necessary to exaggerate. I think the truth well told a good advertisement. I can tell you no greater or more interesting truth than that with a fair opportunity I can improve your business chances.

C. H. BANGS, Boston.



The above is an illustration of Rowe's Automatic Hot Soda Apparatus. It delivers water—one glass or a dozen—at an even temperature, through the action of an adjustable regulator which turns up the gas when water is drawn, and gradually turns it down again to the lowest burning point when a certain temperature is reached. It is economical because it requires no attention and saves gas. Write to L. L. Rowe, 16 Howard Street, Boston, Mass., for descriptive circular.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Arsenic, Buchu Leaves, Cream Tartar, Camphor, Cassia Buds and Oil; Colocynth Apples, Oil Lavender, Oil Wormwood, Permanganate of Potash, Tartaric Acid.

Declined: Coriander Seed, Oil Citronella, Poppy Seed.

New York, Sept. 10, 1895.

The general business situation continues to reflect satisfactory conditions, and according to various reports the predictions made early in the year are in process of confirmation. In a review of the general outlook it is stated that "in almost every department there has been some strong improvement, and it would be difficult to select any industry (outside of the coal business) in which trade is not far better than it was about a year ago, and the indications of a good autumn trade are so clearly apparent that every business man has reason to feel satisfaction over the outlook." These remarks are fully justified so far as the drug trade is concerned, and increased activity is gradually, but steadily, developing in a large variety of articles, with the demand almost wholly to meet consuming requirements. The improved conditions are not confined to any particular locality, as the orders received are from all distributing centers, and show that nearly every consuming section is sharing in the trade revival. As usual in an active market values have been sensitive, fluctuating frequently in accordance with the varying conditions influencing the changes, but the general trend has continued toward a higher level, and the result is a large majority on the side of advances. In some instances, keen competition between manufacturers has reduced the profit on their products to a very narrow margin, but fortunately such instances are few and have no bearing on the general market. The financial situation continues upon the same healthy basis previously noted, obligations as a rule being met promptly, and no complaint is heard regarding collections.

OPIUM.—The firmer feeling referred to in our last issue has been maintained both here and in the primary markets, but business has been exceedingly light and wholly in small parcels to meet existing requirements of consumers, the majority of whom are of opinion that in view of the large current crop to be marketed, together with the stock in the hands of dealers, the natural course of prices is downward. On the other hand, if there is any foundation for the report that a strong speculative syndicate in Europe is endeavoring to secure control of the market, prices may be forced to an abnormally high level. Other contingencies are likely to arise that may prevent the anticipated decline, and the future of this leading article is somewhat uncertain.

MORPHINE.—Manufacturers report an increased movement on contract orders, and dealers are finding a better consuming outlet, but there is no quotable change in prices, and the market is without new feature of interest.

QUININE.—Domestic manufacturers and agents of foreign makers report an active inquiry, all for consumption, with the demand principally from the South and chiefly from the malarial districts. The result is a steady outflow of quinine and a good general business, with the undertone of the market firm, although there is no indication of any material change in prices in the near future. It is possible, however, that an advance may be announced at any time, as second hands are no longer a factor in the market, and with the situation practically controlled by manufacturers they are in position to manipulate prices at will.

ALCOHOL.—There is no improvement in the market for grain, and the unsettled and irregular conditions heretofore noted are still the conspicuous features. Consumers are buying only from hand to mouth, and there is consequently little to report beyond a moderate jobbing business, with nothing in the future outlook encouraging to sellers.

ACID TARTARIC.—As intimated in our last report, a higher range of prices is now demanded, manufacturers having advanced their quotations 1c. per lb for both crystals and powdered.

CREAM TARTAR.—A further improvement in argols abroad has influenced an additional advance of 1c. per lb in manufacturers' prices, and the market is strong with the tendency still upward.

ARSENIC.—Values of white have been advanced ¼@½c. per lb, and holders are very firm in their views owing to advices from abroad that the output is likely to be curtailed, as several of the mines where the crude material is obtained are said to have been exhausted.

BALSAMS.—Aside from a stronger feeling in tolu, due to reduced stocks and a slightly easier market for Peru, owing to some pressure to realize, there is nothing in the general situation calling for special mention, trading being only moderate and wholly of the jobbing order.

CASSIA BUDS.—The market shows a hardening tendency, and the principal holders have advanced their price ¼c. per lb.

COLOCYNTH APPLES.—Under the influence of higher foreign markets and a good demand from the consuming trade, the position here is decidedly strong, with current prices showing an advance of 2c. per lb in both Trieste and Spanish.

CAMPHOR.—All varieties have been advanced 7c. per lb, and the market continues very strong. The controlling influences are increasing firmness in crude abroad, and reports from Japan that several factories have been obliged to close on account of scarcity and extreme prices asked for the camphor wood from which the crude is distilled.

COD LIVER OIL.—No further change has occurred in values, but holders relax none of their firmness, and with all indications pointing to a probable shortage, offerings are limited to actual current necessities of the consuming trade. Foreign markets continue strong, and extreme prices are expected to prevail before the close of the active season.

OIL CASSIA—Is higher, holders of the light available spot stock having advanced their quotations 10@15c. per lb. There is none offering from China, and as London has been buying freely in this market, it is evident that the article is scarce at all distributing points.

OIL CITRONELLA.—The market is better supplied, and values show a decline of about 2c. per lb.

OIL LAVENDER.—Values in primary markets are reported 10 per cent. higher owing to estimated short crop, and an advance is expected in prices here.

OIL WORMWOOD—Shows increasing scarcity, and holders have advanced their quotations about 50c. per lb. The production is said to have been very much neglected owing to unprofitable results in the past.

BUCHU LEAVES.—Short are in reduced supply, and all desirable grades are 1c. per lb higher.

PERMANGANATE OF POTASH.—Values are about 20 per cent. higher, owing to light stocks and increasing scarcity.

CORIANDER SEED—Has been reduced ½c. per lb by the principal holders of spot, notwithstanding the fact that primary market is hardening.

POPPY SEED—Shows a further fractional decline.

London Market Report.

London, Aug. 31, 1895.

On the whole this has been a quiet week in both the drug and chemical markets.

ACID CHRYSOPHANIC.—Owing to the scarcity of good quality Arraroba price has advanced to 14s. per lb and higher rates are looked for.

CAFFEINE—Is practically unchanged. New York has cabled our markets for quotations, but no business has resulted as far as is known. Spot can be obtained at 22s. per lb, while for October to December delivery 20s. is quoted by one maker. Tea is cheap at the moment and makers are buying all the cheap lots of dust that are offered. With an improvement in this market and a resumption of the demand for the alkaloid higher prices are anticipated.

CARAWAY SEEDS.—New crop Dutch seed is offering at low rates, down to 23s. 9d. per cwt. f. o. b.

CINCHONA BARK.—At the Amsterdam sales on Thursday the demand was not equal to the supply, resulting in a drop of fully 5 per cent., leaving also a considerable proportion unsold.

COCAINE.—Generally reported dearer at 14s. 6d. per ounce, but one of the principal makers in Germany seems still willing to book orders at 6d. per ounce less.

MENTHOL.—Lower at 12s. per lb for spot, while price for forward is 13s. 6d. per lb c. i. f.

OPIUM—Is dearer. The bears on your side seem at last to realize that the cry of "large crop" won't bring prices lower, and they are now trying to buy. The Turkish crop will certainly be large, probably 9,000 to 10,000 cases, but coming as it does upon markets nearly bare of stocks this will not be too much. The world's consumption is estimated at fully 9,000 cases of the Turkish gum and the United States takes each year a growing quantity. The Smyrna holders can now easily get advances, money being plentiful, so there will be no pressure to sell for at least three months.

ORRIS ROOT.—New crop Florentine is being offered at about 4s. per cwt. less than the old; sorts, 68s. 6d.; picked, 72s. 6d. per cwt.

QUININE.—A fair business has been done this week up to 1s. 1½d., but market closes dull. Sellers at 1s. 1⅛d. per ounce.

SHELLAC.—Owing to the pressure of weak holders this closes at a decline of 8s. per cwt.

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ALCOHOL BLANKS.

Section 61, Act of Congress, dated Aug. 28, 1894, provides for the refunding of the Internal Revenue tax on all alcohol used in manufacturing in the arts and in medicinal or other like compounds. Retail druggists to secure this rebate should be prepared to present accurate record and proof of such use. We have prepared for druggists' use some special ALCOHOL BLANKS for keeping a proper record of alcohol used for manufacturing purposes, with full directions for keeping the record and for preparing your claims to secure the rebates. If you are not keeping such records, *these blanks may save you a lot of money.*

If you are a subscriber to the Era, we will send you a package of these Alcohol Blanks on receipt of 16 cents to cover the expense. *To non-subscribers the Alcohol Blanks are strictly net 50 cents per package*, postpaid.

Address
THE PHARMACEUTICAL ERA,
New York.

ORGANIZATION NECESSARY.

In a welcoming address to delegates from State pharmaceutical associations, Mr. Eliel, at the recent meeting of the N. W. D. A., spoke thus:

"We know that the retail druggist is surrounded by many difficulties, and that the problems of life are becoming very difficult for him. And we know that it is quite natural he should appeal to us for help. But there is one truth that he can take to himself and that we can bring home to him more forcibly and more clearly and more necessarily, and that is, help yourself. There is no help for the retail druggist unless he will help himself. In many sections of the country he is beginning to acknowledge this and is helping himself. Just as soon as retailers organize, just as soon as these questions which are only local to-day become national, just as soon as he gets out of the little rut in which he is living and gets on to broader and higher ground and sees something of the fields around him, just so soon will his cause be simplified. Organization is the only help for the retailer. When the retailer is organized he can take care of the jobber and proprietor, and until he is organized and unless he is organized, his cause is hopeless, and while we may sympathize with him, while we may have a desire to help him (and certainly our work and our record will show that we have had), still the question that confronts us will be impossible of solution unless he gets on to that platform of organization. Therefore I would say to him in all friendliness and all good feeling that there is no use coming here with any plans or schemes unless he is organized, and when he is organized he need not come to us, we will go to him."

This has all been said and well said many times before, but perhaps no better said nor so authoritatively. The conclusion presented is that resulting from any earnest and unprejudiced consideration of the subject. So long as the retail trade is so split up by divers and diverse interests, so long as all do not want the same thing, so long will it be impossible to make work any plan for relief from the cutting evil. The majority of retailers have shown very decidedly that they are not interested in plans, and it never yet has been possible to bring any scheme to working success, simply because its backers represented the minority only. Some fair degree of success has been attained locally, but a national movement has as yet not gained sufficient importance to secure recognition.

The wholesalers and manufacturers have repeatedly promised that when a majority of the trade asked for relief they would get it, and there is no reason to doubt the sincerity of this promise, but they haven't been called upon to fulfill it. As the speaker above quoted said: "When the retailer is organized we will go to him," and he is right. Fully organized, the retail trade could control things as it wished.

DRUGGISTS DO WANT FREE ALCOHOL.

Druggists who give careful thought to the subject, and estimate the probable effect of tax-free alcohol, come, in the majority of cases, to the conclusion that it would prove a decided benefit to the trade. For some time past some of our Chicago friends have been trying to influence druggists to oppose free alcohol, and have met with some success, not so great as they would have us believe, however. They secured the passage of a resolution by the A. Ph. A. in opposition, but simply because they voted it through themselves, the members present following like sheep, ignorant of the merits of the case or not taking sufficient interest in the matter to take the opposite side. The support given to similar resolutions by State associations is not to the extent we are asked to believe; indeed, there seems to be a willful intention to mislead druggists. A few associations, a small minority, have favored the resolution of opposition, but the great majority have either paid no attention to it, have tabled the matter or spoken very decidedly in favor of tax-free alcohol. Relying upon the ignorance of druggists on the points involved, misleading and fallacious arguments have been employed to induce them to oppose free alcohol, as, for instance, the argument that manufacture in bond would be so expensive that the retailer could not manufacture to any extent. The fact is, nothing has been said or proposed of this sort; on the contrary, the law distinctly states that the tax must be paid, to be refunded, however, upon proof that the alcohol has been used in legitimate manufacture. The beauty and value of the law rest in the fact that manufacture in bond is not necessary, and yet the special pleaders talk it in their attempts to influence the retailer to work against his own interest. They befog the discussion of the principle of tax-free alcohol by predictions of calamity sure to result from conditions improbable and not intended by any one.

It is refreshing to see that the retail druggist is beginning to think on this subject, and the more he thinks, the more he wants tax-free alcohol. He declines to be led by the nose any longer. The action of the New York branch of

the Interstate Retail Druggists' League upon this matter, reported last week in these columns, is pertinent. So also is this statement from the pages of a contemporary trade journal: "The heavy and unreasonable tax previously imposed upon alcohol when employed in legitimate manufacture has at all times been opposed, earnestly and consistently, and in equity there exists no reasonable argument in favor of a tax. The American Pharmaceutical Association has gone on record as not in favor of a removal of the tax, but fails to advance any valid reason in support of its action. The greater part of this organization file their objection as quite a selfish one, to wit: 'that with a removal of the tax no benefit is derived by them.' This is not a serious consideration for a body of intelligent men to announce as its antagonism to a measure from which the mass of people do derive benefit."

The following utterance of the N. W. D. A. is also commended to the attention of our Chicago friends: "In this conflict of opinion, interests that fancied they were not to be benefited; that supposed others—and these of inimical classes—would receive the 'lion's share' of advantage; that objected simply because they did not 'see the way clear;' that had all kinds of objections to urge; have naturally been influential in making it difficult for government councils to determine just what seemed to be the best course to pursue. Had all interests affected unitedly exerted their influence for tax-free alcohol, the law would now likely be in force, and every legitimate interest, large and small, would be enjoying its advantages."

That several thousand druggists are keeping record of alcohol used and will file claims for rebate of tax is pretty fair proof that the retail trade is *not* "unanimously opposed to free alcohol."

THE BUSINESS DRUGGIST.

An esteemed subscriber, pleased with the department devoted to advertising suggestions, writes thus: "Now you have struck the keynote. The merchant side of the drug store is the neglected side, and not every druggist is an advertising expert. Your hints, together with the cuts, help the weak side and thus broaden your field of usefulness. Let the good work go on, and let us all push it along."

Approbation is a very grateful scent in the nostrils of us all, hence this expression of favor is appreciatively welcomed. But there is a thought in our friend's remarks, and he, too, has struck a keynote. The deficiency he observes is a serious one—the proportion of business druggists is small. We are glad if we can in any way aid the druggist in supplying this lack, and in this direction have the Era's strongest efforts been put forth. Pharmacy as a business has been recognized as a principle by this journal since its founding, and its due share of attention accorded it. Druggists are all in business for a living, and the character of this living depends very largely upon the sort of business men they may be. Of course, one must first be a pharmacist, thoroughly equipped professionally, but the measure of his financial success is regulated by the degree of business acumen he shows, even behind the prescription case.

We hope our readers find in these pages, as it is ever our aim to provide, something to meet all needs and suit all tastes. There must be maintained the proper balance of utilitarian, business, professional and scientific material, but our correspondent is assured that the "keynote" he mentions will be struck often and vigorously. May his advice to "push it along" be generally followed by our readers, and will he please help a little, too, by contributing his own experiences?

WHISKY—ONE OF THE NECESSARIES OF LIFE.

It is feared that the drug trade of this country has not derived much financial benefit from the operations of the Whisky Trust during the last few years, but it cannot be denied that the continuous record of its performances has been wholly devoid of interest, and it is barely possible that some have derived from this source a certain amount of that peculiar mental exhilaration which our comic papers are struggling to provide. The oft-repeated asseverations of the Trust that it was making no money, and that the great object of its existence was to furnish spirits at the lowest possible price, have been treated with a levity which throws suspicion upon the sincerity of this benevolent intention. The American public evidently is not much interested in the price of its alcohol. When it gets too high-priced it takes water—in it. The legal squabbles of the organization have not aroused that interest which obtains when there is a popular desire for decisive victory on one side or the other, and there is a suspicion that a fight to finish, after the manner of the famous Kilkenny cats, would afford a certain degree of satisfaction to many otherwise tender-hearted people. But that mental exhilaration referred to, which may now be legitimately claimed as an offset to certain past tyrannies in the matter of prices, is found in the latest developments in whisky-trust affairs.

In a case lately in court in this city to restrain somebody from doing something about whisky-trust matters, a particularly edifying discussion of a metaphysical question was precipitated. The attorney for the opponents of reorganization stated that this new company was "simply the same old thing in a new guise," and that the Illinois courts had declared the aforesaid "old thing" to be illegal. As a consequence the attorney thought the courts of New York should hold similar opinions. He was quoting several decisions of Empire State courts to support his position, when Judge Beekman interrupted him by saying:

"Those cases you have cited apply only to the necessaries of life. The question is, Is whisky a necessary of life?"

To which the attorney replied:

"It seems to me that it is. Whisky is certainly a necessary of life, and it seems to me that they have added enough water to the whisky to make it come within the cases cited as to the necessaries of life."

The importance of this conclusion is so evident that we feel like granting forgiveness for all the bother which the Whisky Trust has caused us. In the language of the circus poster, "It is worth the price of admission," and the task of keeping track of future developments will become one of our most esteemed diversions.

OHIO FOOD COMMISSION REPORT.

The recently-issued annual report of the Food Commissioner of Ohio is a document of unusual interest on account of the strife which has been engendered through the commission's methods of enforcing the laws. Although the commissioner has been forced into print many times during the past year, his latest utterance is presumed to be constructed under that calm, judicial influence which is so necessary for an official document, but there are, however, some evidences of asperity which in view of the circumstances may be justifiable.

From the report we learn that the prosecutions for the past year have numbered 525, while for the two years previous they have numbered but 194, making a total of 719 for three years. These prosecutions have been based upon nearly 1,400 samples examined, the percentage of adulteration based upon the number of samples examined reaching 63 per cent. during the last year, and the percentage has not fallen below 50 per cent. during any of the three years. This, of course, does not indicate that over half the foods and drugs sold are adulterated, but simply means that over one-half the products suspected by the commission have been proven adulterated. The increase for the past year is explained as being due to increased proficiency upon the part of inspectors in choosing samples for analysis, and to the extension of investigation into new fields where pure goods were the exception rather than the rule. The proceeds arising from the year's crop of prosecutions amount to $19,403, and the commissioner mentions the fact incidentally, perhaps as an offset, that the cases brought against him by individuals and corporations for libel and damages have represented a total sum of $130,000. The only annoyance thus far arising from these suits is an inability on the part of the commission to bring them to trial.

The commissioner is evidently sighing for new worlds to conquer, as he expresses a regret that the Ohio laws do not afford opportunity for the prosecution of those who use panel bottles which appear to contain 4 ounces when they only hold 3.

In the matter of liquors the commissioner claims that they are almost universally adulterated, and states that the sale of liquors below proof standard is a common practice of the American trade.

The most important subject connected with the matter of regulation and control of frauds in food, drink and drugs is, according to the commissioner, the proprietary system. He estimates that more than seven billions of money are expended annually for food and drugs and that "more than one-half is covered by this infamous proprietary despotism and that the profits accruing from this monopoly reach all the way from 500 to 5,000 per cent."

As a remedy he suggests:

"First, the submission of secret formulas and processes to a scientific commission, who should pass upon their utility and merit, and permit such and only such articles to be placed upon the market as receive the sanction of the commission; allowing the inventor to retain the name and exclusive right to use his process for a limited time.

"The second remedy offered for the evils of the proprietary system is to hold every proprietor or dealer in these articles responsible for the representations made regarding their quality or efficacy."

The tone of the report indicates that there will be no diminution of effort on the part of the commission to sustain its record for the enforcement of the law in its strictest manner.

Koch's tuberculin, which some expected to prove a cure for tuberculosis, has not fulfilled these expectations, for which, it is but just to say, Dr. Koch was in no way responsible. But a Vienna doctor says he has found a use for it. He says it will cure insanity, claiming that during four years' experimentation it has cured many patients and improved the mental and physical condition of all. We are not told how it does all this, but possibly insanity is a sort of tuberculosis of the brain, and the remedy may have natural selection for that organ rather than the lungs. There ought to be a big field for this lunatic cure in this country, where cranks abound and where so many unfortunate murderers commit their crimes while "temporarily insane." Judiciously and judicially applied the remedy could bring these unfortunates back to society in rejuvenated condition. Now they are hung or imprisoned for life. It might be injected into the druggist who institutes cutting in his town, and thereby demoralizes the trade, his own as well.

United States Commissioner Miller, of the Internal Revenue Department, proposes, it is said, the establishment of a 4 per cent. tax on proprietary medicines, cosmetics and the like, and it is further reported that many of the larger manufacturers favor such a tax, as the possession of a stamp of special design issued by the Government is looked upon as a means of protection against imitations. Such a tax was formerly in force. When it was discontinued there was no decrease in the prices of patent medicines to the consumers, and if it be reimposed it is fair to assume the price will not be increased. The contention that the revenue stamp is a protection, not a burden, is a sound one. At any rate, the patent medicine can better stand a 4 per cent. tax than alcohol can support a tax of 500 per cent. or so.

PRACTICAL HINTS.

——Make as many of your pharmaceutical preparations as you can. Here's where your professional ability and skill come into play, and where you make a little money, too.

——It pays the clerk to "think up" everything that will redound to his employer's interest. It's the machine fellow who always clerks—when he can get a job—but the wide-awake, original thinking class of clerks who make the successful merchants of the succeeding generation.

——Keep your counter and prescription scales in good condition. There is nothing so dangerous as an old, rusty pair of scales, which may vary to the extent of several grains and cause trouble. A prominent druggist stated the other day that the first thing he would secure if he were to open a store would be a clean and accurate pair of scales.

——The top of your prescription counter should always be scrupulously clean. If of marble, it may be kept in condition in the same way as your soda fountain; if of wood, it should be thoroughly washed and scrubbed with hot water whenever necessary, oiled with linseed oil, then rubbed and polished till it shines. Never allow it to be sticky or dirty.

——Do you check up your purchases as they arrive, or do you place the case under the counter, unpacking the goods when convenient, and trust to Providence that the bill is correct? Sometimes an unbroken and unopened bottle of chemical is discovered in the ash barrel, where it never could have been but for carelessness in unpacking and failure to check off the contents of the case.

——Do you save all your waste alcohol? It is a good plan to have a large bottle and put in it all the impure and weak alcohol which ordinarily is thrown away, the portion used in cleaning a mortar or your hands, for instance, and when enough has accumulated, distil it. A good many dollars can be saved in a year in this way, when alcohol costs two dollars and a half a gallon. A simple distilling apparatus is easily arranged, but it should be adapted to the recovery of alcohol from the dilute percolates obtained when making fluid extracts. If we ever get free alcohol, this matter would not be so important as it is now.

——Eight ounces of 15 per cent. water of ammonia will accomplish as much, neutralize as much acid, precipitate as much iron, as 12 ounces of 10 per cent. It's a good plan, then, to know which you are using. Buy a hydrometer, take the specific gravity, refer to tables in the Pharmacopœia for strength. The same remarks and advice apply to alcohol and other liquids of varying strength. Ascertain the strength of every carboy or bottle of acids, ammonia, etc. It may save some money when you use these articles in cases where strength is a factor. Eighteen per cent. ammonia can be diluted to make considerably more of 10 per cent. than can a 16 per cent. article. The water costs little.

ADVERTISING FOR RETAIL DRUGGISTS.

The bath is a matter of such importance that there should always be a good demand for bath goods, but there may be many of a druggist's customers who don't think of the various little things which make bathing a comfort and a luxury instead of a necessary task, for the possible reason that their attention has not been called to them. There are hundreds of things which people will buy if they are simply reminded of them, and among these are bath goods. The sample advertisement presented herewith is intended to make people think of the bath and the many things they need to make it a little more effective or enjoyable. Many of these things people can do without, therefore, they need advertising, and many druggists have found it profitable to make a special offer on outfits; say a supply of soap, brushes, sponges, etc., at prices which will interest.

(No. 31.)

THE perfect bath—the enjoyable, efficient kind—depends upon a lot of little things. We keep them—can supply everything, except the water and the tub. "Everything" includes Soap (and the basket to keep it in, hanging over edge of tub—inside or out), Sponges, Gloves, Rubbers, Brushes, Flesh Straps, Loofahs, Slippers, Towels, Cork Floor Mats and Toilet Waters.

No bother about prices—they are the lowest. Simply remember, "Everything for the bath" at our store.

KNIGHT & DAY, Druggists.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

IT'S ALL RIGHT

J. M. Farnsworth & Co., Chicago, Ill.—The Era is all right.

J. H. C. Fitch, Kalispell, Mont.—Am well pleased with the Era and its work.

L. E. Dvorak, Wilber, Neb.—The Era is the best journal out—too precious to lose.

J. V. Mancher, M. D., Carrolltown, Pa.—I consider the Era the drug journal par excellence.

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[*Continued from page 328, September 12.*]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXIII. DISPENSING PHARMACY.

(*Concluded.*)

By E. J. KENNEDY, Ph. C.

Abbreviations.

Abbreviations for chemical terms and Latin words and phrases are almost universally employed by physicians in writing prescriptions, and the dispenser must not only be familiar with them, but he must use great caution in interpreting them. Thus acid. hydroc. may mean acidum hydrocyanicum. Aq. chlor. may mean chlorine water. Hyd. chlor. may mean calomel, corrosive sublimate or hydrate of chloral. Hydr. may mean hydrargyrum, hydrate, hydriodate, hydrochlorate, hydrocyanate or hydrastine. In cases where abbreviations occur they should be read with the context or considered with the remainder of the prescription in order that they may be rightly interpreted. The writer well remembers an occasion where he dispensed sulphuric acid on an order calling for acid. sulph., there being no directions or other ingredients specified. To his great surprise, he learned that sulphurous acid was wanted, and that for a lotion. Luckily for him no damage was done.

A list of the more common Latin words and phrases used in prescription writing, with their corresponding contractions and English equivalents, is here given.

WORD OR PHRASE.	CONTRACTION.	ENGLISH EQUIVALENT.
Ad	Ad	To, or up to.
Ad duas vices	Ad 2 vic.	At twice taking.
Ad secundem vicem	Ad sec. vic.	To the second time.
Ad tertiam vicem	Ad 3 tiam vic	For third time.
Adde	Add	Add.
Addantur	Add	Let (them) be added.
Addendus	Add	To be added.
Ad gratam aciditatem	Ad grat. acid.	To an agreeable sourness.
Adhibendus	Adhib	To be administered.
Ad libitum	Ad lib.	At pleasure.
Admove	Admov.	Apply.
Admoveatur	Admov.	Let (it) be applied.
Agitato vase	Agit. vas.	The vial being shaken.
Aliquot	Aliq.	Some.
Alter	Alt.	The other.
Alternis horis	Alt. hor.	Every other hour.
Alvus	Alv.	The belly.
Amplus	Amp.	Large.
Ampulla	Ampul.	A large bottle.
Ana	A, or aa.	Of each.
Aqua	Aq.	Water.
Aqua bulliens	Aq. bull.	Boiling water.
Aqua communis	Aq. com.	Common water.
Aqua fervens	Aq. ferv.	Hot water.
Aqua fluviatilis	Aq. fluv.	River water.
Aqua fontalis	Aq. font.	Spring water.
Aqua pluvialis	Aq. pluv.	Rain water.
Aqualis	Aqualis	Pertaining to water.
Balneum arenæ	B. A.	Sand-bath.
Balneum vaporis	B. V.	Vapor-bath.
Bene	Bene	Well.
Bibe	Bib.	Drink (thou).
Biduum	Bid.	Two days.
Bis	Bis	Twice.
Bis in die, or dies	Bis die	Twice a day.
Bolus	Bol.	A large pill.
Bulliat or bulliant	Bull.	Let boil.
Calefactus	Calef.	Warmed.
Cape	Cap.	Take (thou).
Capiat	Cap.	Let him take.
Capsula	Capsul.	A capsule.
Charta	Chart.	Paper.
Chartula	Chartul.	A small paper.
Cibus	Cib.	Food.
Cochlear, or cochleare	Coch.	A spoonful.
Cochleare amplum	Coch. amp.	A dessertspoonful.
Cochleare magnum	Coch. mag.	A tablespoonful.
Cochleare parvum	Coch. parv.	A teaspoonful.
Coctio	Coct.	Boiling.
Cola	Col.	Strain.
Colaturæ	Colatur.	To the strained liquor.
Collutorium	Collut.	A mouth wash.
Collyrium	Collyr.	An eye wash.
Compositus	Comp.	Compounded.
Concisus	Concis.	Cut.
Congius	Cong.	A gallon.
Contusus	Contus.	Bruised.
Coque, coquantur	Coq.	Boil, let them be boiled.
Cortex, corticis	Cort.	The bark.
Cras, crastinus	Crast.	To-morrow.
Cujus, cujus-libet	Cuj.	Of which, of any.
Cum	C.	With.
Cyathus, vel Cyathus vinarius	Cyath., C. vinar.	A wineglass.
Da, detur	D., det.	Give, let be given.
De	De	Of, or from.
Decanta	Dec.	Pour off.
Decem, decimus	Decem	Ten, the tenth.
Decoctum	Decoct.	A decoction.
Decubitus	Decub.	Lying down.
Diebus alteruis	Dieb. alt.	Every other day.
Dilue, dilutus	Dil.	Dilute (thou), diluted.
Dimidius	Dim.	One-half.
Dividatur in partes æquales	D. in p. æq.	Let it be divided into equal parts.
Dosis	D.	A dose.
Drachma	Dr. or ʒ	A dram (60 grains).
Eadem (fem.)	Ead.	The same.
Ejusdem	Ejusd.	Of the same.
Emesis	Emesis	Vomiting.
Et	Et	And.
Exhibeatur	Exhib.	Let it be exhibited.
Extende	Ext.	Spread.
Fac	F.	Make.
Fiat	Ft.	Let be made (sing.).
Fiant	Ft.	Let be made (pl.).
Fac pilulas duodecim	F. pil. XII.	Make 12 pills.
Fervens	Ferv.	Boiling.
Filtra	Filtra	Filter (thou).
Gargarysma	Garg.	A gargle.
Gradatum	Grad.	By degrees, gradually.
Granum, grana	Gr.	Grain, grains.
Gutta, guttæ	Grt.	A drop, drops.
Haustus	Haust.	A draught.
Hebdomada	Hebdom.	A week.
Herbarum recentium.	Herb. recent.	Of fresh herbs.
Hora	H.	An hour.
Idem	Id.	The same.
In dies	Ind.	Daily, or from day to day.
Inter	Inter	Between.
Internus,-a,-um	Int.	Inner, or internal.
Juxta	Juxta	Near to.
Lac, lactis	Lac	Milk, of milk.
Lagena	Lag.	A flask or bottle.
Lana	Lana	Flannel.
Libra	Lb., or ℔	A pound.
Linimentum	Linim.	A liniment.

WORD OR PHRASE.	CONTRACTION.	ENGLISH EQUIVALENT.
Linteum	Lint.	Lint.
Liquor	Liq.	A solution.
Lotio	Lot.	A lotion.
Macera	Mac.	Macerate.
Magnus	Mag.	Large.
Mane	Mane	In the morning.
Manus	Manus	The hand.
Mica panis	Mic. pan.	Crumb of bread.
Minimum	M., or min.	A minim.
Misce	M.	Mix.
Mitte	Mit.	Send.
Modicus	Modic.	Middle-sized.
Ne trades sine nummo	Ne tr. s. num.	Do not deliver without the money.
Non	Non	Not.
Non repetatur	Non repetat.	Let it not be repeated.
Noc, noctis	Noc., noct.	The night, of the night.
Numero	No.	In number.
Octarius	O., oct.	A pint (℥ xvj).
Octo	Octo	Eight.
Omni hora	Omn. hor.	Every hour.
Ovum	Ov.	An egg.
Pars, partis	Par., pt.	A part, of a part.
Partitis vicibus	Part. vic.	In divided doses.
Pastillus, pastillum	Pastil.	A pastille.
Penicillum camelinum.	Penicil. cam.	A camel's-hair pencil or brush.
Per	Per	Through, by.
Pilula	Pil.	A pill.
Poculum	Pocul.	A cup.
Potus	Potus	Drink.
Præparata	Præp.	Prepared.
Primus	Primus	The first.
Pro	Pro	For.
Pro re nata	P. r. n.	Occasionally, according to circumstances.
Pulvis	Pulv.	A powder.
Pyxis	Pyxis	A pill box.
Quantum libet	Q. lib.	As much as you please.
Quantum sufficiat	Q. s.	As much as is sufficient.
Quaque	Qq.	Each, or every.
Quartus	Quart.	Fourth.
Quatuor	Quat.	Four.
Quinque	Quinq.	Five.
Quintus	Quint.	The fifth.
Quotidie	Quotid.	Daily.
Recipe	℞.	Take.
Repetatur	Rept.	Let it be repeated.
Saturatus,-a,-um	Sat.	Saturated.
Scatula	Scat.	A box.
Scrupulum	Scrup., or ℈	A scruple (20 grains).
Secundum artem	S. A.	According to art.
Secundus	Secund.	Second.
Semis, or semissis	Ss.	A half.
Septem	Sept.	Seven.
Sex	Sex	Six.
Signa	Sig.	Write, or mark (thou).
Singulorum	Sing.	Of each.
Solve	Solv.	Dissolve.
Somnus	Somnus	Sleep.
Statim	Stat.	Immediately.
Stet, or stent	St.	Let it (or them) stand.
Sume	Sum.	Take.
Supra	Supra	Above.
Talis	Tal.	Such a one.
Ter	Ter	Thrice, or three times.
Ter in die, or Ter die	T. i. d., or T. d.	Thrice daily.
Tero	Tero	I rub.
Tertius	Tert.	Third.
Tinctura	Tinct., or Tr.	Tincture.
Tres	Tres	Three.
Triduum	Trid.	Three days.
Tussis	Tus.	A cough.
Ultimo (or ultima) præscriptus	Ult. præse.	The last ordered.
Una	Una	Together.
Uncia	Unc., or ℥	An ounce.
Ut dictum	Ut dict.	As directed.
Vas vitreum	Vas vit.	A glass vessel.
Vel	Vel	Or.
Vices	Vic.	Turns.
Vinum	Vin.	Wine.
Vires	Vir.	Strength.
Vitellus	Vitel.	Yolk.
Vitreum, vitrum	Vitr.	Glass.

Extemporaneous Preparations.

Under this heading are considered mixtures, emulsions, pills, capsules, tablet triturates, compressed tablets, suppositories, etc. All of these have been defined by the writer upon pharmacy, and in this article only their preparation from a dispenser's standpoint will be considered. Every liquid preparation composed of more than one ingredient may be called a mixture. It may contain salts soluble in water, or, as in the mixtures of the Pharmacopœia, it may be an aqueous preparation containing insoluble substances in a state of fine subdivision, etc., which, when agitated, will remain for a little time in a state of suspension. In many instances the intervention of gum arabic, tragacanth, Irish moss, etc., is made use of to assist in the suspension of insoluble substances. In dispensing mixtures the principal and fundamental rule upon which to base one's method of procedure is to adopt a method by which as little chemical combination as possible will take place between the ingredients. The first step in dispensing a prescription is to read it through and become thoroughly familiar with it; this is a necessity. It matters very little whether the label containing the directions is written before the mixture be compounded or afterward. The main thing is to know and to be sure of what you are doing. Many dispensers, and not a few teachers, direct the novice to read the prescription, write the directions, copy the prescription, if necessary, and finally compound the mixture; after this is done the compound is labeled, the label again read and the bottle wrapped and delivered. This is a good method, but there are equally competent dispensers who prepare the mixture first and write the directions afterward. As we have said, it makes but little difference which method is to be followed. The point to be emphasized is that the dispenser shall proceed in the manner least likely to be productive of mistakes and at the same time be in full accord with the prescriber's wishes. A motto often displayed in the offices of accountants is that one reading: "Mistakes are fatal." At the dispensing counter this aphorism is only too true.

Having decided upon his method of procedure, the dispenser takes the salts, if the prescription contains them, and dissolves them in that portion of the liquid in which they are the most soluble. This can often be done in the graduate or bottle in which the preparation is dispensed, but in the great majority of instances solution of the salts is better accomplished by trituration in a mortar. Substances insoluble in water or the liquid of a mixture must be first reduced to a fine powder and triturated with a portion of the liquid before the remaining ingredients be added.

Emulsions.

An emulsion has been defined as a mechanical mixture, having a milky appearance, of an oil, fat or resin with water, the admixture being promoted by the presence of an alkali or gum or some equivalent substance, such as albumen or casein (Redwood). There are four official emulsions, viz., emulsum ammoniaci, emulsum asafœtidæ, emulsum amygdalæ and emulsum chloroformi. Of these, emulsions of ammoniac and asafœtida belong to the class known as gum resin or seed emulsions. They are prepared by triturating these substances directly with water, the resinous and oily constituents being held in suspension by the gummy matter present. These emulsions should never be prepared from powdered gum resins as the drying and subsequent powdering destroy both the volatile constituents and their emulsifying properties. As the Pharmacopœia directs, only selected tears should be used. Emulsion of almond is prepared by triturating blanched sweet almonds with acacia and sugar, these being added to assist in the keeping qualities of the emulsion. In the other official emulsion the chloroform is held in suspension by the emulsification of almond oil, powdered tragacanth and water.

There are two general methods of emulsification known, viz., the Continental and the English. In the former (see Era, Aug. 29, 1895, page 268) the method depends upon the formation of a nucleus obtained by triturating together in a mortar certain weighed quantities of oil, gum and water. This is a method which is sure to yield a

good emulsion, providing the necessary manipulation be followed and the correct proportions of gum, etc., be taken to begin with. The German Pharmacopœia directs the following proportions for oils difficult to emulsify: Oil, 2 parts; pulverized acacia, 1 part; water, 1½ parts. For fatty oils the proportions are reduced to 1 part of gum to 4 parts of oil. The emulsion is prepared by first placing the oil (4 parts) in a dry mortar, to which is added the powdered gum (1 part), and stirred to a uniform mixture. Two parts of water are added at once and the whole stirred until emulsified. This "nucleus" is then diluted as desired. Two modifications of this method are in use, one of which consists in triturating powdered acacia with 1½ parts of water until a uniform paste results, when the 2 or 4 parts of oil are added at once and triturated until a thick, creamy nucleus results. The other consists in placing 1 part of powdered acacia in a mortar, then adding 2 or 4 parts of oil and 1½ parts of water, which have been previously mixed. The whole is then rapidly stirred until emulsification takes place.

The English method is in general use in prescription work where the proportions of gum, oil, resins, water, etc., vary largely. An emulsion is prepared by first making a thick, smooth mucilage of gum and water, to which is added in alternate small portions the oil and water, the mixture being rapidly stirred the meanwhile. Considerable care is necessary to produce a satisfactory emulsion by this method. Too great haste will not answer. The oil and water must be added very cautiously at the start and until a good, thick emulsion is obtained. After this point has been reached the operation may be proceeded with more rapidly.

A great number of emulsifying agents have been proposed, among which are tragacanth, yolk of egg, Irish moss, casein, quillaja, extract of malt, pancreatin, etc. The first mentioned is considerably used and usually produces a good emulsion. One official emulsion is made with it, viz., emulsion of chloroform. For emulsifying fatty oils a paste composed of 1 part of tragacanth and 20 parts of water is made and to which are added at once 20 parts of oil and 10 parts of water. The mixture is rapidly and constantly stirred during the entire operation. Volatile oils may be emulsified by the following formula: Oil, 8 parts; powdered tragacanth, 1 part; water, 15 parts.

Glyconin or Yolk of Egg Emulsion.—This process requires no explanation, as a typical formula is given in the National Formulary. (See Glyconin Emulsion of Cod Liver Oil, page 39.)

For emulsions made with Irish moss and quillaja see also National Formulary.

Casein as an emulsifying agent was first exploited by Léger. He directs saccharated casein to be used in the same manner as gum arabic.

Extract of malt and pancreatin have a restricted use and are rarely employed except in emulsions of cod liver oil. The former will emulsify about its own weight of oil, which is gradually added under constant stirring.

Flavoring Oil Emulsions.—No single or compound aromatic can be suggested which will be acceptable under all circumstances as a flavoring for fatty oil emulsions. If the choice of a flavoring be left to the dispenser, he can do no better than to employ one of those given on page 40 of the National Formulary. The writer has experimented with quite a number of combinations, and he has yet to find a better all-round flavoring than No. 5 in that work.

Powders.

The dispensing of powders is very easily done. While not entering into a discussion of the degrees of fineness or the necessity of thorough trituration in order that a uniform mixture may result, it may be of service to make a few remarks upon the subject. In dividing powders great care should be exercised in order that all portions shall weigh the same. It may expedite matters to use one of the so-called "powder dividers" for portioning the mixture into the respective parts, but if accuracy be required, and it is required in the majority of instances, each part should be weighed.

After the powder is divided into the requisite number of parts, each should be nicely, evenly and uniformly wrapped in paper. Quite a little experience is necessary before one can become expert at folding powders. The work should be so done that when the folding is completed and the powders placed in a box they will be of uniform height and length. Nothing tends to excite a patient more than to receive a lot of powders which are not uniform in size. A dispenser who is careless in this respect is apt to be considered careless in the division of the medicine into doses. Various devices are on the market for the folding of powders, all of them, however, being operated in about the same manner. The usual method is to fold the powders with the aid of a spatula or over the edges of the box in which they are to be dispensed. Paper for this purpose should be cut to a uniform size and be of a good quality, preferably with a glazed surface. Powders containing volatile or deliquescent substances should be wrapped in paraffined paper.

Sometimes a prescriber will write a prescription for powders in which the quantity of sugar is left to the dispenser. In such cases only enough should be used to insure the proper distribution of the medicament and to cover its taste. The amount used should be noted on the margin of the prescription for future reference. Nauseous powders are administered in wafers, cachets (konseals), capsules, etc. The first named are prepared by pouring a mixture of flour and water on hot plates. The heat evaporates the water and the sheet of wafer is produced. To use them, the wafer is first dipped into cold water, which makes it limp. It is then quickly transferred to a large spoon, the powder laid upon it and the edges of the wafer carefully folded over so as to completely envelop the medicine. Water is then poured upon the spoon and the wafer and its inclosure swallowed without difficulty.

The cachet consists of two bowl-shaped circular disks with flat edges, composed of wafer paper, which when placed together form a kind of envelope. To prepare them the powder is deposited in the dry cachet and the margin moistened with water. An empty cachet of exactly the same size is placed on top with the convexity upward, and pressure is made upon the margin, with the effect of tightly sealing the cachet and enveloping the powder. The simplest method upon a small scale is described by Remington as follows: Two bottles are provided (a morphine bottle for the middle size answers very well), and one of the cachets being placed upon the lip of one bottle, the powder is carefully deposited in the center without soiling the outside edge; the margin of an empty cachet is then moistened by quickly passing it over a piece of wet felt, and is laid upon the cachet containing the powder; the lip of the other bottle is now applied to the cachet with sufficient pressure to seal it effectually. Limousin's apparatus consists of a board with depressions and perforations for three sizes. Empty cachets are placed upon the depressions, and the powder is deposited in the center with the aid of a small powder funnel. A "wetter and presser," which is of two kinds of wood joined in the middle, one end being hard, light-colored and hard polish, the other being dark-colored and somewhat absorbent, is used to moisten the margin of the cachet, by first placing it upon a piece of moist felt and then applying it to the cachet; an empty cachet is now laid upon the one containing the powder and the "presser" end is applied with some force so as to seal the cachet; the sealed cachet is pushed up from below with the finger.

"Konseals" are a form of cachets made of thinner material and are less bulky and neater in appearance. The apparatus for dispensing "konseals," a very ingenious contrivance, was introduced into the United States by J. M. Grosvenor & Co., of Boston. It consists of three nickeled-metal plates hinged together and containing circular spaces for the introduction of the cachets. In operating it, the cachets are pressed with the fingers into the inner spaces of the bottom and cover plates. The middle plate is then folded over on to the bottom plate and the powders poured into the cachets. Large doses are manipulated by means of a funnel and pressed down with a thimble furnished for the purpose. When the cachets are all filled the filling plate is removed and a dampening roller not too wet is passed over the cachets in the cover plate, which is then closed over the bottom plate. A slight pressure closes the cachets, which, on opening the apparatus, are found adhering to the cover plate and subsequent-

ly removed by pushing out with the fingers, or with a pusher supplied for this purpose.

Capsules are made of gelatin and are designated as "hard" and "soft." For a description of their manufacture the reader is referred to some text-book on pharmacy. In filling, great care should be exercised that none of the medicine be left on the outside of the capsule. The fingers must be dry and clean and the capsules should be carefully wiped off before they are dispensed. If this is not done, the very purpose of their use is defeated.

Various capsule-fillers are on the market.

Whether the medicaments of a certain prescription ordered to be dispensed in capsules should be worked into a mass or put up in powder form, is a question which the dispenser must decide for himself. If the nature of the ingredients will permit, it is generally very satisfactory to work them up into a mass with glycerite of starch or other suitable excipient, and sub-divide the whole into the requisite number of parts with a pill machine. There are, however, many substances which should not be compounded with an excipient, substances which are apt to wet down when made into a mass. Whatever method be decided upon, the uniform rule should obtain in the pharmacy, viz.: That all prescriptions to be dispensed in capsules should be first made into a mass, or that all medicaments should be in powder form. Whenever the rule adopted be deviated from it should be noted on the prescription, so that it may be dispensed again in the same way. Capsules may be filled with liquids by first removing the top and moistening the neck of the capsule with water. The following method has been found satisfactory:

The appliances necessary are a minim measure, a pipette, a camel's-hair pencil, and an empty shallow straw or card board box, a tooth-brush box, for instance, to make a holder in which to place the capsules. First punch holes in the box the exact size of the capsule to be used, from ½ to 1 inch apart. If minims be ordered, drop into the capsule carefully from a minim measure. If the prescription calls for drops use a pipette, being careful in all instances to get the liquid inside the capsule and not on the outside. Then take the top or cover of the capsule, moisten slightly inside with warm water, using a camel's-hair pencil, place the cover or top on the filled capsule, roll slightly with top up between thumb and first finger for several seconds, press gently but firmly together. Place the capsule in the holder to dry and set the holder in a cool place until the joints are tight. Volatile oils, etc., work better if fixed with an equal quantity of a bland fixed oil, i. e., refined cottonseed oil or olive oil.

Care must be taken to keep the liquid from the outside of the capsules. If the liquid gets on the outside, throw the capsule away and take a new one. Measure the volumetric capacity of the capsules and always use a capsule that holds an amount in slight excess of that required. So far as possible a minim measure should be used.

There are upon the market capsules purposely made for dispensing liquids, the manufacturers of various kinds furnishing devices for filling them.

Troches, Lozenges, etc.

Fifteen kinds of lozenges are official. They are prepared in one of two ways, viz., by compression or by molding. Those prepared by compression are made by mixing the medicinal constituents with powdered sugar, moistening with a solution of gum arabic or other mucilage, and granulating and compressing the mass into tablets of the required weight and shape. Machines for this purpose are constructed upon the same principles as those used in the manufacture of compressed tablets.

Molded Lozenges.—A mass is first prepared from the dry medicinal constituents by trituration with finely powdered sugar and a sufficient quantity of mucilage of tragacanth. The mass is then rolled out to the desired thickness and cut into lozenges by means of suitable molds. After being molded or cut the lozenges are placed in a suitable room to dry. A simple form of apparatus used for cutting the lozenges is a "lozenge punch," which is a hollow cylinder of tin or steel through which a "plunger" operates to release the lozenge when cut.

Pills.

In making pills the material should be well powdered and mixed in order to obtain uniformity of composition before the excipient is added. This latter agent is to give adhesiveness and plasticity to the mass without interfering with its solubility. To this end various excipients are used, each depending upon the character of the material to be made into pills. For powders of a gummy nature water is employed, as in the official pills of aloes and mastiche, compound cathartic pills, etc. Syrup, honey and glucose are used where only slight adhesiveness is required, while mucilage of acacia, glycerite of tragacanth, glycerite of starch, etc., are employed for friable and non-adhesive powders. Glycerin is rarely used alone as an excipient, as it is too hygroscopic. It is used in the preparation of the glycerites mentioned, and in these combinations it is very serviceable in keeping pills from becoming hardened. Glycerite of starch is a good all-round excipient. Special drugs, however, require special excipients, and as the choice of the kind to be used is nearly always left to the dispenser, he must be posted as to the character of the material upon which he operates.

In making pills the constituents are first reduced to a very fine powder and thoroughly mixed, the necessary excipient added and the whole worked into a uniform and plastic mass. The mass is then made into a cylindrical roll, and cut into the desired number of parts by means of a pill machine or a spatula and a pill tile. Each portion is then rolled into a spherical form by the fingers or otherwise, and dusted with some suitable powder, usually lycopodium, althæa or powdered licorice root.

Pill Notes.—Oxidizing agents like potassium permanganate are made into pills with resin cerate, kaolin ointment, petrolatum, etc. Silver nitrate may be worked up with kaolin ointment. Phosphorus (see formula, U. S. P.). Essential oils may be satisfactorily massed with powdered soap and calcined magnesia. Crystalline salts may be made into a mass with glycerite of tragacanth and powdered licorice root or starch; when completed the pills should be coated with tolu varnish. Resins and gum resins should be finely pulverized and mixed with a little soap; a few drops of alcohol are then added. Mercurial ointment and other greasy substances may be massed with calcium phosphate. The massing of pills is best performed in a shallow Wedgewood mortar, having a pestle with a handle long enough to be well grasped by the hand.

Pill Coating.—Pills are coated to mask their taste or odor and to add to their permanency. Sugar, gelatin, silver leaf, keratin, salol, etc., are used for this purpose. Sugar coating is best done on the large scale and by means of suitable machinery. A process for coating small quantities of pills, and said to give fair results, is the following: Moisten the pills with a mixture of 1 part of glycerin and 2 parts of absolute alcohol, and throw them into a box containing a liberal supply of a fine powder composed of 4 parts of sugar, 2 parts of tragacanth and 1 part of starch, and well roll them around. Sift them free of the powder, moisten and again roll them in the powder. The pills may be glazed by moistening them with a mixture of 1 part of glycerin and 2 parts of ether, and rolling them in a powder consisting of equal parts of talc and calcium carbonate.

Gelatin Coating.—Several formulas have been published for a gelatin solution for this purpose. Hager's formula for extemporaneous coating consists of 2 parts of white gelatin and 5 parts of distilled water, melted with the aid of a water-bath. When the material for gelatin coating is to be kept on hand, 10 parts of white gelatin, 25 parts of distilled water and 6 parts of 90 per cent. alcohol are used, and after mixture by means of a water-bath allowed to cool, when it forms a jelly. As much as may be needed of this mixture can afterward be melted on a water-bath. To use either of these solutions, the pills are one by one stuck upon a pointed wire, and are dipped into the solution, with care not to immerse the wire; the wire with the pill is to be twirled about for a few moments and then stuck upright into a pin cushion, vessel of sand or a piece of bread. When all the pills are coated they may be removed from the wires. Various apparatus have been devised for coating pills and may be found on the market.

Patch says that the following is found by him to be most generally suitable:

Best French gold-labeled gelatin, 2½ oz. avdp.; distilled water, 7 fl. oz. Macerate until gelatin softens, dissolve by water-bath, add powdered boric acid, 2 dr., then slowly add mucilage of acacia, 2 fl. oz., and strain. He also makes the following practical comments:

"Much of the success of the process depends upon having the solution of proper density; the thinner it is the better, providing it gives a firm and complete coating when dry. The warmer the solution the more rapid will be the drying; but judgment must be used in regulating the temperature in each case, for if too warm it may soften and destroy the form of the pill, or in cooling the gelatin may contract and split or crack. Pills consisting largely of aloes, gum, resins or solid extracts should be made very hard and dipped into a thin, comparatively cool solution. If dipped in too warm a solution the pills will soften, and when the gelatin contracts it will cause the softened mass to protrude from the needle hole.

"Pills containing carbonate of ammonium, citrate of iron and other scaled salts, valerianates, acetates, alkaline iodides, etc., should be dipped in a cool solution. Glycerin should be avoided as an excipient owing to its tendency to soften the coating. Glucose forms a good general excipient for pills to be gelatin-coated, and may be used alone with quinine or with a little powdered extract of licorice for dark pills. A mixture which thickens by keeping should have a little distilled water added from time to time. A pad saturated with petrolatum should be provided into which the needles may be thrust to grease them before they are inserted into the pills. The needles should be thrust only so far into the pills as to hold them securely, and the pills should be immersed into the coating mixture just far enough to cover them. Excess of coating mixture may be removed by touching the pills to the underheated surface of the cover of the container (or to the surface of the heated mixture)."

Silvering or gilding of pills is rarely accomplished by the dispenser at the present time. The apparatus required is a hollow cylindrical cup called a "pill silverer." The pills are freed from dust and placed in the cup, enough mucilage of acacia being added to moisten their surfaces. The silver leaves are then added, and the cup is shaken with a rotary motion until all the leaf has been taken up by the pills. Care must be taken in this operation not to add too much mucilage (about 1 drop being necessary for twelve pills). If the pills are allowed to become too moist, a larger number of silver leaves will be required, and the finish is not so bright.

Pearl coating consists in covering the pills with a thin layer of French chalk. It is applied by moistening the surfaces of the pills with syrup of acacia, and then rotating the pills in a cylindrical vessel containing French chalk.

For a description of pill-coating machines see Coblentz' "Handbook of Pharmacy."

Tablet Triturates.

Tablet triturates consist of medicine which, if a dry solid, has been triturated with sugar of milk until a thorough and complete division and distribution of it has been made. In the case of pasty or fluid bodies, these are mixed in a wet state with sugar of milk, the whole dried and then finely subdivided by trituration. The powder in either case is then formed into a pasty mass with varying proportions of alcohol and water or other suitable menstruum, and afterward molded into tablets of uniform size and weight.

The formula for each separate combination is arrived at in the following way:

The mold is filled with finely powdered sugar of milk which has been wetted to a pasty mass with dilute alcohol. The tablets are then pressed from the mold, thoroughly dried and weighed. This weight is generally 65 grains for 50 tablets for the rubber molds now usually supplied, making a tablet weighing slightly less than 1⅓ grains when filled with plain milk sugar. The weight of the plain sugar-of-milk tablet is slightly increased with the increased solvent action of the menstruum, as more sugar enters the solution, making the tablet more compact. The next step is to ascertain how much milk sugar must be omitted from the previously ascertained amount in order to make room for medicinal constituents. For this purpose 130 grains of milk sugar are weighed off, which is equivalent to 100 finished tablets of plain sugar of milk. From these 130 grains a bulk is taken, equivalent, as nearly as possible, to that of the substance to be incorporated, and the weight noted. The active ingredient, if a dry solid, is now mixed with the remaining portion of sugar of milk by thorough trituration. In the case of solid extracts, tinctures and other fluids, these are mixed with the remaining portions of sugar of milk, if necessary, by the aid of water or some other menstruum which dissolves them perfectly, then the mass is dried and powdered.

After the mixture has been made, dried and thoroughly triturated, it is wetted with a suitable menstruum and molded, care being taken to scrape the mortar as clean as possible in order not to waste any of the material. The tablets are then carefully dried. If there be any mass in excess of that required for the 100 tablets, it shows that not enough milk sugar has been taken from the original 130 grains. The weight of this excess is generally equal to that of an equal bulk of milk sugar. Hence it will only be necessary at the next trial to remove as much more milk sugar as the bulk of this excess amounts to.

If there should be less than 100 tablets the weight of the number deficient is ascertained by determining the average weight of the finished tablets and deducting the calculated weight of the missing tablets from the weight of the bulk of sugar of milk originally separated. At the next trial the amount of sugar of milk removed from the original 130 grains should be as less much as the weight of the missing tablets amounted to. In each case the formula finally found, by actual experiment, to yield a correct result, should be noted in a special book for the purpose of future reference.

It is important that all the ingredients and the mixture of powders ready for molding should be in the finest possible state of subdivision. If they are coarse the tablets will not show a smooth, finished appearance. In tablets composed nearly all of milk sugar, if the latter be in a coarse powder it necessitates the addition of more water to the alcohol than is required when the sugar of milk is in a very fine powder. The menstruum selected should possess a slight solvent action upon one or more of the ingredients, but the latter should not be too freely soluble, since the mass is then molded with difficulty, and the tablets prepared therefrom will be uneven, sometimes being cracked on the surface and very hard. It should possess sufficient solvent action to make a firm yet not too hard a tablet, one that will hold firmly together when shaken in a vial, and which should readily disintegrate upon the addition of water. It is, however, impossible to prepare all the various combinations in such a form that they readily dissolve or diffuse upon the addition of water, the rapidity of disintegration depending upon the proportion and soluble character of the constituents.

The menstrua generally used are alcohol, absolute alcohol, alcohol and water and chloroform. For tablets composed nearly entirely of sugar of milk, a menstruum composed of nearly three volumes of alcohol and one volume of water is preferable. For bodies insoluble in alcohol the proportion of water is raised in proportion to the increase of active ingredient. The menstruum must, therefore, be so adjusted that it will dissolve enough of either the milk sugar or of the active ingredient to make a sufficiently firm tablet.

In preparing the powder for molding it should be wetted to a pasty consistence, the mold placed upon a smooth surface, a pill-tile answering admirably, and the wetted powder pressed into the spaces with a horn or ivory spatula, which is drawn over the mold. Sometimes the mass adheres to the spatula and is drawn from the holes. This is remedied by dipping the spatula in the menstruum used for wetting the mixture before drawing it over the surface. The mold is then reversed by sliding it toward and off the edge of the tile without raising it, the spatula is drawn over the other side of the mold and the latter then again drawn toward and off the edge. The tablets are now pressed out by the punch-pin plate and allowed to dry a few minutes upon the punch-pins, then shaken off by striking the pin plate forcibly upon the counter covered with a sheet of paper to receive the tablets. A list of the various tablet triturate machine manufacturers was given on page 141 of the Jan. 31, 1895, Era.

Compressed Tablets.

Compressed tablets are made by compressing the medicament into a small disk. By varying the degrees of pressure employed to make them they may be made to dissolve quickly or slowly in the mouth. Various forms of machines have been introduced for this purpose, each having dies and punches of various sizes. The medicament in a state of fine powder is placed in a mold, which is brought under a punch or compressing cylinder by the force of which the tablet is formed. In a general way the substance is reduced to a granular form without or with the addition of a medium composed of one-tenth of the weight of the substance of cane sugar and one-twentieth of acacia and water. Before the granulated substance is compressed a lubricant (a hydrocarbon oil) in the form of a spray is added, the amount depending upon the character of the material. Sometimes French chalk is used in connection with the hydrocarbon oil for a like purpose. However, the more perfect and even the granulation has been prepared, the smaller the quantity of these substances it is necessary to use.

Ointments.

There are 23 official ointments. For methods of preparation, ointment bases, etc., see Era, July 18, 1895, page 70.

If wax be an ingredient of the ointment basis it should be first melted and the lard added to it in small quantities. After being thoroughly liquefied, the vessel is removed from the fire and the contents constantly stirred to prevent the partial separation of wax. The addition of aqueous liquids should be made in small quantities, at not too low a temperature and under constant trituration. This operation should continue until the ointment begins to assume an opaque appearance. Solid substances may be incorporated in the same manner, but they must first be reduced to an impalpable powder. Substances which are soluble in water are often conveniently combined with the fatty base by dissolving them in a very small quantity of hot water and incorporating this solution in a warm mortar, with the ointment gradually added. Extracts should be softened in a warm mortar by trituration with a little warm water before the ointment base is added. Crystalline salts like potassium iodide should be previously dissolved in the smallest possible quantity of water. If not completely dissolved the crystals are apt to produce great irritation when the ointment is applied to the skin. Steel spatulas should not be used in ointments containing nitrate of mercury, iodine, etc. An ointment when properly made must be free from lumps and gritty matter. Ointments should be dispensed in glass or porcelain jars. A tin box or a box made of wood should not be used; the first becomes rusted, often coloring the ointment, and the latter is so quickly penetrated by fat that it becomes unsightly and no one cares to handle it. Rancid ointments should never be dispensed, and fresh ointment should not be placed in a box containing an old ointment.

Suppositories.

The Pharmacopœia gives a general process for the preparation of molded suppositories. For a general discussion of the subject the reader is referred to the Era of July 18, 1895, page 70. The following hints may prove of service: In the preparation of the mass the insoluble substances must be reduced to a very fine powder before they are mixed with the cacao butter. Vegetable extracts may be softened with enough water to form a paste. This is a very necessary procedure, as some extracts contain minute crystals of potassium nitrate and chloride which may prove very irritating. After the addition of the medicaments to the melted mass the heat should be no longer continued, as these are merely held in suspension in the liquefied mass, which should be as cold as possible and yet allow the mixture to be transferred to the molds. If the molds are sufficiently cold, chilling of the suppositories takes place rapidly, and this before the heavier portions settle to the bottom of the mold.

To enable the suppositories to be readily removed from the molds some dispensers recommend first wiping them out with a mixture of soap, glycerin and water, while others prefer soap liniment. If the mass is not too warm and the molds are sufficiently cool and clean, these additions are wholly unnecessary.

The simplest form of molds is made by making cones of glazed or waxed paper which are supported when in use by inserting them in holes made in a box. For a description of the various molds made of metal see Remington's "Practice of Pharmacy."

Hand-rolled suppositories are prepared in a manner similar to that used in making pill masses. The cacao butter is reduced to shavings by means of a knife (a small plane answers admirably) and weighed. The medicaments are then gradually incorporated with it and the whole worked in the hand until a plastic mass is formed. The mass is then rolled out on a pill-tile to the proper length and cut into the necessary number of parts, each of which is carefully formed into a cone by the fingers or spatula. Starch or lycopodium may be used as a dusting powder. If the mass crumbles add a drop or two of castor oil. In winter time the manipulation may be considerably hastened by using a warm pill-tile.

Compressed Suppositories.—Machines for the preparation of suppositories by cold compression have been on the market for a number of years. The advantages claimed for them are rapidity of manipulation and the preparation of a suppository without the use of ice.

(Dr. H. H. Rusby's paper on Botany will commence in next week's issue.)

FERROSINE is a preparation used instead of oxide of iron or red lead to paint iron structures, for coloring paper, for polishing material, in the manufacture of caoutchouc, etc. It is a fine red-brown powder, said to contain 70 to 75 per cent. iron oxide, 10 to 20 per cent. lime and albumen and 10 to 15 per cent. of water, etc.

POISON LAWS.*

(Concluded from page 329, Sept. 12.)

NORTH CAROLINA.

Schedule A.

Arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnine and essential oil of bitter almonds.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, digitalis and their pharmaceutical preparations, croton oil, chloroform, chloral hydrate, sulphate of zinc, carbolic acid, oxalic acid, opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce, and other poisons.

In the sale of any article enumerated in Schedules A and B the article must be labeled with name, the word "poison," skull and crossbones, name and address of seller and a register must be kept in which are entered date, name and address of purchaser, name and quantity of article, for what purpose intended and name and address of seller. Does not apply to poisons in usual doses nor to physicians' prescriptions.

Penalty: $25 for each violation.

NORTH DAKOTA.

Schedule A.

Arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnia and all other poisons, vegetable alkaloids and their salts, essential oil of bitter almonds, opium and its preparations, except paregoric and other preparations of opium with less than 2 grains to the ounce.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, digitalis and their pharmaceutical preparations, croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic acid and any oxalic acid.

A poison is defined as any article liable to be destructive to human life in quantities of 60 grains or less. In selling any poison enumerated in Schedules A and B the container must bear label stating name of article, word "poison," name and address of seller, and it must not be sold unless to be used for legitimate purposes. In a book must be entered date of sale, name and address of purchaser, name and quantity of the poison and name of dispenser. Sold book to be open for inspection during five years. Violation of any provision is a misdemeanor; fine not less than $5 for each offense.

OHIO.

Morphine Law.—Not unlawful for any person, other than a wholesale druggist or other dealer in drugs and medicines, to sell at wholesale, or for any person other than a registered pharmacist or a registered assistant pharmacist to sell at retail, morphine or any of its salts, and not lawful for such persou to sell morphine or any of its salts in any bottle or vial, envelope or other package, unless the same shall be wrapped in scarlet paper or envelope, and all bottles or vials shall contain not more than one dram each, and shall have, in addition to said scarlet wrapper, a scarlet label lettered in white letters, and the same must be upon both vial and wrapper, plainly naming the contents of said bottle; and no person shall have the right to change any preparation of morphine from its original package to any other recep-

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* We have received so many inquiries for a good poison register that we have had a special book prepared for the purpose, which we call the "Era Poison Register." It is specially ruled and printed for the proper entries on good folio record paper, securely bound with stiff board covers and contains spaces for 800 entries. Bound in with each book are the poison laws now in force in each State and Territory.

The price of this book, postage paid, is 60 cents per copy.

tacle whatever for the purpose of retailing or dispensing therefrom, but it must be retailed or dispensed only from the original package with scarlet wrapper.

Label Law.—Dealer shall affix to each bottle or package of such drug, chemical or poison, the careless use of which would be destructive to human life, a label printed in red ink, having on it the name of the article by which it is commonly known, the cautionary emblem of the skull and crossbones, the words "caution" and "poison," and at least two of the most readily obtainable effective antidotes.

Poison Law.—Whoever sells any quantity of arsenic less than one pound without first mixing therewith soot or indigo in the proportion of one ounce of soot or half an ounce of indigo to the pound of arsenic, or, except upon the prescription of a physician, any quantity of any article belonging to the class usually denominated poisons, to any person, without first having marked the word "poison" upon the label or wrapper and registered in a book the day and date, quantity thereof, the name, age, sex and color of person obtaining the same, the purpose for which it is required and the name and address of the person for whom the same is intended, shall be fined not more than $200 nor less than $20.

OKLAHOMA.

In selling any of the following poisons, arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnine and all other poisonous vegetable alkaloids and their salts, essential oil of bitter almonds, opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce, aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, digitalis and their pharmaceutical preparations, croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic acid and oxalic acid, the container and wrapper must be labeled with name of article, word "poison," name and business address of seller. In a book shall be entered date, name and address of purchaser, name of poison, for what purpose intended and name of dispenser; book to be always open for inspection and must be preserved five years. Does not apply to physicians' prescriptions. Penalty: First offense, fine $25 to $100; second offense, name of pharmacist stricken from the register.

OREGON.

Unlawful to retail any of the following poisons, to wit: Arsenic and its preparations, corrosive sublimate, white precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnine, morphine, cocaine and their combinations, and essential oil of bitter almonds, aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, digitalis and their pharmaceutical preparations; croton oil, chloroform, chloral hydrate, sulphate of zinc, carbolic acid, oxalic acid, preparations containing opium, except paregoric and other preparations of opium containing less than 2 grains to the ounce, and other deadly poisons, without labeling container with the name of the article, the word "poison" and the name and place of business of the seller.

Unlawful to deliver or sell any poison unless purchaser is aware of its poisonous character and represents that it is to be used for a legitimate purpose. The seller shall keep a registry book, in which shall be entered an accurate record of the sales of all such poisons. Violation of this section makes the principal of the store liable to a fine of not less than $10 and not more than $100 for each offense. Does not apply to manufacturers making and selling at wholesale, provided that each box, vessel or paper in which poison is contained shall be labeled as above.

PENNSYLVANIA.

A poison is defined as any drug, chemical or preparation liable to be destructive to adult human life in quantities of 60 grains or less. Unlawful to sell poisons without affixing to the container a label, printed or written, containing the name of the article, the word "poison" and the name and place of business of the seller, who shall satisfy himself that such poison is to be used for legitimate purposes. In dispensing poisons which are known to be destructive to adult human life in quantities of 5 grains or less there must be entered in a book the name of the seller, the name and residence of the buyer, the name of the article, quantity sold and purpose for which intended, which book of registry shall be preserved for at least two years, and shall at all times be open to the inspection of the coroner or courts of the county. These provisions do not apply to the dispensing of physicians' prescriptions specifying poisonous articles, nor to the sale to agriculturists of such articles as are commonly used by them as insecticides.

Penalty: Fine, $5 to $50.

RHODE ISLAND.

Schedule A.

Arsenic and its preparations, cotton root and its preparations, corrosive sublimate, cyanide of potassium, ergot and its preparations, hydrocyanic acid, opium and its preparations — paregoric excepted — oxalic acid, savin, strychnia, volatile oil of bitter almonds, oil of pennyroyal, of savin and of tansy; proprietary or secret medicines recommended, sold or advertised as emmenagogues and parturients.

In selling any article enumerated above the container and wrapper must be labeled with name of article, word "poison," name and address of seller, and in a book must be kept record of date, name of purchaser, name and quantity of article, for what purpose required, said book to be open to inspection by board of pharmacy or other authority and be preserved five years. Physicians' prescriptions are exempt from observance of these restrictions, but they must be kept on file by the pharmacist for five years.

SOUTH CAROLINA.

The sale of the following articles, arsenic and its preparations, all metallic cyanides and cyanides of potassium, tartar emetic, corrosive sublimate, aconite and its preparations, strychnine and all other poisonous alkaloids and their salts, cantharides, ergot, hydrocyanic acid, must be recorded in a book which shall state name and residence of purchaser and purpose of purchase. The seller must satisfy himself that the purchase is made for legitimate purposes. Any one who sells any of the above-enumerated poisons, or any of the following, oxalic acid, chloroform, belladonna and its preparations, except paregoric, digitalis and its preparations, henbane and its preparations, hemlock or conium, or any other article that may be added to this list by the Pharmaceutical Association of the State of South Carolina, must attach to the container a label, written or printed, in red ink with the name of poison, at least one antidote and directions for applying it. Physicians' prescriptions exempted. The board of pharmacy must furnish to all persons registering a form of label for poisons.

SOUTH DAKOTA.

Schedule A.

Acetate of lead, paris green, oxalic acid carbolic acid, chloral hydrate, chloroform, ether, sulphate of zinc and other poisonous medicines fatal to human life in doses of from 15 to 60 grains.

Schedule B.

Aconite, arsenic, belladonna, opium (except in paregoric and Dover's powders) and their preparations, strychnine, corrosive sublimate, prussic acid, cyanide of potassium, nitric and sulphuric acids, tartar emetic and other poisonous medicines fatal to human life in doses of 15 grains or less.

Poisons in Schedule A must be distinctly labeled with name and address of seller and word "poison."

For poisons in Schedule B the seller must enter in a book date, name and address of purchaser, name and quantity sold, purpose for which required and name and address of person by whom purchaser is introduced to seller.

Failure to comply with requirements constitutes a misdemeanor. Fine, $10 for each offense.

TENNESSEE.

Poisons must be distinctly labeled with word "poison," and in a book open to public inspection shall be kept a record showing name and quantity of article and name of person to whom delivered.

Label bearing common name must be attached to every package of tartar emetic, laudanum, morphine or other drug or medicine, except such as are prescribed by a practicing physician.

Penalty for violation, $20 to $100.

TEXAS.

Has no poison law.

UTAH.

No person shall sell any poisons commonly recognized as such, and especially aconite, arsenic, belladonna, biniodide of mercury, carbolic acid, chloral hydrate, chloroform, conium, corrosive sublimate, creosote, croton oil, cyanide of potassium, digitalis, hydrocyanic acid, laudanum, morphine, nux vomica, oil of bitter almonds, opium, oxalic acid, strychnine, sugar of lead, sulphate of zinc, white precipitate, red precipitate, without affixing to the container and to the wrapper a red label bearing the name of the article and the word "poison," with name and place of business of the seller, who shall not deliver any of said poisons without satisfying himself that said poisons are to be used for legitimate purpose. Does not apply to the dispensing of physicians' prescriptions.

Penalty: A fine in any sum less than $300 for each offense.

VERMONT.

A person who sells arsenic, strychnia, corrosive sublimate, prussic acid or chloroform, without the written prescription of a physician, shall keep a record of the date of such sale, the article, the amount thereof sold and the person to whom delivered, and for each neglect shall be fined not more than $100.

VIRGINIA.

Schedule A.

Arsenic and its preparations, corrosive sublimate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnine and essential oil of bitter almonds.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, digitalis and their pharmaceutical preparations, croton oil, creosote, chloroform, chloral hydrate, carbolic acid, oxalic acid, white and red precipitate, morphine, preparations containing opium, except paregoric and other preparations of opium containing less than 2 grains to the ounce, and other deadly poisons.

Unlawful to sell any of the above-enumerated poisons without labeling container with name of article, the word "poison" and name and place of business of the seller, or without finding, upon inquiry, that purchaser is aware of its poisonous character and represents that it is to be used for a legitimate purpose, nor the poisons in Schedule A without making an entry in a book kept for that purpose, always open for public inspection, stating date of sale, name and address of purchaser, name and quantity of poison sold, purpose for which purchaser states it is required and name of dispenser.

Law does not apply to the dispensing of poisons in usual doses on physicians' or veterinary surgeons' prescriptions nor up by a registered pharmacist or dispensed by a physician.

WASHINGTON.

The proprietor of every drug store must keep a registry book, in which shall be entered an accurate record of the sales of all mineral acids, carbolic acid, oxalic acid, hydrocyanic acid, cyanide of potassa, arsenic and its preparations, corrosive sublimate, red precipitate, preparations of opium (except paregoric), phosphorus, nux vomica and strychnine, aconite, belladonna, hellebore and their preparations, croton oil, oil savin, oil tansy, creosote, wines, spirituous and malt liquors. Such record shall state amount purchased, the date, for what purpose used, buyer's name and address, and at all times during business hours be subject to the inspection of the prosecuting attorney or any authorized agent of the board of pharmacy: Provided, That no such wine, spirituous or malt liquors shall be sold for other than medical, scientific, mechanical or sacramental purposes. Furthermore, that all poisons shall be plainly labeled as such, and labels shall bear the name and address of the druggist. Does not apply to dispensing of physicians' prescriptions.

WEST VIRGINIA.

Schedule A.

Arsenic and its preparations, corrosive sublimate, white precipitate, red precipitate, biniodide of mercury, cyanide of potassium, hydrocyanic acid, strychnia and all other poisonous vegetable alkaloids and their salts, essential oil of bitter almonds, opium and its preparations, except paregoric and other preparations of opium containing less than 2 grains to the ounce.

Schedule B.

Aconite, belladonna, colchicum, conium, nux vomica, henbane, savin, ergot, cotton root, cantharides, creosote, digitalis and their pharmaceutical preparations; croton oil, chloroform, chloral hydrate, sulphate of zinc, mineral acids, carbolic acid and oxalic acid.

Unlawful to sell any of the above-enumerated poisons without labeling with device bearing the death's-head and crossbones, name of the article, the word "poison" and name and place of business of the seller; or without ascertaining, upon inquiry, that the purchaser is aware of the poisonous character of the drug and that it is to be used for a legitimate and lawful purpose.

Sales of poisons in Schedule A must be registered in a book kept for that purpose, and the entry must show the name and residence of the purchaser, name and quantity of the poison sold, the purpose for which purchaser represents it is to be used and name of dispenser. Such book must always be subject to the inspection of the proper authorities, and must be preserved five years from date of last entry.

Penalty: Fine, $25 to $100.

Law does not apply to the dispensing of drugs in not unusual quantities on physicians' prescriptions.

All drugs, poisons and preparations sold by any druggist must be labeled with the name of the article in English, or with common name of the article.

WISCONSIN

No person shall sell or retail any poison commonly recognized as such, except paris green put in packages and labeled "Paris Green, Poison," and especially aconite, arsenic and its preparations, belladonna, biniodide of mercury, carbolic acid, chloral hydrate, chloroform, conium, corrosive sublimate, creosote, croton oil, cyanide of potassium, digitalis, hydrocyanic acid, morphine, nux vomica, oil of savin, oil of tansy, oil of bitter almonds, oil of cloves, oxalic acid, opium and preparations of opium, phosphorus, sulphuric ether, strychnine, sugar of lead, sulphate of zinc, white precipitate, red precipitate or any mixture containing enough of any of said poisons or of any combination of them sufficient to kill a person taking the same, without affixing to the container, and to the wrapper, a label bearing the name "poison," distinctly shown, together with the name and place of business of the seller. And every person who shall sell or retail any such poison shall keep a book, in which shall be entered an accurate record of the sale of all poisons, the amount purchased, the date, for what purpose purchased and the buyer's name and address. This record shall be at all times, during ordinary business hours, subject to the inspection of the district attorney of the county in which such store is located, or any authorized agent of the board of pharmacy.

Violation is considered a misdemeanor, fine, $5 to $50.

WYOMING.

Unlawful to sell at retail any poisons commonly recognized as such, and especially aconite, arsenic, belladonna, biniodide of mercury, carbolic acid, chloral hydrate, chloroform, conium, corrosive sublimate, creosote, croton oil, cyanide of potassium, digitalis, hydrocyanic acid, laudanum, morphine, nux vomica, oil of bitter almonds, opium, oxalic acid, strychnine, sugar of lead, sulphate of zinc, white precipitate, red precipitate, without affixing to the container and to the wrapper a label bearing the name of the article, the word "poison," name and place of business of the seller. Unlawful to deliver any poisons to any person under the age of 15 years, and to any person without ascertaining that such poison is to be used for a legitimate purpose. Does not apply to the dispensing of physicians' prescriptions. Entry is to be made in a book kept for that purpose, stating the date of the sale, the name and address of the purchaser, the name and quantity of the poison sold and the name of the dispenser; and such book shall always be open for inspection for at least two years.

Penalty for violation: Fine of $10 for each and every offense.

R. R. Rogers, Manning, Ia.—I think the Era by far the best journal I ever read. It has lots of push to it. I would not like to get along without it.

A. PH. A. PAPERS.

PROPOSED CURRICULUM FOR CANDIDATES BEFORE BOARDS OF PHARMACY.

By Wm. C. Alpers.

Pharmacy.

Assistant: Physical laws applied in pharmacy; the balance; weights and measures; different kinds of thermometers; specific gravity; spectrum; percentage solutions; percolation; maceration, etc.; vehicles and excipients.

Pharmacist: Potent drugs and their strength; alkaloidal drugs; incompatibles; solubility; assaying all official preparations and their ingredients; difficulties in preparing official preparations and how to overcome them; extraction of alkaloids, glucosides, resins, etc.

Materia Medica, Botany and Physiology.

Assistant: Vegetable morphology; parts of plants and their functions; official drugs, their habitat and medicinal properties; therapeutic terms; simple pharmacognosy; primary physiology; different organs of the human body, their uses and functions, especially the respiratory and alimentary organs.

Pharmacist: Systematic botany and vegetable physiology; natural orders of all official drugs; growth of plants and their chemical constituents; history of each drug, from gathering to dispensing; therapeutic terms continued; pharmacognosy; microscopy.

Chemistry.

Assistant: Inorganic chemistry; symbols and terms, atomic and molecular weights; chemical equations; chemical incompatibles; formulas of all official chemicals; qualitative analysis.

Pharmacist: Inorganic chemistry: preparation of all official chemicals, their possible adulterants, testing for and detecting adulterants; quantitative analysis; examples in stoechiometry. Organic chemistry: notation; hydrocarbons; ethers and alcohols; carbohydrates; chemistry of alkaloids glucosides, etc.; analysis of water, urine, food, etc.

Toxicology, Prescriptions and Doses.

Assistant: Prescriptions with potent drugs; doses of all drugs; antidotes of potent drugs; prescription Latin; definition of Latin terms and abbreviations used in prescriptions; translations of Latin prescriptions into English, and vice versa.

Pharmacist: Symptoms of poisoning by drugs or chemicals; antidotes and how to apply them; prescription difficulties; testing for poisons in food or water; examining contents of stomach; bacteriology; ptomaines and leucomaines.

The proposed curriculum is not merely a theoretical thesis or proposition, but the result of long and careful observation of workings of the various boards of pharmacy and the writer's own practical experience in a three years' service on the New Jersey board.

It is hardly probable that the question of the usefulness of such a curriculum will be raised. To leave the formation and scope of questions to the momentary inspiration of the examiner, who a few days before the appointed date writes out his question sheet without previously communicating with his fellow-members, is, to say the least, a very lax and certainly inefficient way of performing his duties; and the vagueness of the majority of questions and their varied scope show even to the superficial observer that a fixed, strictly-defined plan and purpose is wanting. The office of members of State board of pharmacy, which, almost without exception, is an honorary one, requires for its faithful performance great devotion and sacrifice in time. Granting that the former is always given, it is a fact that at the present state of small profits and consequently longer hours of labor, and less help, many examiners cannot devote the necessary time to their office, and the meetings of the boards, instead of extending over two or three days, are often restricted to one or even half a day; examinations are rushed through, each examiner puts the answers in his pocket and corrects them at his leisure, and the future of a young aspiring man is made to depend on such superficial work.

Often, also, are the questions criticised with severity. One critic considers them too difficult, the other too easy; and the ideas of what a pharmacist should know are as varied as there are boards or even pharmacists.

There also exists in some quarters a kind of jealousy among different boards, each one claiming superiority for their examination, and refusing on that account to recognize certificates from other boards; a friendly deliberation and comparison of requirements seems to be a matter of impossibility.

It is a natural and just demand that the candidates should be told clearly in what branches and to what extent in each branch they will be examined, and as the publication of old questions seems to be objectionable to many examiners, the adoption of a curriculum is not only a matter of desirability but of justice. Such a curriculum will also be a safe guide to those pharmacists who in the hard struggle for existence have not forgotten their duty to the rising generation, and believe that an apprentice has a claim on the interest and instruction of his preceptor.

In the compilation of the curriculum it will be noticed that two grades have been established, assistant and registered pharmacist, and consequently two examinations. The position of assistant, which has already been introduced in a number of States, seems to be an essential step from apprenticeship to final registration, and is besides a desirable help to many pharmacists who can hardly afford to engage a regular pharmacist as a clerk. Wherever the law does not recognize such an assistant, the State association should spare no effort to have it changed; but even by cutting the assistants' examination out of the curriculum, it remains, nevertheless, of the same importance and usefulness.

The division of the whole scope of pharmaceutical education into four branches, namely, pharmacy, materia medica, chemistry and toxicology, is

made in accordance with the established custom in the author's State, but is by no means claimed as something essential or necessary; the last branch might just as well be omitted and its subjects added to materia medica or pharmacy.

That the proposed curriculum will meet with the approval of every pharmacist cannot be expected. It will not only take long deliberations and arguments to establish it as satisfactory to a majority, but also—and this is of greater importance—a practical test extending over years. So that the work presented here is nothing but the first stroke of the spade to build a road through the desert of confusion and uncertainty. The State association of New Jersey has already adopted this curriculum at the last meeting, and instructed the Board of Pharmacy to conduct the examination accordingly.

The assistant can, during the temporary absence of the registered pharmacist, take the latter's place, and should, therefore, be able to perform all the work that the registered pharmacist must otherwise perform or answer all pertinent questions.

The knowledge of all official drugs, their preparations, doses and antidotes must be expected of him, as well as that of therapeutic terms. He must be able to identify drugs and give an intelligent account of the part of the plant from which they are derived, which implies the knowledge of vegetable morphology. The composition of official chemicals should form a part of his examination, as well as their formulas, chemical antidotes, incompatibles and medicinal properties. He must be versed in prescription reading and therefore understand all Latin terms and abbreviations.

The study of natural physical laws relating to the balance, weights and measures, specific gravity, thermometer, action of light and heat on chemicals, etc., is indispensable, as well as the knowledge of percolation, maceration and other pharmaceutical manipulations, and should, therefore, be included in the examination. Qualitative analysis and a primary knowledge of physiology might also be added.

That the examination of the registered pharmacist should also embrace all these disciplines goes without saying. But a new important feature arises with him. He is responsible for the reputation of his pharmacy; he must guarantee the purity of his stock and warrant the full strength of all his drugs in alkaloids and other active principles. He must, therefore, be able to detect adulterations or sophistication, and should be examined in quantitative analysis, assaying and testing. His botany should not only consist in simple morphology, but also embrace classification and vegetable physiology.

Discovery of poison in the stomach or intestines, analysis of water, urine and food, have of late often been pointed out as valuable extensions of the occupation of the pharmacist, and should, therefore, be included in his examination.

Such a curriculum, even if it should reach a state of perfection after many years' practice and revision, cannot be the only means of ascertaining the candidate's fitness; a practical examination, consisting besides preparation of prescriptions or compounds, in testing adulterated drugs and assaying others, should never be omitted, and the addition to both of an oral examination is greatly to be recommended.

The question might be raised why all that is brought before the National association, who can neither instruct a board of pharmacy nor exercise any influence on State legislatures, and it might be argued that the whole subject belongs rather to State associations, who are in close contact with their respective boards, and can instruct or order them to adopt the curriculum.

To a certain degree such an objection is justified. But with the same right many other questions of pharmaceutical education and legislation might be stricken from our calendar, and the workings of our association reduced to strictly scientific problems.

The very importance of the subject at issue and the wide reputation of our association as a national one make it compulsory for us to consider such questions; and even if we can exercise no direct influence on State associations or legislatures, we can bring to bear a powerful moral influence, and thereby work for the establishment of a national pharmacy. Those members of State associations or boards who believe that they must carefully guard an imaginary wall around the area of their State, over which nothing must escape or be brought in, will disdainfully smile at a suggestion of a general curriculum, and this paper does not appeal to them. But there are hundreds who take a broader view and will cheerfully help to free our profession from restrictions and difficulties with which State barriers hamper it. The boards of pharmacy should awaken to the ideal conception of their duty; they are not only the examiners and grantors of certificates in their own States, but should be the leaders and champions of pharmacy, destined to lead our cherished profession to harmonious union and strength. Such a curriculum once adopted by the majority of our State boards will also exercise a powerful influence on our colleges. Their graduates, in order to successfully appear before any board, would have to be taught after a similar plan of study, one that would by no means be inferior to the one proposed; and the test for efficient work of a college would not be the number of its graduates, but rather the success with which they appear before the board.

Thus we would not only harmonize and strengthen the State boards, but also the colleges, and through them establish a national pharmacy.

FOR SNAKE BITES solution of chloride of lime has been found an efficient antidote when injected deeply under the skin at the spot where the fangs of the snake have entered.

THE ASSAY OF ERGOT.

By Alfred R. L. Dohme.

Query 17. Give the relative alkaloidal value, i. e., percentage of the cornutine of Keller, of Spanish, German and Russian ergot.

Ergot has been used for centuries, but up to this year no recognized method of assay has been proposed for it, although it does contain alkaloids besides many other constituents. The controversy as to what is the active principle of ergot is of long standing, and to-day there are those who maintain that ergotinine (Tanret) is the active principle, while others maintain equally firmly that sclerotic acid (Dragendorff) is alone active, and others again are of the opinion that what they term cornutine and sphacelinic acid (Kobert) are responsible for ergot's physiological action. Ergotine is the name given to an extract of ergot (freed from albumen and mucus by means of alcohol) by a French pharmacist, Bonjean, in Chambéry, in 1842. This is unfortunate, as this name, which should be the one given to the alkaloid of ergot, is thus applied to an extract which contains very many substances. The following substances have been isolated from ergot, and will give a good idea of its complexity: Formic acid, a camphor, cholesterin, choline, cornutine, ceboline, albuminoids, ergosterin, ergotinine, ergotinic acid, fats, fatty acids, fuscosclerotic acid, resin, yellow coloring matter, leucine, mannite, lactic acid, mycose or ergot sugar, phosphates, picrosclerotine, mucus, sclererythrin (the coloring matter of the membranous covering of ergot), scleroiodin and sclerocrystallin, scleromucin, sclerotic acid, scleroxanthin, sphacelinic acid and vernine.

Many of these, no doubt, are impure forms of others, and the number will, no doubt, some day be greatly reduced. Still, the fact remains that ergot is a very complex drug, and its assay, hence, very difficult. As in case of all drugs, an assay is not of much value until we know just what is the active principle or principles of the drug, and cannot be easily effected until we know exactly the properties of all the constituents. Keller has devised a method of assay for ergot and has obtained as a result a substance which he calls cornutine and which he claims is an alkaloid and is the active principle of the drug. He has prepared salts of it, but he has not yet obtained it in quantities sufficient to warrant chemical examination and an analysis. This, he states in his paper, he will leave for others to work out. The author is undertaking this work and hopes soon to be able to report upon it. For the present all that can be published are the assays of the various kinds of ergot obtainable in this market by the method of Keller; assuming that the semi-crystalline residue which is thus obtained, and which dissolves in acids, is a homogeneous substance. Keller's method of assay is given below. Ergot in powder, 25 grams. Percolate with petroleum ether until a drop

no longer leaves a residue on evaporation. Dry and put into a flask, and add 100 grams ether. Then add milk of magnesia (1.0 gram MgO to 20 cc. H_2O). Shake well, when the ergot balls together, and continue shaking for half an hour. Pour off 80 grams ethereal solution, or an aliquot part (4 grams representing 1 gram ergot). If not clear, let stand several hours and filter. Shake out with 0.5 per cent. hydrochloric acid solution in three portions of 25, 15 and 10 cc. respectively, until Mayer's solution no longer gives a precipitate. If the acid solution is flocculent, filter after adding some powdered talcum. Shake out acid solutions with an equal amount of ether after adding ammonia in excess. Repeat three times and distill ether from tared flask.*

By applying this method of assay to samples of Spanish, German and Russian ergot obtained in New York, the following results were obtained:

German Ergot—(*a*) 0.15 per cent. cornutine of Keller, (*b*) 0.14 per cent cornutine of Keller, (*c*) 0.15 per cent. cornutine of Keller, mean 0.15 per cent.

Spanish Ergot—(*a*) 0.29 per cent. cornutine of Keller, (*b*) 0.28 per cent cornutine of Keller, (*c*) 0.29 per cent. cornutine of Keller, mean 0.29 per cent.

Russian Ergot—(*a*) 0.18 per cent cornutine of Keller, (*b*) 0.19 per cent. cornutine of Keller, (*c*) 0.17 per cent. cornutine of Keller, mean 0.18 per cent.

Until we know more of this cornutine of Keller, the best we can say is that Spanish ergot is more valuable than Russian ergot and this more valuable than German ergot. Keller has made the interesting observation that ergot by aging becomes weaker in cornutine, or, in other words, loses its strength; for a sample of German ergot which he assayed and which he knew to be several years old he found to contain considerably less cornutine than fresher ergot which he assayed. Should subsequent work show that Keller's cornutine is the active principle of ergot, and that his method extracts all of this substance from the drug, then the above results may become of value; as it is, they can merely be regarded as indications and possess interest rather than value.

Baltimore, July 24, 1895.

THE ALKALOIDAL VALUE OF IPECAC STEMS.

By Alfred R. L. Dohme.

In previous experiments it has been shown that the cork cells and those of the cortical parenchyma adjacent to them are the seat of the alkaloids of ipecac root. Furthermore, it has been shown that the thinner root contains more alkaloid than the thicker or fancy root.

Since then it has been observed by the writer that what he termed "wiry" root is made up of two parts of the plant, viz., the stem proper and the part of the plant that merges the root into the stem. While the stems are usually quite straight with a smooth surface, the part that merges it into the root is almost invariably twisted and slightly annulated. This then divided the ipecac root of commerce into three varieties, root, merging portion and stems, which shall here be designated respectively as fancy root, wiry root and stems.

Two lots, "A" and "B," of commercial ipecac root were spread out separately and each divided up into three portions, representing "fancy root," "stems" and the "merging portions." All six portions were assayed by Keller's method, using titration with volumetric acid solution, and with the following results:

Ipecac Root, Sample "A."
Fancy root..2.00 per cent. alkaloids.
Wiry root..2.13 per cent. alkaloids.
Stems .....1.77 per cent. alkaloids.

Ipecac Root, Sample "B."
Fancy root..2.33 per cent. alkaloids.
Wiry root..2.43 per cent. alkaloids.
Stems .....2.15 per cent. alkaloids.

From these results but one conclusion can be drawn, and that is that the wiry root, as has been shown last year, is richer in alkaloid than the fancy root, and that the stems contain less alkaloid than either the fancy or wiry root, but still contain considerable alkaloid.

* The cornutine can be obtained in crystals if the ethereal solution is allowed to evaporate spontaneously and slowly.

An Avalanche of Modern Drugs.

The materia medica of the old-time physician was of the simplest. The few drugs that he carried with him in his saddle-bags served him, either singly or in combination, for a great variety of purposes, and with them he treated—and in no small proportion of cases cured—all the common ills that flesh is heir to. He would have stared with astonishment at the avalanche of chemicals that come tumbling from the manufactories by dozens nowadays, each possessing therapeutic properties more or less accurately ascertained. Of this modern embarrassment of medical riches the Hospital speaks in a leading article bearing the suggestive title "Drugs Many; Remedies Few." Literary Digest quotes a few passages.

"'New drugs are added every day for the benefit chiefly of those who do not know how to employ the old ones.' Such is the verdict of Sir William Broadbent, pronounced in the presence of his professional brethren assembled in annual congress under the auspices of the British Medical Association. By way of set-off to this may be placed the opinion of the average patient, who plumes himself upon his family physician or favorite consultant because the learned gentleman is so thoroughly 'up to date,' and so prompt in the application of 'all the new things.'"

After reminding us that the origin of most of the new remedies is in the enterprise of the pharmaceutical chemist and disclaiming any intention of belittling this enterprise, since its rise is "a development for which medicine must be grateful," the article goes on to say:

"But there is another side to the question. . . . What, then, in a word, is the point of Sir William Broadbent's judgment? It is this, that many men never set themselves to prove experimentally for themselves the value of any drug or drugs, and so they never come to a condition of mind in which they employ remedies with confidence, precision and success. The story of King David's sling and stone has a priceless application in medicine. It is infinitely better for a man to confine his practice to the use of a dozen drugs of which he has long and intelligently studied the various applications, than to employ a thousand of most of which his knowledge is merely guesswork. . . .

"It is the ruin of modern medicine that men do not use their minds and base their work on the immovable foundation of their own proved convictions. They are not even so steady as kites in the air, which are at least moored to the earth by strings. Their counterpart is the thistle-down; and they are carried here, there, and everywhere, nobody knows where, by every therapeutic puff of wind that blows.

"Is there, then, no place for new remedies and new methods in modern medical practice? There is room of the amplest; room, and to spare. What we insist upon is this twofold principle, that the old which is tried and proved shall be loyally preserved; that well-known drugs shall be retained, and that the new shall always, in every case, and by every individual, be subjected to continuous and competent examination and proving. This, we say, is not recondite philosophy; it is the most elementary common sense. But it is for the lack of this elementary common sense in daily practice that thousands of practitioners are soldiers bearing rifles but who cannot shoot, sailors in command who cannot navigate their own ships. The third-rate practitioner, who has not gained a just self-confidence by reason of thoroughness and success in practice, always hankers after the reputation of being thoroughly 'up to date.' The British Medical Association will not have met in London in vain if all men of this order, and all their patients also, will seriously lay to heart Sir William Broadbent's words, that 'new drugs are added every day for the benefit chiefly of those who do not know how to employ the old ones.'"

Liqueur Carminative.

Melissa, herb	50
Lemon peel, fresh	5
Orange peel, sweet, fresh	5
Coriander	3
Cardamoms	3
Cassia	3
Nutmeg	3
Angelica root	2
Alcohol, 90°	500
Water	400

Mix and let stand for 12 hours. Remove to a distilling apparatus and distill off 700 parts. Dissolve 100 parts of sugar in 200 parts of water and add to the distillate. Color red. (Nat. Dr.)

WRAPPING PAPER FOR ARTICLES OF FOOD.—The city of Montpellier is said to be the first in France to adopt regulations concerning the kind of paper to be used for wrapping up articles of food. By a municipal decree, in force for some months, the use of colored paper is absolutely forbidden. Printed paper and old manuscript may only be used for dried vegetables, roots and tubers. For other articles of food, new paper, either white or straw-colored, must be used.

FROM ERA READERS.

The Illinois Poison Law.

Bloomington, Ill., Sept. 11, 1895.

To the Editor:

I have read with interest the article on "Poison Laws" in your issue of Sept. 5. There have crept in, however, discrepancies in regard to the details of the Illinois law. I take pleasure in inclosing a copy of two articles of the law, in which you will see that the requirements in this State are considerably more rigid than in a majority of the others. In our retail department we observe these requirements to the letter wherever possible, and keep the inclosed articles constantly within our prescription case so that there may be no chance for overlooking them. Yours very truly,

W. W. MARMON.

Our correspondent refers to the following, from the old penal code:

Sec. 103. Every druggist or other person who shall sell and deliver any arsenic, strychnine, corrosive sublimate, prussic acid or any other substance or liquid usually ing the word poison written or printed upon a label attached to the vial or parcel in which such drug is contained, or shall sell or deliver any drug or medicine other than upon the prescription of a physician without having the name of such drug or medicine printed or written upon a label attached to the vial or parcel containing same, shall be fined not exceeding $25.

Sec. 104. If any druggist or other person sells or gives away any arsenic, strychnine, corrosive sublimate or prussic acid without the written prescription of a physician, and fails to keep a record of the date of such sales or gift, the article, the amount thereof sold or given away, and the name of the person to whom sold, he shall be fined not exceeding $50 for each neglect.

In speaking upon this subject, an Illinois delegate to the A. Ph. A. meeting last month said, concerning the Pharmacy law of that State: "We had a law with a poison section. It was eliminated from the criminal code because we had it in the Pharmacy law. This spring the Pharmacy law was completely revised, and a poison section was left out upon the representation that the code was to be revised, and it would be taken care of there."

The existing regulations in Illinois are as set forth in the Era article, and our draft was submitted to the secretary of the Board of Pharmacy, who returned it certified as correct.

A medical contemporary commenting upon the position of affairs in Illinois, after quoting the poison section of the Pharmacy law says:

"What concerns the public yet more, and is to be deplored, is the change with respect to the selling of poisons. . . . This, it will be readily seen, opens the gates wide for careless and unscrupulous dispensers and criminal and suicidally-disposed purchasers—if it is not a broad invitation to crime and self-destruction. What protection is there in a registered pharmacist's name affixed as prescribed, when he is neither required to exercise caution in making sales of deadly drugs nor to mark same 'poison?' The old law was infinitely better in this respect. It required all this and the distinctly marking of poisons as such, besides forbidding the delivery of the commonly recognized poisons to any person under 15 years of age, or to any person, without the seller satisfying himself that such poison was to be used for a legitimate purpose."

Our correspondent seems, therefore, to be observing the old, not the new, restrictions, but we advise continuing in this course, for it is better to be too careful than careless.

PHARMACY.

COPPER IN PEAS.—It has been shown in a report of the sub-committee of the Glasgow corporation that some samples of French peas examined contain 15 grains of copper sulphate in the pound. The French Government forbids the use of these peas in France, but allows them to be exported.

ADULTERATED VANILLA.—A colonial merchant, M. Gaston Baraton, appeared at one of the Paris police courts a few days ago, on a charge of selling adulterated vanilla, says Ch. & Dr. He had disposed of a considerable quantity of vanilla in both Paris and Antwerp which had previously been treated with ground glass as a means of increasing its marketable value. M. Baraton protested, in defense, that he had merely used boric acid for the manipulation in question, and as evidence of the quality of his products showed the awards that had been given him at various exhibitions. He was condemned to six months' imprisonment and to pay a fine of 1,000 francs (£40).

NARCEINE.—Another useful addition to alkaloidal chemistry has just been published by Freund (Liebig's Annalen, Br. & Col. Dr.). He has prepared narceine amide by treating narcotin-methyl-iodide in watery solution with excess of alcoholic ammonia and allowing the mixture to stand for several days. By suspending the crystals in solution of ammonium chloride the hydrochlorate was obtained, $C_{22}H_{28}N_2O_7HCl$. Free mineral acids convert the amide into narceine imide, $C_{22}H_{26}N_2O_6$. When an alcoholic solution of the amide base is heated with methyl-iodide the imide base results, which then combines with methyl-iodide to form an iodo-methylate. By heating this with strong alkalies trimethylamine is evolved and narceonic acid imide, $C_{21}H_{19}NO_6$, is formed.

ANCIENT THERMOMETERS.—A short time ago M. Maze described what was probably the first mercurial thermometer (Comp. rend., Ph. Jr.), and he now gives particulars of the first alcohol thermometer used in Paris. During 1657 the then Queen of Poland sent an envoy named Buratin on a mission to Italy, and he brought back numerous presents from the Grand Duke of Tuscany, among them being several thermometers. One of these was afterward sent to Ismaël Boulliau, of Paris, and is described as like the modern form, but with a somewhat flattened bulb. The alcohol was not colored and the tube was exactly a decimeter long, being graduated with marks in black enamel. Every tenth mark, however, was larger than the rest, and in white enamel instead of black.

ALKALOIDS OF CALABAR BEANS.—From these beans three alkaloids have hitherto been extracted, eserine or physostigmine, eseridine and calabarine. According to Ehrenberg, says Br. & Col. Dr., the last named does not exist already formed in the plant, but a new alkaloid was extracted which he calls eseramine. This body crystallizes in colorless needles, melting at 238°. It is almost inactive physiologically. Its formula appears to be $C_{16}H_{25}N_4O_3$. It is known that eserine, under the influence of alkalies, gives a coloring matter, rubreserine, which rapidly turns blue. If, however, alkalies be allowed to act on eserine, in the absence of air and in the cold, a new base is formed, which can be obtained in crystals by means of dry ether. Ehrenberg proposes to term this base eseroline. It has the formula $C_{13}H_{15}N_2O$; exposed to air it rapidly oxidizes to rubreserine. This body is not obtained from eseridine.

FORMATION OF GUM.—As the result of an investigation of various gums and the trees yielding them, Dr. L. C. Lutz finds that in the acacia genus the gum reservoirs are formed only in the bark and pericycle, differing in this respect from the fruit trees that produce gum. (Ph. Jr.) The reservoirs, or lacunæ, are formed by an abnormal swelling of the cell walls, which ultimately form an amorphous mass, in which the remains of cells imperfectly destroyed are found here and there. The author believes, therefore, that these gums are not a product of secretion, but that they are the result of a chemical transformation of the cell membranes. The gum of fruit trees is formed exclusively in the outer wood. The author's experiments suggest the idea that the agent causing the development of gum is probably a ferment of the nature of diastase. He also thinks that mucilages, i. e. gums which have not much adhesive property, are derived from cell membranes.

AMBERGRIS.—An extraordinary discovery was made on July 4 by two Maoris on the north head of the Kaipara harbor, New Zealand. No fewer than twenty-seven sperm whales were found on the shore, all within a radius of a few miles. Their occurrence is accounted for by supposing that during the breeding season they had left the cold latitudes of the antarctic until the calves were strong enough to return, and that severe gales had led them to seek shelter, when, suddenly finding themselves in shallow water, they were prevented by the receding tide from returning to deep water. Soon after the discovery a horseman riding along the beach found

a large quantity of ambergris valued at about £3,000; good ambergris being now worth about twice its weight in gold. Further search for this valuable commodity is, therefore, being made (Daily Graphic). An enterprising firm at Auckland has commenced the boiling-down process, though the plant available is somewhat inadequate for such a gigantic undertaking. Whale oil, spermaceti and ambergris may, therefore, be expected to fall somewhat in price.

COMPOSITION OF MICROBES.—E. A. de Schweinitz and M. Dorset have inaugurated a novel method of examining micro-organisms, which consists in an investigation of their proximate and ultimate composition. Tubercle bacilli were found to contain cellulose, together with palmitic and arachidic acids; on the other hand, the glanders bacillus appeared to contain no cellulose, while the acids present were oleic and palmitic. The germs were cultivated on the same media, and with the exception of the nitrogen, there seemed to be but little variation in their composition when the medium was varied. The results of the elementary analyses of three forms were as follows:

	Nitrogen, p. c.	Carbon, p. c.	Hydrogen, p. c.	Ash, p.c.
Tubercle.....	7.34 to 8.94	62.98	7.34	1.57
Glanders.....	14.05	41.89	5.89	5 18
Swine plague	11.81	44 57	7.20	12.41

The marked differences in these figures would seem to indicate that the results may prove of some value in aiding classification, and the authors announce that they are continuing the investigation in the case of other disease germs. (Jour. Am. Chem. Soc., Ph. Jour.)

NEW REMEDIES AND CHEMICALS.

Resacetin.—Synonym for oxyphenylacetic acid.

Eudoxin.—A new remedy brought out recently by the Chemische Fabrik Rhenania, at Aix-la-Chapelle. Its composition has not yet been made public.

Alantolacton.—Synonym for helenin, suggested by Bredt and Posth (in Liebig's Annalen), in order to prevent confounding the bitter principle, helenin, with inulin, which is also frequently called by that name. This body posesses the formula $C_{12}H_{20}O_2$ and is neutral in its reactions. It is insoluble in cold alkalies, but becomes soluble on heating the latter, passing over as it does so into alantolic acid. This oxyacid on being heated to its melting point passes back into alantolacton.

Citrophen.—A patented combination of citric acid and phenetidin, introduced by Roos. It appears as a white powder or in small crystals, with an acid taste, which persists some time after its use. It is said to be cooling and refreshing and to be pleasant to take. It is soluble in 50 parts of cold water and 40 parts of hot, which fact gives it a great advantage over phenacetin (soluble in 1,200 parts of water) and lactophenin (soluble in 340 parts of water). It is an antipyretic and antineuralgic, and is given to the extent of 6 gm. (90 grains) daily. (Nat. Dr.)

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Formula Wanted.

(Rhubarb.) wants a formula for "insectine."

Headache Remedy.

(Rhubarb.) We cannot give you the formula for the proprietary article. Some formulas for headache powders appeared on page 335, last week's Era.

Scientific Name for American Swamp Root.

(L. E. D.) We have made quite an extended search through works on botany, materia medica, etc., and find no reference to the above common name. Maybe some one of our readers can give the desired information.

Coloring a Liniment Red.

(A. P. W.) Red saunders will probably answer your purpose, as it imparts a red color to alcohol, ether and alkaline solutions. If your liniment is of an oleaginous character, you may find it necessary to experiment with some of the oil-soluble anilines not acted upon by ammonia.

Polishing Wood.

(H. S. B.) See Era, Oct. 15, 1894, page 372. Resins used for making polishes are dissolved directly in the solvent and not melted together before solution. Shellac is often adulterated with colophony, as its detection is quite difficult, both resins exhibiting a similar behavior toward solvents.

Elixir Pepsin, Bismuth and Strychnine.

(F. C. D.) We see no particular object in using saccharated pepsin in the preparation of this elixir. However, if you must have it, you can prepare such an elixir from the elixir of pepsin, bismuth and strychnine of the National Formulary by substituting for the pepsin in the formula an equivalent of saccharated pepsin.

Borated Talc.

(Rhubarb.) We cannot give the formula for the proprietary article. A very satisfactory preparation is that made from the formula on page 365, March 21, 1895, Era. A "borated" dusting powder is the following:

Talcum	2 ounces
Starch	4 ounces
Boric acid.....	2 drams
Carbolic acid.....	10 minims

Can be perfumed as desired.

Printing and Sign Lettering.

(C. E. D.) Nearly all dealers in artists' supplies can furnish you books on alphabets, decorations, etc., giving full instructions and designs. With a little practice and the use of such books you can undoubtedly turn out creditable and attractive signs, cards, etc. The Trade News Publishing Co., 247 Broadway, New York, will furnish you a list of books upon this subject upon application. A scheme for drawing letters for signs was published in the Era July 15, 1894, page 82.

Cider Preservative.

(E. A. P.) This subject was discussed very thoroughly in the Sept. 5, 1895, Era, page 304. Other old-fashioned, though frequently-used processes, are the following:

1.) Place in each barrel immediately on making, 4 oz. mustard; salt, 1 oz.; chalk, 1 oz.

2.) Mustard seed, 1 oz.; allspice, 1 oz.; olive oil, 4 oz. and alcohol, 8 oz.

3.) To keep cider sweet: When it has reached the flavor required, add 1 to 2 tumblers of grated horse-radish to each barrel of cider.

Compound Zinc Oxide Ointment.

(R. G.) We know of no specific formula under this title. Hager gives the following under the title "Unguentum Zinci compositum":

1.)	Lard	50 parts
	Benzoin, powdered....	2 parts
	Digest and strain, then add	
	Zinc oxide.....	12 parts
	Other formulas are:	
2.)	Calomel	10 grains
	Oil chamomile	5 drops
	Oxide of zinc ointment.	1 ounce
3.)	Balsam Peru	½ dram
	Boric acid	1 dram
	Creosote	8 drops
	Oxide of zinc ointment.	1 ounce

Tannin and Strychnine.

(J. A. S.) In the following prescription

Fluid extract viburnum prunifolium	
Fluid extract ergot, of each	4 ounces
Solution of strychnine..	2 drams

A reaction is not likely to result in precipitation of strychnine by the tannin of the fluid extract of viburnum prunifolium. In aqueous or weak alcoholic solutions such a precipitation will occur, but in this instance the strong alcoholic menstrua of the fluid extracts will prevent precipitation. However, it would be, perhaps, a good idea to send the mixture out under a shake label.

Potassium Permanganate in Powders.

(A. E. L.) asks if the following can be compounded with safety:

Sodium biborate.....	1.20 grams
Ammonium chloride..	1.20 grams
Potassium permanganate	0.60 gram

Make into 1 powder.

Dissolve in a pint of water and use as a nasal wash.

Yes. Potassium permanganate becomes explosive only when it is mixed or triturated with readily oxidizable substances. Any solution of potassium permanganate will slowly undergo decomposition upon standing and exposure to light, and this solution will be no exception to the rule. No violent reaction will occur.

Transparent Bay Rum.

(X. Y. Z.) Use the official formula and filter the product through a wetted talcum filter. Or, the addition to the filter of a small quantity of magnesium carbonate rubbed up with a little spirit

to a smooth paste will accomplish the object of clarification. Here are two other formulas:

1.) Oil bay.....5 fl. ounces
Alcohol .....6¼ gallons
Water .....3¾ gallons
Bay leaves.....5 ounces
Macerate 14 days and then filter.

2.) Jamaica rum.....16 ounces
Alcohol .....64 ounces
Water .....48 ounces
Mix and add
Oil of bay..... 1 ounce

Library Paste.

(L. A. C.) We cannot give you the formula for the proprietary article. Here is one taken from the Library Journal some years ago, which the author claims will make a product which will remain firm through years of handling, and at the same time will not stain the page by striking through, as is often the case with gum arabic: Make a paste of seven parts of gum tragacanth and one part of gum arabic, adding a few drops of oil of cloves or carbolic acid as a preservative. The same author also states the following to be a good paste: Two ounces of starch, one ounce of white glue, half an ounce acetic acid and a few drops of oil of cloves. Dissolve the glue in cold water and then boil. Dissolve the starch in cold water and pour into the solution of glue while boiling. Besides these two formulas many others of a similar character have appeared in the Era. Consult the indexes under pastes, mucilages, liquid glues, etc.

Ferric Chloride and Sodium Hyposulphite.

(G. A. R.) asks what reactions take place in the following mixture:

Tincture ferric chloride. 6 ounces
Quinine sulphate ..... 1 ounce
Aromatic sulphuric acid q. s.
Sodium hyposulphite ... 6 ounces
Water enough to make 1 pint.

Hyposulphites are reducing agents, and in this instance the ferric salt is reduced to a ferrous condition. When first added to ferric chloride in solution sodium hyposulphite produces a transient violet coloration, due to the formation of ferric hyposulphite. $Fe_2(S_2O_3)_3$, which, on standing, decomposes into ferrous tetrathionate, FeS_4O_6, and ferrous hyposulphite, $Fe_2S_2O_3$, thus:

(1) $Fe_2Cl_6 + 3Na_2S_2O_3 = Fe_2(S_2O_3)_3 + 6NaCl$.

(2) $Fe_2(S_2O_3)_3 = FeS_4O_6 + FeS_2O_3$.

Prescott gives this equation:

$Fe_2Cl_6 + 2Na_2S_2O_3 = 2FeCl_2 + 2NaCl + Na_2S_4O_6$.

This change is very sharply defined, hence it is sometimes made use of in volumetric analysis. Another characteristic reaction is that between the aromatic sulphuric acid and sodium hyposulphite, sulphur being precipitated, with evolution of sulphurous anhydride, as represented in this equation:

$Na_2S_2O_3 + H_2SO_4 = Na_2SO_4 + SO_2 + S + H_2O$.

Some reducing agents, as oxalic and a few other acids, decompose the hyposulphite with formation of hydrogen sulphide, H_2S, as well as SO_2 and S. This prescription should not be compounded, even though it is for veterinary use.

Antiseptic Saponaceous Tooth Wash.

(S. H. H.)

Soap bark..... 2 ounces
Glycerin .....1½ fl. ounces
Sodium salicylate... 2 drams
Oil bergamot.....
Oil wintergreen, of each .... 30 minims
Oil cloves ..... 10 drops
Alcohol ..... 1 fl. ounce
Solution carmine, N. F.... .... q. s.
Dilute alcohol to make ..... 16 fl. ounces

Macerate the soap bark with the diluted alcohol and glycerin, and percolate. To the percolate add the oils dissolved in the alcohol, the sodium salicylate and sufficient solution of carmine to produce the desired shade of color. Shake thoroughly and filter through a well-wetted talcum filter, returning the first portions of the filtrate until the liquid runs through clear. Then add enough alcohol to make one pint.

2.) Castile soap..... 2 drams
Glycerin ..... 4 drams
Alcohol ..... 2 ounces
Water .... 6 ounces
Oil peppermint ..... 3 drops
Oil cloves ..... 10 drops
Oil cinnamon ..... 10 drops
Tincture catechu ... 2 drams

Mix, let stand for a week, shake up with a little powdered pumice and filter.

3.) Salicylic acid.....120 grains
Tincture myrrh .... 2 ounces
Tincture soap bark.. 2 ounces
Cologne .... 4 ounces
Glycerin .... 1 ounce
Alcohol .... 5 ounces
Tincture orris ..... 2 ounces

Making Rose Water from the Oil.

(X. Y. Z.) The following, known as the "hot water method," produces a very satisfactory rose water. Put 4 pints of hot water (180° F.) in a bottle; to this add 30 minims oil of rose previously dropped upon a folded filter paper. Cork loosely, to preventing bursting the bottle, and shake well. Upon agitation the filter paper will be reduced to a pulp and the oil rapidly disseminated and dissolved in the water. After having cooled, filter, adding enough water, through the filter, to make the whole measure 4 pints.

2.) Another process taken from the Dublin Pharmacopœia is as follows:

Oil of rose.....20 minims
Distilled water (imp.)...½ gallon

Agitate together and filter.

There are various other processes in which filtration through an absorbent powder is made use of; the object of using the powder is to divide thoroughly the oil and expose a greater surface, so that the water in filtering through it may become thoroughly saturated. In the processes given in the Pharmacopœia of 1870, magnesium carbonate was the powder used. This is objectionable on account of its slight solubility in water. Upon this ground its use was discarded by the Pharmacopœia of 1880, and the method of percolation through cotton adopted. Other powders, such as calcium phosphate, kaolin, talcum, etc., have been suggested as substitutes, but there are quite as forcible objections to their use as against the magnesium carbonate. Medicated and perfumed waters should always be prepared by distillation whenever practicable. The above formula, known as the "hot water method," is founded upon the fact that most of the volatile oils are much more soluble in hot water than in water at ordinary temperature; hence, if the oil is thoroughly agitated with hot water in a suitable vessel, such as a tin can or a bottle, and allowed to stand until the excess has separated, the water will be found to be saturated, when it may be decanted and filtered.

Why As_2O_3 and CrO_3 in the Pharmacopœia?

(G. B. S.) writes: One of the rules of chemistry is that all acids have hydrogen for a base. Attfield gives the chemical formula for arsenous acid H_3AsO_3, and for chromic acid H_2CrO_4. Why does the U. S. P. give as the formulas for these acids As_2O_3 and CrO_3 respectively?

In strict scientific nomenclature these substances are not acids in the sense of being salts of hydrogen, but they are anhydrides, i. e., oxides capable of uniting with water to form acids, or acid-forming oxides. To fully explain the nomenclature of acids, as well as of salts, it is necessary to go back to the beginning of our present scheme of chemical nomenclature. Lavoisier believed that oxygen gave to bodies formed by combustion in it their acid characters, and hence the highest oxides of the metals and non-metals were termed acids; thus P_2O_5 was called phosphoric acid, CO_2 carbonic acid, CrO_3 chromic acid, etc. Meanwhile other substances possessing acid properties became known, such as nitric acid, HNO_3, and sulphuric acid, H_2SO_4, and these were found to contain hydrogen and they, therefore, differed from the anhydrous oxides, N_2O_5 and SO_3, from which they may be obtained by the action of water, thus:

$$N_2O_5 + H_2O = 2HNO_3$$
$$SO_3 + H_2O = H_2SO_4$$

As time went on other acid bodies, as hydrochloric acid, HCl, hydrofluoric acid, HF,, etc., were discovered, which contained no oxygen, and hence Lavoisier's idea that the presence of oxygen is alone necessary to form an acid was incomplete. As we now understand it, an acid is defined to be a hydrogen compound in which the whole or a part of the hydrogen is capable of being replaced by a metal; in other words, an acid is a salt of hydrogen.

The Pharmacopœia has retained these older and more common names for the two substances cited. The true H_3AsO_3 exists in aqueous solutions of the trioxide, although it has not been separated. It forms corresponding salts, however, called arsenites. True chromic acid has not been isolated, but salts are known which correspond to three acid compounds of hydrogen—H_2CrO_4, chromic acid, $H_2Cr_2O_7$, dichromic acid, and $H_2Cr_3O_{10}$, trichromic acid.

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ALCOHOL REBATE TEST CASE.

It is only a matter of a few weeks now before the first alcohol rebate case comes to the direct attention of the Court of Claims in Washington. There has never been a test case before that or any other court which has absorbed the interest of the drug trade, both wholesale and retail, as this one does, nor one which involved so much of the trade's money. The small retailer with his $10 a month claim for rebate is just as much interested and just as hopeful as the dealer whose use of alcohol in manufacturing is a matter of thousands of dollars a month. All the Era's readers, among the army of retail druggists who have been following this journal's advice and kept a record of their use of alcohol in manufatctures, will watch for the result of the test case with increasing interest. They have everything to gain and nothing to lose. They have been told that they stand on the same footing with their big trades fellows, and they want to see their big brother win, naturally.

It has been said that the Government could, if it so desired, lengthen the test case so that the present administration would be out of office before a decision is given. It is not believed, however, that any attempt will be made to delay the case. There still remain a few formalities, such as the Government's answer to the petitioner's brief and the petitioner's final answer, in which any omissions or errors may be filled in or corrected. About the middle of October, it is now expected, the case will really have its hearing. The brief in the first New York case is now in the hands of the printers.

It may be news to many in the trade that by the rules of the Court of Claims no case which involves a sum of less than $3,000 can be given a bearing by the court. This is the reason a case that was expected to be a test one was thrown out recently. This rule of the court, however, does not affect the retailers, whose cases would be heard by the commissioners appointed by the court and sent to the place of business of the petitioners, in the event of the test case being settled in favor of the petitioner in that particular case. Is your record ready for the commissioner?

TELEPHONE QUESTION IN CHICAGO.

Chicago, Sept. 14.—For years the druggists of Chicago have complained individually of the telephone nuisance, and collectively through the Chicago Retail Druggists' Association have often expressed a wish for organized action in the matter. At a recent meeting of the association a committee consisting of Messrs. Bodemann, Wooten and Lehman was appointed to confer with the telephone company. At the suggestion of Mr. Bodemann the slot appliance, by which every one using the telephone is compelled to pay, was considered, and terms were agreed upon by the telephone company for the introduction of this form of telephonic apparatus. The committee then proceeded to canvass the drug trade with a view of securing its introduction. This procedure has developed considerable ill-feeling, in which the publication of a series of articles in a prominent newspaper, imputing interested motives on the part of the committee, played a considerable part. These, of course, have not been unanswered, and while the personal reflections have been toned down, both sides still adhere to their arguments and present them in the strongest manner which words will allow.

The proposed plan is as follows: The telephone company propose to put in the new-style long-distance telephone with slot attachment, which requires a dime to release the mechanism so the instrument can be used. The regular charge for these is $200 per annum, but they are to be furnished at a reduced price to the druggists, the latter guaranteeing a revenue of $150 per year from each instrument. The revenue is to be collected quarterly from the receipts of the 'phone, no money being asked for in advance. Should the receipts not be sufficient to make up the quarterly payment of $37.50, the deficiency is made up by the druggist. Should the receipts amount to $200, the company is to receive the entire amount, but all receipts in excess of $200 are to be divided equally between the druggist and the company.

Those in favor of the plan consider it equitable as far as the relation between the druggist and the telephone company is concerned, and believe it is time to call a halt upon the practice of the public of using a telephone free of charge for which the druggist has paid a yearly rental of $150. In some instances druggists have found it difficult to transact their own legitimate business over the wire on account of the demands of their "free telephone" friends, who have come to regard its free use as a right whenever the errand boy or ordinary methods of correspondence are considered too troublesome or expensive.

Those who are opposed to the plan argue that the expense incurred by the druggist in keeping a telephone, over and above what he can definitely figure upon for his own legitimate use of the instrument, can be justly considered as an "advertising expense," drawing trade to his store and keeping him in the good graces of his community. They also claim that the telephone company will get too much, figuring that when a limited number of calls per day, say 10, the company would receive $70.50 per quarter, whereas they now furnish an unlimited service for $37.50, and the druggist retains what fees he can occasionally collect. The fact that the druggist himself must pay 10 cents every time he uses the 'phone is also a feature of the new plan which they condemn. The opposition to the proposed plan is apparently strongest along West Madison Street, and a circular signed by 24 druggists doing business along that thoroughfare has been issued protesting against the plan as submitted by the committee of the Retail Druggists' Association. A meeting of the association has been called for Monday, Sept. 16, at which time it is hoped that the matter will reach a definite settlement.

Fun in a Pharmacy.

Chas. B. Sauter's drug store, at the corner of Bedford Avenue and South Fifth Street, Brooklyn, was the scene of a lively squabble a few days ago. The pharmacy was opened two years ago and was considered one of the neatest stores of its kind in the Eastern District of the city. Business has not been good of late, so the holder of a mortgage for $1,500 foreclosed, and an auctioneer was sent to dispose of the stock. That functionary had just begun his work when Sauter's attorney made his appearance and waved a paper in the air. He cried out that he had an injunction preventing the sale from going on, but no attention was paid to him. Then a sort of free fight ensued, the auctioneer being pulled from his perch and several spectators receiving blows. Finally, a few policemen came and stopped the fighting. The lawyer was arrested on the charge of assault, but the police captain to whom he was taken accepted his own bail. While the attorney was away the auctioneer sold the store for $4,000. Sauter's clerks declined to go, so they were imprisoned by the auctioneer, who placed padlocks on the door. After he had gone the clerks opened the doors and went on with business as if nothing had happened. The case has not yet been settled.

Let the Druggists Alone!

Haverhill, Mass., Sept. 12.—Judge Carter gave the police a scoring in court here yesterday when the continued case of a druggist, Chas. I. Bickum, was before him for a hearing. He told the city marshal, who has been very active in raiding drug stores, that he would do well to let the druggists alone. He said that although there were suspicious circumstances in this case, the evidence was insufficient for conviction, and he ordered the discharge of the defendant. The judge said that only confirmed drunkards ever went to drug stores for the sole purpose of getting a drink, and he advised the police to turn their attention to the places where temptation was held out to those who are not drunkards.

Emalgamational.

We are indebted to a correspondent for a poster circulated in his town, and which we reproduce, without display and without comment:

A Grand National
Celebration
Will Be Held on
The Third of August, 1895
By the Colored Population of
Clinton, Missouri.

The Procession Will Be Formed on the Following Order:

The parade will start at 10 o'clock a. m. from North Clinton, in an elegant form, like this, namely: Twenty-five Riding Cavalry followed by a screen of Infautry in Battle Line; by a train of Comrades. In the midst of this escortation there shall be a carriage of ladies drawn by the power of four or six white horses. This will be the Grandest Procession ever marched through this town by the colored people; and when we look back and pick up the golden stone of liberty, it makes us invite one and all. We guarantee equal rights to all and exclusive privileges to none.

Everybody Come Out

on this Great and Grand Day and enjoy yourself on this occasion. In the midst of this Magna Charta, we, the emalgamational people of the Devine Deity take pleasure, not from an egotistic standpoint, but with care, courtesy and profound ability. We shall serenade the street from North Clinton, on Main street, to the square, and then we shall march up the south side of the square, in the square limits. A moment's halt with an eligible form of lubricity, then march due north one-half mile to Col. McLane's green grove, on Water street.

Nota Beune.—We like opposition—we defy competition—and under no condition will we budge from our position. The form and manner ascribed, namely,

The Program.

At 2 p. m. the reading of the Emancipation Proclamation of Abraham Lincoln, by James Sims; a speech by Prof. A. W. Freeman, the principal of the colored public school, and also a consistently gentleman of the city of Clinton. Also a speech by the Hon. Rev. P. P. Samuel, at Clinton, originally from New Orleans, Lousiana, A. M. E. C. And said band will, in all proper places, furnish music on this occasion.

Among Amusements and Pastimes of the day will be Dancing, Swinging, Jumping, Running, Croquet and Base Ball Games, Four Stands, Sack Race, Gun Target and a Baby Rack.

To all who desire to participate after the day has been spent, Mr. Jim Flippins has secured a hall in this city for dancing. He invites all guests heartily.

THOMAS GILBERT,
LEWIS WILSON,
FRANK TYREE,
Committee of Arrangements.
ALECK EMORY,
TOM OAKS,
Officers of the Day.
G. McDANIEL, President.
H. C. HYTER, Secretary.

Food Commission Indorsed.

Cincinnati, Sept. 16.—The National Co-operative Guild, understanding that all prospective county candidates are being induced to pledge themselves to repeal the Pure-Food law, passed the following resolutions recently:

Whereas, There is a law in the statutes of the State of Ohio making the adulteration of milk, food, drug, spices, etc., a criminal offense; and

Whereas, The intent and purpose of said law is to punish irresponsible and dishonest business men who misrepresent their adulterated goods as the genuine article to an always too-confiding public; and

Whereas, Pure food is essential to a perfect physical manhood and womanhood, as well as a prevention of disease-breeding epidemics; and

Whereas, The local Deputy Food Commissioner has been fearless and impartial in the enforcement of the law, thereby bringing upon himself the malediction of the aforesaid irresponsible and dishonest business men; and

Whereas, There is a movement on foot to have the incoming Legislature repeal or modify the Pure-Food law; therefore be it

Resolved, That the National Co-operative Guild of Cincinnati desires to go on record as being in favor of the law now upon the statute books; and be it further

Resolved, That we condemn those who, regardless of all law and the health of our citizens, persist in misrepresenting their adulterated goods as pure articles; and be it further

Resolved, That we most heartily indorse the fearless and impartial manner in which the local deputy has enforced the law, and that we call upon all organizations, industrial and otherwise, and all citizens in general to sustain him in his just course; and be it further

Resolved, That we are unalterably opposed to either the modification or repeal of the present law; and be it further

Resolved, That a copy of these resolutions be spread upon the minutes and a copy be sent to the local deputy, and also furnished the press with the request that it publish the same.

Van Ness & Cooper's Move.

It is understood in the trade that the firm of Van Ness & Cooper will conduct a business in specialties hereafter in this city, with an office on Platt Street. The members of the firm are well known in the West, formerly doing business in St. Louis as the Cooper Pharmacy Co. A short time ago the doors of the Cooper Co., at 513 Elm Street, St. Louis, were closed and Dun's agency was informed that the firm would move here. As yet, so it is said, no business has been done by the firm, for the reason that they were trying to effect a settlement with several creditors. When this is done business will be begun. Reports from St. Louis say the concern did a good business there, but was hampered by the failure of a lumber broker whose note had been indorsed by Eugene Van Ness.

DRUG STORE FOR SALE.

Many druggists have found customers for their stores by putting a "Want Ad." in the Era. These ads have a large circulation among the best druggists in the country, and give advertisers good returns. The price for each insertion is 50 cents for 25 words or less; additional words 2 cents each.

NEW YORK AND VICINITY.

——M. O. Martin, Ph. G., of Philadelphia, Pa., representative for Lehn & Fink, is in town.

——Wm. H. Wickham, of McKesson & Robbins, will return from the North Woods about Oct. 1.

——F. W. Fink, of Lehn & Fink, returned from his vacation trip to the Catskills on Monday last.

——Jacob Messing, a Stapleton, S. I., druggist, is building a new store. He expects to move in a few weeks.

——R. J. Martinez, of Jacksonville, Fla., and F. L. Gilbert, of Knoxville, Pa., have been visiting friends in town.

——G. A. Fisher, of Jefferson City, Mo., has been visiting New York with his family. They have been stopping at the Imperial.

——Dr. Geo. T. Hunter, special New York City representative for Sharp & Dohme, has been at Lake George for two weeks.

——The Drug Trade Club expects to have a brisk season, and will probably add a large number of members within a short time.

——Schwarz & Schweinfurth, of Forty-ninth Street and Sixth Avenue, are remodeling the front of their store, putting in larger windows.

——William Ambos, N. Y. C. P. '92, formerly with Louis Stoff, 1180 Second Avenue, is now with Bernard G. Kraft, Lenox Avenue and 125th Street.

——Upon their arrival in this country recently John W. Cox went directly to Detroit and Frank A. Ruf to St. Louis. Mr. Cox came back to New York last week.

——Henry B. Platt is expected back from the West in a day or two. He and Mrs. Platt visited Kansas City and other places after the N. W. D. A. convention.

——Howard Kirkland, of McKesson & Robbins, is receiving hearty congratulations on his speedy recovery from illness. He returned to his desk last Thursday.

——I. Meyer has resigned his position at Crandall's drug store at Montclair, N. J., and will attend the senior lectures at the New York College of Pharmacy this winter.

——Emil Utard and his bride are expected to arrive from Europe on Sept. 25. Henry Utard, who is at present in Philadelphia on business, will welcome them home.

——J. H. Sisler, who was formerly located at 48 Putnam Avenue, Brooklyn, has purchased the pharmacy of Adolph Kroll, at Tenth Avenue and Forty-second Street, in this city.

——Elmer J. Dowell has left his position at Max Gebauer's, 409 First Avenue, and is now with H. A. Cassebeer, 292 Sixth Avenue. Mr. Dowell will be a senior student at the college during the coming session.

——Chas. Holmes has been admitted as a partner in the firm of J. L. Hopkins & Co. For ten years Mr. Holmes was secretary and treasurer of the Wm. S. Merrell Chemical Co. and in charge of the New York office.

——Among other druggists from out of town seen on Fulton Street recently were Messrs. Root, of Hamilton, N. Y., Hatton, of Columbus, O., and Manning, of Bound Brook, N. J.

——A fire in Dodge & Olcott's works at Water and Adams Streets, Brooklyn, on Sept. 7, caused a loss of $3,500. The blaze is supposed to have been caused by spontaneous combustion.

——Carl L. Trites, formerly in business in Brooklyn, is now acting as manager of Frank E. Hatch's pharmacy at Rutherford, N. J. Mr. Trites is a graduate of the N. Y. C. P., class of '91.

——A. B. Baltzly, of Seventh Avenue and 134th Street, is back from Ohio. He stopped off at Niagara Falls for a day. Mr. Baltzly's trip to Massillon on his wheel was a great success, but he thinks one trip a year of that sort is quite sufficient.

——G. H. Macon, who conducts one of the summer pharmacies at Asbury Park, has been in New York City for a few days. He intends to spend some time in the South for the benefit of his health. Mr. Macon reports that all the Asbury Park druggists have had a splendid season.

——J. S. Flanders, secretary and manager of the Diffusible Tonic Co., of Sturgis, Mich., was in New York last Friday looking into matters connected with alcohol rebates. Dr. Flanders, the head of the company, is to sail for Havana this week to make tests with the tonic on yellow-fever patients.

——Valentine Malzi's drug store at the corner of Meserole Street and Graham Avenue, Brooklyn, had a strange visitor on Sept. 11 in the shape of a cow. The animal broke away from its driver and dashed pell-mell into the store, but was driven out before it had done any more damage than the upsetting of a long-distance telephone stand.

——Lindsley & Co.'s store, at Eighty-sixth Street and Columbus Avenue, is one of the best located on that part of the upper West Side, and enjoys a good trade. All the Columbus Avenue stores now seem to be doing well in spite of the competition. Tomas & Co.'s old store still remains closed, waiting for a druggist to come along who will make this well-stocked and well-situated pharmacy a "go."

——Horace T. Kline has for several years had a very neat and well-stocked store between Fifty-eighth and Fifty-ninth Streets on Sixth Avenue. The New York Athletic Club recently bought the land and buildings in that block for the purpose of erecting a mammoth building, so Mr. Kline had to leave. He could find no location suitable for his purpose, so on Monday last he sold out his stock and fixtures.

——Brent. Good, of the Carter Medicine Co., took quite a party with him to the meeting of the N. W. D. A. in Denver. Besides his son Harry and his daughter, Miss Kittie, there were Miss Colwell, a friend of his daughter, and Mr. Burt Oltman, of Wall Street, a friend of Harry Good. At the close of the convention the party started for a trip to San Francisco and will return by way of the Canadian Pacific, stopping for a week in Montreal.

——Manager Sangston, of the New York office of the Low Art Tile Co., has on hand some of the new styles of hot-soda fountains. They are much more ornamental than those of previous years. The New York office has a handsome cold-soda apparatus which is to go into the International Pharmacy at the corner of Sixth Avenue and Twenty-eighth Street. J. H. Clements, who has been with the carbonic-acid gas business for many years and is well known in the trade, has joined the Low Co.'s New York force. Manager Henry Spavin, of the Boston office, has been in town for a few days.

——The first meeting of the Society of Chemical Industry for the season will be held at the College of Pharmacy on Oct. 14. The committee of the local section held a meeting recently and postponed the first session to that date, in order to have it held on the arrival of President Tyrer, of the society, and Ludwig Mond, F. R. S., a former president, now foreign secretary of the society, and a man well known to all in the chemical world. This first meeting is sure to be a big one. Arrangements are being made to give the distinguished visitors a hearty welcome and to entertain them as only New Yorkers can.

——Those druggists who conduct summer stores at the New Jersey and Long Island coast resorts found the second week in September a good one for business. During the very warm days of last week their soda-water sales ran up higher than at any time during the season. The intention of hotel keepers to prolong the season to October 1 is welcomed by the druggists, as they naturally profit by the continued presence of guests. Among those who will not close their pharmacies until the middle of October is Hermon W. Atwood, whose store at Long Branch has had an excellent business.

——A business difference between a large local taxpayer and a Park Avenue druggist in Rutherford, N. J., led the former some time ago to place shutters on stilts on a lot next to the druggist's store, the object being to keep light from the store windows. The poles were finally cut down by somebody, whereupon the owner of the land contracted to have a wooden building put up on the land. This fact was brought to the attention of the town council and the borough marshal informed the contractor that it was against an ordinance to erect a wooden building within the fire limits. The owner immediately entered into a new contract to have a brick building put up. Evidently the druggist will have his light shut off unless he can buy the land.

——Three years ago Theodore Doerflinger, a druggist of Pittsburg, was sentenced to the penitentiary for embezzlement of at least $100,000 of other people's money. An application for his pardon has been made by a lawyer, whom he is reported to have paid a big fee for the service.

HERE AND THERE.

——Druggist W. H. Syfert, Columbus, O., is suing for divorce.

——Kansas City, Mo., is in the throes of a vigorous and aggressive cut-rate war.

——Albert S. Bassett, of Hoey & Bassett, Natick, Mass., has severed his connection with that firm.

——Valkyrie's pilot was at one period in his life, but a very short one, a drug clerk at St. Johns, N. B.

——Michigan papers report that because of the scarcity of hay, peppermint plants are now being fed to cattle.

——The drug store of S. S. Bacon & Co., Ottawa, O., was looted the other night of money and valuable papers.

——Wallace G. Palmer, with F. W. R. Perry, of Detroit, accompanied the Detroit Templars to Boston.

——J. H. Westendorf, of Mt. Clemens, Mich., is away on a two week's outing with his family at Lake St. Clair.

——W. W. Todd, of Walden & Todd, Jackson, Mich., has become manager of the Jackson State Base Ball League.

——The Evans-Gallagher Drug Co., of Kansas City, Mo., has established a wholesale supply house at Pueblo, Col.

——John Hodge, of Lockport, N. Y., recently deceased, left an estate valued at about $400,000. There are five legal heirs.

——William C. Brown, a wholesale druggist of Columbus, O., has filed a petition for a divorce from his wife, Della G. Brown.

——L. Beeler, recently of Cincinnati, is now interested in the drug firm of Gilkeson & Beeler, at Lebanon, Ky., which succeeds Gilkeson & Ray.

——Snakes' eggs and newly-hatched snakes were the feature of an attractive window display in W. H. Bond & Co.'s drug store at Westfield, Mass., recently.

——Druggist Frank Hagerman, of Birmingham, Mich., turns farmer and works hard at it for one month of every year. His farm is at Pine Lake, near Pontiac.

——Frank Whelpley, for many years connected with Hemm's pharmacy at St. Louis, has resigned his position, and after a short vacation will commence the study of medicine.

——Charles Thompson, druggist at Irwin, Pa., has had his clerk, W. H. Buchholz, arrested for stealing from his cash drawer. Buchholz confessed to having taken some money.

——Ravenswood, one of the Chicago suburbs, has been having a taste of the old blue laws. Even the drug stores closed on Sunday and neither medicines nor soda water could be obtained.

——B. F. Goddard, druggist of Lynchburg, O., accompanied by his wife and daughter, have just returned from Charlottesville, Ind., where they were called by the serious illness of Mr. Goddard's father.

——The Wells & Richardson Co., of Vermont, have entered suit against King's Medicine Co., of Pittsburg, alleging that the latter was putting up an infringement of Paine's Celery Compound.

——Druggist E. Gabriel, Elmwood, Ill., has refitted and refurnished his store throughout with new bottles, show cases, counters, floor, etc., and now boasts of as fine a store as any in most of the large cities.

——L. P. Evans, who has for some time conducted a drug store in Dover, Me., has sold his interest in the business and will take full charge of the Piscataquis Observer, which he has owned for several years.

——The J. A. Pozzoni Medicated Complexion Powder Co., of St. Louis, has filed a notice of an increase in its capital stock from $20,000 to $40,000. The assets are given at $46,500 and the liabilities at $6,500.

——Dr. Kilmer, the patent-medicine man of Binghamton, N. Y., is the defendant in a suit for damages brought by a bicyclist whom the doctor struck with his whip for not getting out of the way of the doctor's tandem.

——The first fire was started by the Detroit Salt Co. of Ecorse on Aug. 30. Work on the new well is progressing rapidly, and the salt from it gives evidence of being of even finer quality than that from the first well.

——A German capitalist is forming a stock company at Ludington, Mich., for the manufacture of commercial chicory. The company will invest about $25,000 and pay out $30,000 a year to farmers for carrot and chicory roots.

——Alexius W. McGlennan, who together with Frank M. Hall conducted a drug store on Madison Avenue, Baltimore, and after the dissolution of partnership continued it on his own account, has sold out to J. H. Beckley.

——The city officials of Colorado Springs, Col., laid a trap to catch violators of the liquor law and every druggist in the city was arrested. Three have been fined $200 and costs each. The cases have been appealed.

——Heat generated by the sun's shining through two glass jars of water standing in the window of Karl Castlehun's drug store in Gloucester, Mass., caused a fire on Sunday last, but the blaze was quickly seen and extinguished.

——Felix Gallrick, a Silesian druggist at Helena, Mont., who used to get money from home, but whose allowance seems to have been cut off, shot and killed himself a few days ago. He was simply despondent and down on his luck.

——A minister at Davenport, Ia., owned a piece of property which he rented to a druggist. The druggist sold liquor, and now the minister has been assessed the regular mulct tax. He is reported to have been surprised by notification of the fact.

——Walter Scott, a well-known druggist of Des Moines, Ia., is reported to have committed suicide Sept. 12 by taking prussic acid. He recently failed in business, the failure being caused by the cut-rate war among the Des Moines druggists.

——Druggist F. E. Brooke, at 6559 Cottage Grove Avenue, Chicago, is being sued for $5,000 damages by a saloon keeper, who claims that the druggist sold carbolic acid without question to the plaintiff's wife, who used it to commit suicide.

——The wholesalers attending the Denver meeting seem to have had a pretty good time traveling around Colorado. At Pike's Peak they had their pictures taken and at another point about 350 Ute Indians gave an exhibition dance for their delectation.

——The Atlanthus Manufacturing Co. has been incorporated at St. Louis. The object is to make pharmaceutical and chemical compounds. The capital is $10,000, full paid. The shareholders are Wm. F. Dorsey, 98 shares, and A. Silverton and E. F. Silverton, one share each.

——One of the charity workers in the New York slums, to lighten the room of a poor little sufferer, bought a beautiful picture of "St. Cecilia at the Organ," which for a time gave satisfaction, but was later replaced by a gaudy patent-medicine poster. An art education is something which requires considerable time.

——Mrs. Aletta Harshaw charges Lawyer Daniel L. Davis, of Pontiac, Mich., with retaining some $500 of the $5,300 he received for a drug store of hers which he sold. Mr. Davis claims that the money merely compensates him for his services, and so the case will be tried in the justice's court next week.

——Milwaukee druggists are meeting the department-store cutter upon his own ground by selling proprietary articles at a lower price than he can afford to sell them. The department stores have been selling the $1 medicines at 82 cents a bottle, so the druggists have gone them 10 cents a bottle better.

——Prescott Loveland, who about Aug 1 opened a well-furnished pharmacy in the Equitable Building, Baltimore, found himself so completely disappointed in the expectations of a lucrative trade that he concluded to close, and is now engaged in boxing the fixtures and stock for shipment to Paterson, N. J.

——At Little Falls, N. Y., Druggists Babcock & Cardwell have dissolved partnership, Mr. Babcock retiring and Mr. Cardwell continuing the business. S. H. Wheeler, who came from Binghamton about a year ago and opened the City Pharmacy in the Skinner Opera House block, has moved his stock and fixtures back to Binghamton.

——A grocer at Somersworth, Mass., some time ago was overcome by the arguments and blandishments of a drug drummer and put in a stock of drugs and patent medicines. He has not been very successful in disposing of them and now has a large stock of unsalable goods and a firm purpose never again to aspire to become a druggist.

——At Portland, Ind., Druggist Bishop, of C. T. Hood & Co., welcomes a new daughter at his home. A bottle of peroxide of hydrogen exploded in J. B. Littell's drug store and caused considerable excitement but no damage. Alpheus Adair, of Adair Bros., has returned from a trip to the Thousand Islands. Otto Winslow, of Elkhart, has entered service at Littell's drug store.

——Otto Dick, of Winfield, Kan., formerly a druggist but lately a salesman for a clothing house, was found dead in his room at the Grace Hotel, St. Louis, on Sept. 10. The deceased was in the habit of taking a mixture of chloroform and laudanum for stomach trouble and the coroner returned a verdict of accidental death. Dick was 28 years old. His father resides at Columbus, Tex.

——A Chicago druggist has come to the conclusion that it is a bad plan to keep a basket of eggs upon his soda counter within reach of customers. He finds that the latter have scribbled upon the eggs various dates of various degrees of remoteness, which cast suspicion upon the usefulness of these products of the hens' industry. He prefers 1492, however, to April, 1895.

——The Buffalo Drug, Paint and Glass Company is the name of a wholesale drug enterprise to be started in Buffalo, N. Y. Reports from that city state that the head of the business will be Alpheus Reynolds and the firm will represent a capital of $1,000,000, of which $600,000 has already been spoken for. This report, however, does not seem well substantiated.

——Both of the Kansas City jobbers have sent letters to the Chicago wholesalers, requesting them not to sell any goods to four firms in the former city, whom they indicate. The firms in question are cutters and the jobbers fear that unless stopped at once the practice will extend to the rest of the trade. It is said that there was but one Chicago jobber who declined to accede to the request.

——Mr. Isaac E. Emerson, who in addition to his duties as president of the Emerson Drug Co., of Baltimore, finds time to look after the interests of the Maryland Naval Reserve, he being the commander of that organization, and to gratify his love of yachting, has just concluded the purchase of the steam yacht Nyda. It is sloop-rigged, about 105 feet long and was built in 1890 for Eugene Tompkins, the Boston theatrical manager.

——On Sept. 3 Whitall, Tatum & Co. started several of the glass factories with 4 per cent. increase in the glass-blowers' wages. Settlements have been effected in all the glass trades and the coming blasts promise to be the brightest season for years. Besides this firm there are a number of others that have made all arrangements for starting up their furnaces, and by Sept. 20 the glass business will be in full blast.

——Horace Burrough, Jr., connected with the drug-manufacturing firm of Burrough Bros. & Co., of Baltimore, on the evening of Sept. 4 married Miss Elizabeth Mitchell, of Brunswick, Me. The bride is the daughter of Dr. Alfred Mitchell and a belle in her native town. One of the ushers was James A. Emery, of Washington, well known in druggists' circles there. Mr. and Mrs. Burrough will reside at 1130 West Lafayette Avenue, Baltimore.

——Rome, N. Y.: Geo. L. Sherman, prescription clerk for J. G. Bissell for eleven

years past, has left the drug business, having purchased the Rome City Dry Dock. Willard H. Roberts, who has been for several years with J. G. Bissell, the oldest drug establishment in Oneida County, has resigned his position and has matriculated at the New York College of Pharmacy, as has also Gordon L. Hager, son of Druggist F. J. Hager. A. J. Broughton, of the wholesale firm of Broughton & Graves, has returned from a pleasant two weeks' vacation.

——In a contemporary is seen a note to the effect that recently a Cleveland patent-medicine concern sent a chest of medicine to a country druggist with the proviso that if the whole chest were sold within a stated time the druggist's wife was to get a $25 diamond ring. She being of a practical turn of mind, after the contents of the chest were disposed of bought a ring for $10 from the proceeds and wrote the firm to that effect, also that she had withheld $15 more to make up the price of the promised diamond ring. Lawyers are fighting over the matter now.

——The case against Clark S. Edwards, secretary of the American Pepsin Cracker Co., Detroit, was dismissed by the court Sept. 6. Edwards was accused of putting on the market a cracker containing no pepsin whatever. Chemists were called to the stand to testify to their results in analyzing the crackers under dispute. Dr. John E. Clark testified that he had found no traces whatever of the pepsin, but F. A. Thompson's testimony was exactly opposite. In the face of this conflicting testimony the court dismissed the case. As soon as he was free Edwards began a suit against his accusers, Lew B. Clark and wife, of Hotel Tacoma, claiming $10,000 damages for false imprisonment.

——Notwithstanding many of the druggists are out of the city, the committee of the Bureau of Retail Apothecaries for Collection of Alcohol Rebates, of Philadelphia, is making good headway in inducing the retailers to join the bureau. The number who have filed their applications with the bureau for rebates is nearly 100 and it is thought a considerably larger number will be secured this month. W. Nelson Stem, who is one of the prime movers in this scheme, said "the Era is doing a good thing in giving this matter so much publicity, and if a retailer does not file his application it is his own fault if he suffers. I think, however, the Era should state that the mere filing of the application for a rebate is not sufficient, as it is my opinion, that legal talent will have to be secured. This is, however, a matter of opinion, and it is better to file an application than to sit idly by.

——Dell Rapids, S. D., has been considerably torn up over the liquor question. Some time ago the city council appointed a committee to investigate the charges that drug stores were selling liquor illegally. As a result one store was closed, one permit revoked, one druggist discharged after a hearing and injunction proceedings started against another. The State's attorney was very slow to prosecute the cases and only did so after much urging. Through some slight technicality the injunctions were dissolved and the store closed thereby began running again. Recently the temperance people held a meeting and a committee was appointed to proceed with the prosecution of the drug stores and also to begin actions against the State's attorney and the judge for gross neglect of duty. A good deal of feeling is aroused on both sides and matters promise to become very interesting.

Philadelphia Notes.

——It is reported that the drug store at Broad and Parrish Streets has changed hands.

——C. W. Hancock, Thirty-fourth and Spring Garden Streets, has sold his store to Mr. Watson.

——Lewis Yeakel, proprietor of the Kohler Manufacturing Co., was in this city during the past week.

——A. D. Forrest has just had fitted out by Bullock & Crenshaw a new store on Juniata Street and Germantown Avenue.

——George E. Datus and wife, Forty-ninth Street and Woodland Avenue, have returned from a trip to Niagara Falls.

——John B. Reynolds, Front and Norris Streets, was one of the Knights Templar who had a pleasant time at the conclave in Boston.

——Tyler & Watson have bought the store at Broad and Parrish Streets. This is an old stand and is right in the heart of a big prescription trade.

——Eugene D. Reeves, Fifteenth and Market Streets, who has been at Mt. Pocono for several weeks, is being greatly benefited by his rest. He is expected back shortly.

——Dr. Frank F. Drueding has opened a new store at Randolph and Girard Avenues. Dr. Drueding is well known in this section of the city and has for many years had a store at Lawrence and Master Streets.

——C. W. Hancock, who for a number of years has had the store at 3409 Spring Garden Street, has disposed of it. Mr. Hancock is well known in West Philadelphia and he intends to devote the rest of his life to having an easy time.

——Owing to business being somewhat dull some of the wholesale houses in the city hit upon a scheme to bring more money into their coffers. It is known that whenever a retail druggist secures a thing at a certain price, with which some kind of a premium goes, he will more than likely buy a large quantity of the goods and exchange them with his fellow druggists, so as to secure the reward. To obviate this wholesale houses have now taken up with the liquor men and they are now offering them gold watches of various sizes and makes for the one who sells the most goods required in their trade. It is known that the liquor men will dispense the goods over their own counters and in this way will not cut prices.

ASSOCIATIONS,
CLUBS, SOCIETIES.

——The South Carolina Pharmaceutical Association meets in Charleston Nov. 15.

——The Androscoggin County, Me., Pharmaceutical Association held a meeting Sept. 3. Many topics of interest were discussed.

——The druggists of Superior, Wis., have organized a local association, under the presidency of R. Simmons; secretary and treasurer, C. W. Aust.

——The eighth annual meeting of the National Paint, Oil and Varnish Association will occur in Chicago Oct. 8 to 10. Auditorium Hotel headquarters.

——The New Hampshire Pharmaceutical Association at its twenty-second annual meeting at Laconia, Sept. 4, elected the following officers: President, Charles B. Spofford, Claremont; vice-presidents, A. P. Preston, Portsmouth, and F. Sleeper, Laconia; secretary, F. L. Way, Manchester; treasurer, E. H. Currier, Manchester.

——The annual meeting of the Detroit Pharmaceutical Society was held at the Hotel Cadillac Wednesday, Sept. 11. The new officers elected for the following year are: President, George W. Stringer; vice-president, P. F. Nasmyth; secretary and treasurer, J. W. Caldwell. Previous to the meeting an invitation was sent to every druggist in the city to be present, whether members or not. This call was issued by Druggists Fred. Stevens and C. N. Anderson, two of the committee appointed at the recent State association meeting to make a report on the advisability of forming a co-operative association for the manufacture of non-secret preparations. A large number of the retail druggists answered the call, and the subject was very thoroughly discussed. The meeting was called to order by retiring President C. N. Anderson, who dwelt upon the necessity for some protection for the druggist against the cut rates, the department stores, the grocery stores, etc. It was the idea of the committee that Detroit druggists might follow the example of the Hamilton, Ont., druggists, and make their own proprietary medicines and put them on the market at low prices to the purchaser and at a fair dividend for themselves. A stock company could be formed, the stockholders to be druggists exclusively, and certificates issued at $100 a share. All kinds of proprietary articles could be manufactured and sold only to retail druggists. Any member known to cut prices would be summarily expelled from membership. A competent man could be put in charge of the affairs of the association, and to him would be intrusted the entire management. A laboratory would be erected as soon as sufficient stock is sold. Such an association has been in successful operation for some time at Hamilton, Ont., and some of the druggists present at the meeting wanted to know more about the Hamilton methods before pledging themselves to any action. It was decided to get the Hamiltonian manager before the Detroiters.

and $25 to pay his expenses were soon subscribed by those present. A committee, consisting of C. N. Anderson, Frank Inglis, J. P. Rheinfrank, A. S. Parker and Oliver Grunow, was appointed to further consider the advisability of the movement and the meeting adjourned for a week, when it is hoped the manager from Hamilton can be present. A canvass of the leading retail druggists indicates that most of them favor the scheme. It cannot be denied that the cutters make sad havoc in Detroit, and the trade would be glad to see something done to make them feel a little more secure in their business. That they have faith that this scheme is a good one is evidenced by the fact that they are willing to put up their money for it. The projectors feel confident that the stock will be sold in a very short time. Wholesale druggists are not losing any sleep over the matter. They do not expect to feel the effects of such a move "even a little bit." And they cannot see how the big manufacturers will be the losers. Said one of them: "Even if every retail druggist in Detroit should put up $1,000 apiece—and to do that would swamp some of them—they would have only about $200,000, and that wouldn't buy a corner of any one of the larger manufacturers' or jobbers' plants."

——The Quebec Pharmaceutical Association has submitted its report for the year ending April 30, 1895. The council of the association reports that for some time it had under consideration the question of the formation of a Canadian pharmaceutical association similar to that in existence in the United States. "This proposition was first discussed in 1893, and in July of that year the council then in office authorized a circular to be prepared on the subject and forwarded to the other associations of the Dominion. This was done; but although favorable replies had been received from some of these associations, it was not until late last fall that all the associations had been heard from, after which, and in view of the almost unanimous approval of the other associations, your council appointed a committee to fully consider the question. This committee submitted to your council a draft of constitution and by-laws for the government of the proposed new association, which after being fully considered was adopted, and the secretary instructed to send copies to all the pharmaceutical associations of the Dominion, and your council are pleased to state that so far as heard from, the replies have been very satisfactory, and it is hoped that in the near future steps will be taken to formally organize the new association under the name of the Canadian Pharmaceutical Association, which, when formed, will not in any way interfere with the present rights and privileges of the several provincial associations, as the proposed new association will be mainly for the promotion and advancement of pharmaceutical and chemical science and the elevation of the profession in general." The report states that the treasurer's financial statement shows a balance of cash on hand April 30, 1895, of $2,884.77.

Kings County Pharmaceutical Society.

The first regular meeting of the Kings County Pharmaceutical Society after the summer vacation was held in the lecture room of the Brooklyn College of Pharmacy Sept. 10. About 25 members were present. After the minutes of the previous meeting had been read by Secretary Bliss, the names of D. Master, Jr., and Herbert E. Hall were proposed for membership and Wallace White and Fred'k H. Plump were elected members of the society. The treasurer, P. W. Ray, reported a cash balance on hand of $125.55, which report was received and placed on the minutes.

The reports of delegates to the various pharmaceutical associations were then called for, Dr. Ray reporting as a delegate to the New York State Pharmaceutical Association, and Donald L. Cameron and Prof. E. H. Bartley for the delegates to the American Pharmaceutical Association. Mr. Cameron read a very interesting description of the social features of the trip to Denver, and Professor Bartley reported on the scientific and educational sections of the association. The latter speaker thought it would be much better for the association if the sections on Commercial Interests and Pharmaceutical Education and Legislation were to be abolished, and that only one, the Scientific Section, should be retained. He gave a synopsis of the discussion in the educational section on pharmaceutical colleges and education, which he designated as a "tempest in a teapot." He believed, however, in requiring experience in drug stores as one of the necessary qualifications for candidates before graduation from a college of pharmacy. He said incidentally that the Ph. C. as a degree had no place in modern civilization and that its holders were neither qualified as dispensing pharmacists or as manufacturing chemists. They were hybrids. Messrs. Pfeiffer and De Forest followed Professor Bartley in remarks upon A. Ph. A. work. Professor Schimpf related his experiences on the trip from Denver to Salt Lake City and return.

A communication from the Committee on Legislation condemnatory of the members of the Legislature who voted against the telephone bill was read, and a resolution was adopted which stated that the society proposed to use its efforts to defeat the renomination or election of any representative who would not pledge himself to vote for the bill in the next Legislature. This resolution also commended the representatives who had stood by the bill, and directed the secretary to notify them of the thanks of the society. The Committee on Legislation, consisting of Messrs. Werner, Black, France, Gallagher and Paradis, was given power to add to their committee persons who would or could assist them in the work.

There were no papers read. Mr. Pfeiffer, of the Committee on Pharmacy, announced that the programme for the coming winter was in view, and that it would be read at the next meeting. A resolution condemning the indiscriminate sale of "ready-made" prescriptions by manufacturing houses was introduced by Mr. Pfeiffer. It was laid over for discussion.

Mr. Stevens introduced the subject of rebate on alcohol used for manufacturing purposes, and he wanted the society to pass resolutions favoring it. He outlined what the Philadelphia druggists were doing, and the resolutions of the New York Branch of the Interstate League and the German Apothecaries' Society of New York toward the same end. D. L. Cameron, Mr. De Forest and others spoke on the subject, which was, after much discussion, referred to the Legislative Committee. The society then adjourned.

THE N. W. D. A. CONVENTION.

RETURNING TOURISTS TELL OF THE GOOD TIME OUT IN DENVER.

John M. Peters and Thos. P. Cook returned from the N. W. D. A. convention at Denver last Friday, being among the first to get back from that pleasant convention and trip. The gathering practically broke up at Colorado Springs on the Saturday previous, many returning to Denver that evening, although the last events on the programme were a luncheon at Manitou and a visit to Pike's Peak. There were a number who went on by various routes to the Rocky Mountains, among them Mr. Rogers, of Rogers & Pyatt, who was accompanied by Mrs. and Miss Rogers. Several gentlemen also announced their intention of staying at Colorado Springs for a few days.

The convention seems to have been a fairly successful one, considering all things. Owing to the foresight of Mr. Hover arrangements were made so that committee work could be finished quickly, and the work of the convention proper was so well done that no important business remained to be completed at the last session. This gave a chance for making the installation of officers an affair of more than customary interest. Instead of that ceremony being ill-attended, as usual, many were present and the complimentary addresses were all the better for the fact. A very noticeable feature of this installation session was the presence of ladies, of whom there were many, all taking great interest in the proceedings. For the first time this ceremony was a handsome feature of the convention.

——Joseph Leeming, secretary of the Proprietary Association, has returned from the Denver meeting, pleased with the trip and the amount of business transacted.

——An Era reporter met F. W. Meissner, Jr., of La Porte, Ind., the other evening at the Cadillac, Detroit. Mr. Meissner, who has been under the weather for some time, has cut loose from business and was in Detroit trying to make up his mind where to go to try and forget the cares and responsibilities of the drug trade.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Gult, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Little Rock, Nov. 13.
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Oct. 9.
Colorado (C. H. Wells, Pueblo)—.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Dec. 3.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Oct. 7.
Florida (Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—Chicago, Sept. 10.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Oct. 1.
Kansas (W. C. Johnston, Manhatton)—.
Kentucky (Wiley Rogers, Louisville)—
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Oct. 9.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Oct. 8.
Massachusetts Freeman H. Butler, Lowell)—Boston, Oct. 1.
Michigan (F. W. R. Perry, Detroit)—Lansing, Nov. 5.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Oct. 15.
Mississippi (J. C. Means, Natchez)—Jackson, Oct. 1.
Missouri (F. W. Sennewald, St. Louis)—St. Louis Oct. 8.
Montana (G. W. Shoemaker, Billings)—Anaconda, Oct. 8.
Nebraska (M. E. Shultz, Beatrice—Lincoln, Nov. 13.
New Hampshire (George F. Underhill, Concord)—Manchester, Oct. 23.
New Jersey (Albert S. Elwell, Bridgeton)—.
New Mexico (W. C. Porterfield, Silver City)—Albuquerque, Sept. —.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburgh, Rochester, Syracuse and Yonkers, Nov. —.
North Carolina (Wm. Simpson, Raleigh)—
North Dakota (W. S. Parker, Lisbon)—Fargo, Aug. —.
Ohio (W. R. Ogier, Columbus)—Cleveland, Oct. 15.
Oklahoma (C. P. Wickmiller, Kingfisher)—Perry, Oct. 1.
Oregon (Dan J. Fry, Salem)—Albany, Oct. 1.
Pennsylvania (Charles T. George Harrisburg)—.
Rhode Island (Wm. E. Cutes, Providence)—Providence, Oct. 7.
South Carolina (H. W. Hummel, Charleston)—.
South Dakota (I. A. Keith, Lake Preston)—Aberdeen, Oct. 9.
Tennessee (J. O. Burge, Nashville)—Chattanooga, Oct. 16 and 17.
Vermont (J. G. Bellrose, Burlington)—Brattleboro, Sept. 25.
Virginia (P. R. Beckwith, Petersburg)—Richmond, Oct. 8.
Washington (W. H. T. Barnes, Seattle)—.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville)
Prarie du Chien, Oct 9.
Erie County, N. Y. (C. O. Rano, Buffalo)—Buffalo, Oct. 5.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn)—Brooklyn, Oct. 15.
New York City (Wm. Balser, M. D., 218 East 13th street)—College of Pharmacy building, Oct. 14.

——The New York State Board of Pharmacy examined 60 applicants at its meetings held in Albany, Plattsburg, Rochester, Syracuse and Yonkers Aug. 30. Twenty-two were successful. The next examination will be held in November.

——The Illinois State Board of Pharmacy held a meeting in Chicago last week.

——Charles E. Bardwell, of Holyoke, Mass., is spoken of as a candidate for membership on the Board of Pharmacy.

——The Vermont Board of Pharmacy holds a meeting for examination of candidates at the Brooks House, Brattleboro, Sept. 25.

——The Virginia Board of Pharmacy meets in Richmond Oct. 8. Candidates for examination should communicate with Secretary E. R. Beckwith, Richmond.

——The registered druggists of Kansas City, Mo., will take steps to prohibit the sale of drugs in that city by any other than those who are registered. It is stated that there are three drug stores in the city operated by persons who are not registered druggists.

——The New York City Board of Pharmacy passed one candidate, Abraham Sirota, at its last examination. Within the last three months 86 pharmacists were examined and 3 were convicted and fined for violations of the Pharmacy law. The next examination will be held Oct. 14 at 9 A. M.

——The next meeting of the Michigan Board of Pharmacy for the examination of candidates will be held at Lansing Nov. 5 and 6. At the recent meeting of the board at the "Soo" the members were royally entertained by the local druggists—something entirely new in the history of the board.

——The Connecticut Board of Pharmacy Commissioners, at its meeting held at Hartford Sept. 3, granted certificates to Abram N. Dedrick, Naugatuck; Herman Randale, New Britain, and Louis P. Collet, Fall River, Mass. A special meeting of the board was held Sept. 11.

——The Massachusetts Board of Registration in Pharmacy examined 40 applicants lately. Of these the following named have been granted certificates: Ambrose A. Keeley, of Fall River; Ernest S. Bisbee and M. V. Robbins, of Boston; Austin A. Frye, Pierre Brunelle and Ernest J. Alley of Lowell; Alfred J. Giguere, of Holyoke; Joseph A. Hays, of New York City.

——B. W. Alexander, a traveling patent-medicine vender, will institute a $10,000 damage suit against the Iowa Board of Pharmacy at Sioux City. The board recently caused the doctor's arrest for selling drugs without a State license. He says he has a license in New York State and claims he cannot be called upon for another one. Dr. W. M. Bear is about to sue for $20,000 on a similar case, growing out of his arrest at George, in the same State.

——The Illinois Board of Pharmacy has decided that the new law relating to the sale of medicine must be enforced. This law provides that none but registered pharmacists shall handle drugs and medicines, and contains other provisions which, as the druggists hope, would make the dealing in drugs so uncomfortable for dry-goods men that they would prefer to quit the business. Copies of the law were sent to transgressors, but no apprehension was felt, as the measure was considered a dead letter. The secretary of the Board of Pharmacy is making arrangements to have transgressors brought before the grand jury in Chicago.

——The Colorado Board of Pharmacy held a meeting for examination of candidates at Denver Sept. 7. Sixteen were examined, of whom the following passed as registered pharmacists: George H. Bedard, Boulder; Edwin J. Clarke, Delta; George F. Drever, La Junta; Charles T. Gilbert, Denver; George H. Hoffman, Denver; Harry J. Langdon, Highlands; George C. Sharpe, Pueblo; Adolph Swoboda, Denver. In the future the examination of candidates by this board will extend over two days' time. A written examination will be held on the first day, while the second day will be devoted to practical work, answering oral questions and reading prescriptions.

Bogus Missouri Pharmacists.

St. Louis, Sept. 13.—Secretary F. W. Sennewald, of the State Board of Pharmacy, is making things interesting for persons who are illegally acting as pharmacists. The other day he swore out warrants against August Buren and William Peters on the charge mentioned. Buren, it seems, owned a store at Eleventh and O'Fallon Streets, in this city, and in February, 1894, bought a stock of drugs and equipped a pharmacy in the storeroom on the corner. Later he turned the store over to William Branch, receiving a mortgage on the stock for it. Branch conducted the business until about a month ago, when Buren foreclosed on the mortgage and started to run the business himself, placing William Peters in charge. It was not long before Mr. Sennewald learned that neither Buren nor Peters was a registered pharmacist and at once preferred charges against them. Mr. Peters states that he never filled any prescriptions, but always sent them over to McAuliffe's drug store in the next block. The latter says he does not remember any such prescriptions.

Lake Charles, La.

E. Delmouley contemplates moving his store further uptown.

G. A. Livingston and F. A. Van Phul have been on the sick list.

Dr. Louis E. Meyer, Thibodeaux, accompanied by his wife and "Edwin," was in town a few days ago.

W. T. Taylor, secretary of the Louisiana Board of Pharmacy, was in town recently investigating reported violations of the Pharmacy law. In two cases affidavits for arrest were made.

Trade generally is improving. The following travelers have visited Lake Charles during the week: Ben Lewis, of I. L. Lyons & Co., E. L. Laffinton, of Houston Drug Co., W. Taylor, of L. H. Brunswig, and W. N. Forbes, with E. J. Hart & Co.

——James Vernor, Detroit druggist, went to Louisville to attend the G. A. R. reunion.

COLLEGES AND SCHOOLS OF PHARMACY.

——H. C. Ullen, of the '95 class, has been appointed assistant to the chair of chemistry of the Cincinnati College of Pharmacy, succeeding Prof. Francis Freericks, resigned.

——President H. Graeser, of the Alumni Society of the New York College of Pharmacy, announces that Justice George F. Roesch will deliver, the night of Oct. 9, before the association, the lecture on pharmaceutical jurisprudence which was to have been given last January.

——Prof. J. O. Schlotterbeck, of the School of Pharmacy, Michigan University, is now at Bern, Switzerland, to spend a year in studying under Dr. Tschirch. As previously noted, he sailed for Europe July 6. Accompanied by two friends he enjoyed a bicycle trip of about 1,000 miles through Germany, visiting Hamburg, Lübeck, Friedrichsruhe, Hannover, Cassel, Marburg, Giessen, Cologne, Bonn, Coblenz, Bingen, Mainz, Darmstadt, Heidelberg, Stuttgart, Strassburg, Basle and Bern.

——The Montreal College of Pharmacy will open its twenty-eighth session of lectures Oct. 1. Sessional examinations will be held every three months and prizes will be given to students obtaining the highest marks in each class. The lectures on materia medica, pharmacy and toxicology will be conducted by Dr. T. D. Reed and H. R. Lanctot. Joseph Bemrose, F. C. S., and Prof. C. A. Pfister will lecture on theoretical and practical chemistry, and in botany Joseph Bemrose will conduct the English class and Joseph E. Morrison the French class.

——The Philadelphia College of Pharmacy opens next month. The senior class will be the largest in its history, and up to the present time the number of junior applicants is just about the same as that at this time last year. The trustees have awarded five scholarships as follows: John H. Schroeder, Wm. E. Krewson, Jr., W. F. Morgan, John W. Baker and John Meighan. There were 23 applicants. These scholarships are to be paid out of money left to the college by Prof. John M. Maisch, Robert Bridges, Edw. C. Jones and Peter Williamson. While there are only four endowments, the money has been placed to such an advantage that the income is sufficient for five scholarships.

St. Louis Alumni Opening.

St. Louis, Sept. 14.—The Alumni Association of the St. Louis College of Pharmacy is making extensive and elaborate arrangments for the celebration of its twentieth anniversary and the opening of the annual course of scientific lectures on the evening of Sept. 21. Dr. Otto A. Wall, the regular lecturer, has chosen for his subject, "Why We See Things in Colors," which will be illustrated by means of the oxyhydrogen lantern. This will be followed by a banquet which will be participated in by all the members and their lady friends. The Committee on Papers and Queries has charge of the affair, which promises to be one of the largest and most successful ever given by the association. The committee consists of Ambrose Mueller, chairman, Dr. J. C. Falk, J. F. C. Hassebrock, William D. Hoeffken, Herman A. Kunz and O. F. Fischer. Many of the boys have had much-needed rests during the summer vacation and promise to take a deep interest in the affairs of the association this year. The college library has also been greatly improved under the supervision of Dr. H. L. Behrens. Only recently Dr. Enno Sander, one of the first professors in the college, donated nearly half a hundred valuable books, which have been given a conspicuous place in the library.

Opening of the Massachusetts College of Pharmacy.

Very interesting is the twenty-ninth annual catalogue of the Massachusetts College of Pharmacy, which has lately come from the press. Its sixty pages contain not only much information of value, but also many views of the college, exterior and interior. It appears that there are now about 300 students, of whom 175 are juniors. The Era readers will be interested in the fact that the duties of pharmacists in emergencies, especially those arising from cases of poisoning, will receive attention in the course. A series of excursions to manufacturing places has been arranged, under the guidance of an instructor in pharmacy. The list includes pharmaceutical laboratories, chemical works, soap and glycerin factories, plaster works, paper mills, etc. These will be taken about once a fortnight. A special three-day trip to New York, for the purpose of inspecting the large laboratories in and near the city, is under consideration. The college will open on Sept. 23. Professors' fall examinations began on the 14th and on the 21st the lecture term will begin. Preliminary examinations for students wishing to enter the institution were held on Sept. 18.

New York College of Pharmacy.

Clerk O. J. Griffin, of the New York College of Pharmacy, is one of the busiest men in town just at present. He returned from his vacation on Labor Day, and has been having labor days ever since. The students of last year and those who want to be enrolled on the college books have been trooping in in pleasing numbers, so that the indications point to a third as many more students this year as last. There will be at least 275 members in the junior class and 175 in the senior class when the college doors open on Sept. 30.

At present there is little to do in order to make the college building ready for the reception of students. House-cleaning is going on on the first floor, and the clerk's offices have a spick-and-span look that is refreshing. The recent cyclone took a shy at the college, carrying away the casings and glass of the windows on the upper floor. The damage was not large and was quickly repaired.

Prof. Virgil Coblentz returned from Europe on Thursday last in excellent health. All the rest of the faculty are back from their vacations ready for what they think will be a most interesting year's work in the institution's history.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

CALIFORNIA.

Oakland.—A. J. Dibert & Co., Washington St., removed to 1111 Broadway.
San Francisco.—Sospita Co., incorporated.
San Jose.—D. M. Livingston, sold to Mrs. A. L. Livingston, Golden West Drug Store.

COLORADO.

Denver.—Tremont Drug Co., sold to Fleming & Mechling.

CONNECTICUT.

Bridgeport.—Congress Drug Store, sold to William Flynn.
Seymour.—Bristol Drug Co., branch store.
Southport.—K. J. Damtoft, sold to L. B. Switzer.

FLORIDA.

Quincy.—Munro & Scott, now John W. Scott.

GEORGIA.

Valdosta.—W. C. McRae, sold to Dunaway & Ramsey.

ILLINOIS.

Astoria.—W. G. Evans, closed by sheriff.
Byron.—E. E. Evans, sold to Jesse Bradstreet.
Chicago.—E. C. Conley, 38th St. and Kedzie Ave., new store.
H. D. Jones & Co., receiver appointed.
J. B. Kerr, assigned.
Piper City.—S. D. Culbertson, now S. D. Culbertson & Son.
Watseka.—Mollyneaux Drug Store, sold to V. D. Phelps.

INDIANA.

Indianapolis.—C. G. Weiss & Sons, now Theo. M. Weiss.
La Grange.—E. B. McDonald, sold to S. G. McDonald.
South Bend.—Wm. M. Gibboney, Michigan and Wayne, sold to J. W. Ryan.
Terre Haute.—M. R. Combs, sold out.
Tipton.—Powell & Coppess, now D. B. Coppess.

INDIAN TERRITORY.

Ardmore.—Blake & Little, now M. A. Blake.

IOWA.

Carroll.—H. S. Green, sold to Joel E. Cagwin.
Des Moines.—C. C. Chapman, 14th and Forrest Ave., new store.
Hansen Drug Co., damaged by fire.
Everly.—Carmichael Bros. & Co., dissolved.
Galva.—John Redden & Co., now A. Schnider & Co.
McGregor.—S. J. Peterson, damaged by fire.

KANSAS.

Belleville.—J. A. Doherty, deceased.
Carbondale.—N. Beasley & Son, sold out.
Emporia.—E. M. Kraum's drug store, damaged by fire.
Leavenworth.—Fritsche's drug store, damaged by fire.
Medicine Lodge.—O. L. Day, closed.
Ottawa.—Stockton & Co., damaged by water.

KENTUCKY.

Bairdstown.—Dr. A. J. Mattingly, deceased.
Bowling Green.—J. H. Mallory, now Mallory & Barclay.
Carrollton.—Brownskie & Son, damaged by fire.

MAINE.

Bath.—L. B. Swett & Co., new store.

MASSACHUSETTS.

Fitchburg.—F. H. Rockwell's drug store, damaged by fire.
Millbury.—Odell Boynton, sold to Charles W. Eggleston.
Salem.—Naumkeag Pharmacy (H. R. Gray), Boston St., reopened.
Stoughton.—Dr. W. E. C. Swan, new store.
Worcester.—W. E. Banfield, sold to Merrill & Sanborn.

MICHIGAN.

Columbiaville.—Carey's drug store, damaged by fire.

Croswell.—Graham & Higgins, now A. B. Graham.
Marshall. G. H. Greene, damaged by fire.
Menominee. Mrs. E. S. Sprong, sold to R. Moyer.

MINNESOTA.

Mapleton.—David Gordon, new store.
St. Paul.—A. McLaughlin, Wabasha and Central, new store.
W. Concord.—Ellege & Straight, new store.

MISSOURI.

Bedford.—A. E. Wright, sold to Lewis & Co.
Chula.—R. Davis, sold to A. Howard.
Fairfax.—D. C. Howell, sold to E. B. Allen.
Kansas City.—J. W. Miers, 526 Independence Ave., closed by sheriff.
Marceline.—Martin & Fox, damaged by fire.
Maryville.—Geo. A. Taylor, sold out.
Mattlins.—H. P. Yeater & Co., sold to John G. Ray.
Montean.—G. L. Fowler, damaged by fire.
St. Joseph.—William Loving, sold to Fred Boze.
Stockyards.—Jay C. Archer, will remove to St. Joseph.

NEW HAMPSHIRE.

Penacook.—C. H. Fowler, sold to W. C. Spicer.

NEW JERSEY.

Atlantic City.—Dr. Willard Wright, deceased.
Cedarville.—Albert Briggs, deceased.
Columbus.—A. N. Dobbins, sold to David C. Wells.
New Brunswick.—Wm. Rust, deceased.

NEW MEXICO.

Silver City.—G. W. Bailey, deceased.

NEW YORK.

Albany.—Walker & Gibson reported as damaged by fire in issue of Sept. 12 an error.
Brooklyn.—Cooney's drug store, E. 5th and Vanderbilt Sts., damaged by fire.
The Joseph Binns Chemical Co., incorporated.
Buffalo.—Albert J. Rodenbach, deceased.
Ithaca.—George E. Putney, sold to Fred H. Blackmer.
Little Falls.—Babcock & Cardwell, now G. R. Cardwell.
Mechanicsville.—Whitney's drug store, damaged by fire.
N. Y. City.—Magnus & Abraham, dissolved. Van Ness Cooper Co., incorporated.
Port Chester.—Dr. J. S. Westermayr, Schnautz' Bldg., branch store.
Syracuse.—R. S. Kellar, now Kellar & Price.
Dr. T. Kemter, now Weston & Cook.
Smith & Ballert, now D. Smith.

NORTH CAROLINA.

Raleigh.—W. H. King & Co., now W. H. King.

NORTH DAKOTA.

Kulm.—Young & Byer, new store.
Northwood.—J. P. Omich, sold out.

OHIO.

Bellaire.—D. H. Darrah, new store.
Cincinnati.—F. L. Evans, assigned.
Clarksburg.—J. G. Bell, sold to Junk Bros.
Columbus.—L. W. Smith, 168 South 3d St., assigned.
London R. G. Bradley, sold out.
Salineville.—J. E. Deaves, sold to H. V. George.
Sidney.—H. C. Ayres, sold to C. J. Briggs.
Washington C. H.—Harry Boyer, sold to C. B. Henderson.

OKLAHOMA.

Oklahoma.—Removal of I. Wand to Ardmore, I. T., recently reported, was an error He is still at Oklahoma.

OREGON.

Portland.—E. Eyssell, attached.

PENNSYLVANIA.

Chester.—F. E. E. Hudson, 3d and Howell Sts., sold to John Semple.
Philadelphia.—John Schneider, 4th and Wolf Sts., sold to the Southwark Pharmacy.
Pittsburg.—A. C. Henderson Drug Co., sold to the Walther-Robertson Drug Co. Louis H. Vogee, Webster Ave. and Robert St., sold to Edw. J. Kretz.

SOUTH CAROLINA.

Greenville. D. T. Bacot & Co., sold out.
Pelzer.—W. A. Davies, sold to Evans Bros.

SOUTH DAKOTA.

Scotland.—Scallin Bros., new store.

TENNESSEE.

Clarksville.—Bradley & McClannahan, now C. L. Bradley.
Jackson.—Dr. N. M. Williams, sold to P. C. Calahan.
Knoxville.—Yeager & Scruggs, dissolved.
Lewisburg.—McRady & Cowden, now John McRady.
McMinnville.—Ritchey, Bostick & Co., now J. B. Ritchey & Son.
Milan.—Coley & Richardson, sold to Coley & Burrow.
Sparta.—Gist Bros., now D. R. Gist & Son.

TEXAS.

Brandon.—W. D. Clark, new store.
Caldwell.—Murray's drug store, damaged by fire.
Houston.—J. E. Hertz, sold to H. J. Harby.
Waco.—Merrick & Neeson, now the Bell Pharmacy.
Yoakum.—J. M. Godwin, now Godwin & Davidge.

VERMONT.

Randolph.—Drew & Leonard, new store.
Springfield.—N. C. Dodge, new store.

VIRGINIA.

Petersburg.—Gatling Pharmacist Co., incorporated.
Richmond.—Cary Bros., sold to Saunders & Eckert, 230 W. Leigh St.
W. A. Huddleston, 501 W. Main, sold to William A. Logan.

WASHINGTON.

Chehalis.—City Drug Store, Chehalis Ave., burned out.

NEW BRUNSWICK.

Edgetts Landing.—Alex. Barnett, deceased.
St. John.—Hugh McLean, assigned.

ONTARIO.

Arthur.—Kilgour's drug store, sold to C. J. Pasmore.
Brantford.—McGregor & Merrill, dissolved.
Oshawa.—L. J. Maxwell, sold to Jury & Gregory.

Oakland, Cal., Drug Notes.

Collins Bros. are refitting their drug store in fine style.

D. W. Kirkland, of the Owl Drug Co., Los Angeles, was in town recently.

Collins Bros., late of Kansas, have opened a prescription pharmacy in the Masonic Temple.

Fred Graham has been visiting in Fresno County. He is looking for a good position.

John Mertons, of San Francisco, has assumed the management of Dr. Fearn's Tenth Street store.

D. L. Henderson, formerly of the firm of Henderson & Graham, is looking for a location downtown.

A. C. Dibert & Co. have changed their location from Eighth and Washington Streets to 1112 Broadway.

It is currently reported that an invoice of tablet triturates amounting to $4,500 was lately received in this city by a leading pharmacist, and by him distributed among several physicians.

One of the St. Paul wholesale drug houses has just shipped a large quantity of Seneca snakeroot to Bavaria, Germany. The root grows on the Western prairies and over 100 tons will be shipped from Minnesota and the Dakotas this year. Some years ago, when the Indians at White Earth, Minn., were on the verge of starvation, a missionary applied to the head of the above-mentioned drug house for advice. He was informed that the Indians might gather snakeroot and the druggist would take all they could furnish at a fair price. Since then the Indians have received quite an income from the industry.

Book Reviews.

EXAMINATION OF WATER FOR SANITARY AND TECHNIC PURPOSES. By Henry Leffman, A. M., M. D., Ph. D., Professor of Chemistry in the Woman's Medical College of Pennsylvania, etc., Pathological Chemist to the Jefferson Medical College Hospital, Chemist to Dairy and Food Commission of Pennsylvania, etc. Third edition, revised and enlarged, with illustrations. Cloth, 154 pp., $1.25. Philadelphia: P. Blakiston, Son & Co.

Four years ago appeared in these columns a review notice of the second edition of this work, in these words: "The work deals primarily with methods to determine the sanitary worth of waters, giving sufficient processes and details to determine this. The chief determinations are of total solids, chlorine, nitrogen in ammonium compounds and organic matter, nitrogen as nitrates and nitrites, oxygen consuming power, phosphates, dissolved oxygen, poisonous metals. A short chapter is devoted to general, quantitative, technical analysis. The book is by no means a complete guide to water analysis, but adequately fulfills its more modest but equally important aim of presenting methods to establish the purity of water from a sanitary standpoint. A valuable feature is a chapter on biological examinations and methods of purification of water. Several tables of analytical data will find frequent employment by the analyst." This is all true of the present (third) edition, of which it may further be said that much of the text has been rewritten, considerable valuable matter added, and the whole work thoroughly revised to bring it fully up to date. It most excellently fulfills the purpose of its author.

COD LIVER OIL AND CHEMISTRY. By F. Peckel Möller, Ph. D., author of "Veiledning ved Bedömmelsen of Medicintran," etc., co-author of "Pharmacopoia Norvegica 1870." Cloth, 619 pp. London: Peter Möller, and at Christiania, Norway, and can be obtained from Schieffelin & Co., New York.

It has been a pleasure to read this book, the greater because it was not anticipated. Dry therapeutics and chemistry and monotonous statistics were expected, but instead there are found a freshness of fact, a lively style and unique treatment. A scientific treatise was looked for, and such it is, but it is science in the form of entrancing narrative. The work is divided into two main departments, 110 pages devoted to cod liver oil and 508 pages to the law of atomic linkage, diagrammatically illustrated. The latter, though needing the greater proportion of the book for its presentation, must be dismissed with but a few words of comment, and these few merely to set forth the author's purpose and hint at his theories. As the writer says, he "has abandoned the orthodox but somewhat unedifying method of representing chemical formulæ and has introduced a new system of diagrammatic illustrations, and a defense of this system is laid down in the latter part of the treatise." The diagrams do not profess to represent the theory of atoms in space, but are eminently suggestive if

assisted by a comprehensive knowledge of chemistry. For the purposes of this book their intelligibility is their only virtue. The writer makes statements and advances theories for which he holds himself personally responsible. But whether we object to or admit the plausibility of these theories, we are interested in the very novel and unique manner of their presentation.

It is, however, the first division which interests us and claims careful attention. Space does not admit of such extended comment as we would wish. Chapters are devoted to a description of Norway, its people, customs, politics, history; the Norwegian fisheries, Lofoten fisheries, the boats, tackle, fish and the several operations and methods followed. Then the writer describes the manufacture of cod liver oil, old and modern methods, and gives in detail a description of Peter Möller's steam method of manufacture which produces the world's standard oil. A chapter is devoted to the pharmacy of cod liver oil, the flavorings, classes of preparations, etc. The writer does not put much faith in the alkaloids-of-cod-liver-oil theory, but says the active principle of cod liver oil is the oil itself. The book will richly repay reading.

MONOGRAPH ON FLUID EXTRACTS, SOLID EXTRACTS AND OLEORESINS. With appendix. By Joseph Harrop, Ph. G. Cloth. 230 pp., interleaved, $2. Columbus, O.: Harrop & Co.

We see no particular reason for the existence of this work, for the large pharmaceutical manufacturing houses produce for free circulation books which cover the same ground much more satisfactorily. It may save the druggist a reference to the Pharmacopœia or other works of reference, but this is a fault rather than a virtue, though its professed purpose is to open our national standard. It is simply a convenience, not a book which calls for detailed criticism. What little general text and descriptive matter there is seems to have been hastily and carelessly prepared and not sufficiently full to teach him who wants to learn all there is to know, nor even to give him a fair grasp of the subject. Some of the views expressed seem rather unscientific, to say the least, as, for instance, this, speaking of water used as a diluent of alcohol: "The nature of the water is not important so long as it is clean and clear. Either hard, soft or distilled water may be used. However, if hard water is used there is danger of a precipitate not altogether vegetable. Distilled water, in the strict sense of the term, is difficult to obtain, unless made by the pharmacist himself with his own still; the distilled water usually sold is merely condensed exhaust. Rain water usually suffices." It is a question, too, just how much confidence can be placed in the statement that "a reliable test (for a fluid extract) is found in the odor of the preparation, which, while making allowance for the fusel oil in the alcohol, should be similar to that of the undried plant." Here is an abbreviated table of contents, from which the nature of the book may be judged: Introduction, Weights and Measures. Part I.—Articles used in the manufacture of medicinal extracts—Alcohol, water, glycerin, acetic acid, crude vegetable drugs. Part II.—Processes—Preparation of materials, percolation, evaporation, preservation. Part III.—Fluid extracts—History, manufacture, quality, examination, assay, formulas. Part IV.—Solid extracts—History, manufacture, quality, assay, formulas. Part V.—Oleoresins—History, manufacture, formulas. Part VI.—Appendix—Juices—Inspissated, abstracts, liquid extracts, Br. P., solid extracts, Br. P., appliances, repercolation.

THE GOSPEL OF BUDDHA: According to Old Records. By Paul Carus. Cloth. $1; paper, 35 cents; 275 pp. Chicago: Open Court Publishing Co.

In the quest for intellectual diversion the Western peoples have of late years given much attention to the religions of the East, and Buddhism, with its philosophical basis, has claimed the greater share of this study. The bulk of the contents of this work is derived from the old Buddhist canon, the most important passages being literally copied from the original texts. Biographical matter, philosophy, principles, parables and stories are presented in the clearest manner, so that the ordinary reader may form safe conclusions in the study of comparative religions, and determine the real merits of Buddhism from its own literature, rather than from the statements of enthusiasts or adverse criticism.

NOTES ON THE NEWER REMEDIES: Their Therapeutic Applications and Modes of Administration. By David Cerna, M. D., Ph. D., Demonstrator of Physiology and Lecturer on the History of Medicine in the Medical Department of the University of Texas. Second edition, enlarged and revised, 253 pp., $1.25. Philadelphia: W. B. Saunders.

The first edition of this book was reviewed in 1893, and the present edition has been continued along practically the same lines. The subject matter has, however, been well brought up to date by the inclusion of most of the newer remedial agents which have come into use by physicians since that time. The principal additions are the paragraphs on physiological action and toxicology and, in a few instances, incompatibilities and contraindications. A new feature which will prove of service to the practitioner is an "Index of Diseases." The book is a desirable one as a work of reference and its mechanical construction is up to the standard.

——Druggist Steinmitz, of West Girard Avenue, Philadelphia, while in favor of the trolley cars, is also against them. For several years prior to the introduction of electricity as the motive power on the Philadelphia street cars he did a flourishing business in soda water. His store is near the Girard entrance to Fairmount Park, and many a weary and thirsty pedestrian would enter his store to quench his thirst and cool himself. This is all now changed. The trolley cars have been responsible for it. As they carry the passengers much quicker and as there is nearly always a breeze in the cars, the people prefer to enter the cars at the park and in this way they ride past the druggist's door.

REPORT OF COMMITTEE ON REVISION OF THE U. S. PHARMACOPŒIA.*

We heartily indorse the report of the committee made in 1894 at the Asheville meeting, especially the portion relating to the introduction of maximum doses into the Pharmacopœia. In view of the fact that the Pharmacopœia is used to some extent in foreign countries and that many of our physicians have bought it, it would seem as though the total reported sale up to Dec. 31, 1894, of 13,944 copies was rather small. When we take into consideration that there are nearly 40,000 drug shops in the United States this showing is small, as on a fair estimate less than 25 per cent. will be found in possession of a copy. We therefore recommend that in order to make the Pharmacopœia more popular with all classes of pharmacists, popular and widely used preparations, such as syrup stillingia compound, be made official by insertion of their working formulas.

We recommend that granulated opium be used in the preparation of tincture and deodorized tincture of opium, and that the use of precipitated phosphate of calcium be omitted in their preparation.

We recommend that such of the aqua medicata as are now directed to be made by trituration with precipitated phosphate of calcium be made either by agitation of the oils with hot water and subsequent filtration or by use of a double filter, the inner one a size smaller than the outer and evenly saturated with the oil, and the outer one wetted.

We recommend experiments with dextrine syrup or glucose in the place of glycerin in the preparation of fluid extracts containing resinous matter. We also recommend experiments with acetic acid in the manufacture of fluid extracts and tinctures, to replace, in part at least, the alcohol now directed to be used.

Soap Liniment. Numerous complaints have been made that the liniment became solid at the ordinary temperature of the room. This should be investigated. Either the castile soap used is not pure, or the quantity directed by the Pharmacopœia is too great.

Aloin. The test should be modified to include the melting point, and the solubilities should be changed.

Potassium Ferricyanide. Pages 477–520, the chemical formula should be $K_6Fe_2(CN)_{12}$, instead of $K_6Fe(CN)_{12}$.

Sodium Hypophosphite. Page 360, second line, second paragraph, should read mercuric chloride instead of ammonium chloride.

Acetanilid. Under tests, the term isonitril means nothing and should be superseded by phenolisocyanide.

Termination "ol" should be limited to phenols and alcohols and should not be applied to aromatic hydrocarbons which have generally applied English name. This is one. Hence benzol and toluol should be respectively benzene and toluene.

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*Read at the Denver meeting of the A. Pb. A.

Hydrochlorate and hydrobromate, as representing salts of hydrochloric and hydrobromic acids, are incorrect, and should be hydrochloride and hydrobromide.

Chloral, as a heading for something that is not chloral but chloral hydrate, is an error. The heading should be chloral hydrate.

Atropine, melting point should be 115° C. instead of 108° C.

Coca Leaves. Distinction should be made between Erythroxylon bolivianum (Huanco leaves) and Erythroxylon spruceanum (Truxillo leaves), as there is a microscopic difference in the leaves and a decided difference in the yield of alkaloid. See Proc. A. Ph. A. 1893, Vol. 41, page 159.) A standard should be adopted for this drug and a method of assay devised.

Stramonium seed should be superseded by stramonium leaves and stems, and this for two reasons—they contain less alkaloid than stems and leaves, and contain so much oil that they make bad preparations to mix with others without precipitation, do not keep well, and require a stronger alcoholic menstruum than the stems and leaves.

Tinctures Strophanthus and Colchicum Seeds. The seeds for the preparation of these tinctures should first be deprived of their oil.

Gold and Sodium Chloride. Why use a mechanical mixture when a definite chemical compound of both exists, the double chloride of gold and sodium, $Au\,Cl_3 3NaCl$?

Tartar Emetic. Why Antimonii et potassii tartras, when it is known that the compound is antimonyl potassium tartrate?

Carbonates of ammonium, magnesium and lead are so called when it is known that all are really the basic carbonates, and when the formulas for the basic carbonates are given under the names.

Hydrastis should be assayed and required of a certain strength of hydrastine.

Hydrastine hydrochloride should be made official, as it is used to a great extent and much more than the hydrastinine salt.

Powdered opium assay, insert after "another portion of 10 cc. of ether" the words, "let the ether on the filter and crystals evaporate completely," and after the words, "more than about 10 cc. in all" insert the words, "use a feather to remove the crystals that adhere to the flask."

Pilocarpus. Distinguish between P. pennatifolius and P. microphyllus, introduce method of assay, and set up a standard of requirement of pilocarpine for the leaves.

Solution Citrate of Magnesia. This formula is far from satisfactory. Numerous complaints have been received, and those who are satisfied with the present formula are so only because they have tried no better. In a paper read before the Michigan Pharmaceutical Association by A. B. Stevens and W. Palmer the following formula was presented:

Magnesium carbonate ...	13.
Citric acid	26.5
Oil of lemon.....	0.128
Sugar	62.
Potassium bicarbonate...	2.
Distilled water.....	q. s.

Dissolve the acid in 250 cc. of water, add the magnesium carbonate, which has been previously triturated with the oil of lemon; when dissolved filter the solution into a strong bottle having a capacity of 360 cc.; then add enough water to nearly fill the bottle, drop in the potassium bicarbonate, immediately close the bottle with a cork and secure it with twine.

Sapo Mollis. The formula for this preparation is far from satisfactory. The product is unsightly and upon standing develops an objectionable odor. It is largely used in surgical practice, and the formula hereby offered to take its place has been in use by the chairman of this committee for many years:

Olive oil	1,000 cc.
Potassa	360 gm.

Dissolve 300 gr. of the potassa in 2,000 cc. of water and add 50 cc. of this solution to the oil in a suitable vessel, place over a moderate fire, stirring until the mixture has thickened sufficiently. Gradually add the remaining solution of potassa and continue the heat, stirring occasionally until the mixture assumes a transparent gelatinous form. Dissolve the remaining 60 gm. potassa in 1,000 cc. of water, add to the mass and evaporate to proper consistency. Samples of this preparation, as well as the liniment made from it, are hereby submitted. (Signed)

LEO ELIEL,
ALFRED R. L. DOHME,
A B. STEVENS.

COMMERCIAL TRAVELERS.

The report upon this important subject read at the recent meeting of the N. W. D. A. was unusually interesting, as it presented the views, learned through correspondence, of a majority of the members of the association upon several important trade methods. To obtain these views the chairman of the committee sent out a series of questions, as follows:

"1. Since nearly, if not all, of us handle brushes, glass, liquors, perfumery, stationery, paints and oils, and, to a greater or less extent, cigars, tobacco and notions—for which we must find buyers—and the fact being generally admitted that our friend, the retail druggist, is as a rule very jealous or suspicious of our soliciting trade from any other than an apothecary (though he does not with commendable consistency by any means confine his purchases to us), what is your opinion as to the restrictions we should put upon our travelers in soliciting orders?

"2. What are your views as to the limitations of a traveler's authority in making allowances in the adjustment of the complaints for overcharge, shortages, etc.?"

"3. What do you expect in gross sales and gross profits per annum from your best salesman, from your least capable salesman, and from your average salesman?

"4. What do you deem the proper limits of the expense account (including salary) of the three salesmen referred to?

"5. Do you consider the 'least capable' man profitable to you?

"6. Do you employ by salary and expense allowance or on commission? If by contract, will you kindly inclose copy of form used?"

The replies received were so varied that it was found impossible to make a satisfactory résumé. Three-fifths of the membership which responded were opposed to having their salesmen confine their solicitations to the drug trade alone, but instruct them to secure orders for everything aside from drugs and patents from other reputable dealers. One-fifth favored limiting the visits of their travelers to druggists only, and the other fifth governed their action by local conditions. One correspondent came out boldly, and, after advocating the taking of orders from all dealers, says: "We are firm believers that the cut-rate store has come to stay, and therefore see no just reason why we should not be allowed to sell to such people, especially when their credit is good and they can pay for what they buy. We should be glad to protect the legitimate retail druggists, and should do so if they could prevent the department stores from getting goods, but we believe that this cannot be done. As a result of our not selling the cut-rate stores in our immediate territory we are losing $100,000 worth of business per annum. Is this right? We say no."

Four-fifths of the replies were averse to the idea of allowing travelers to make allowances and adjust complaints. Replies upon the "best-salesman" question showed that the sales run from $40,000 to $100,000 per annum, with a gross profit of 15 per cent., while the sales of the "least capable" run from $30,000 to $40,000, although the latter figure was oftenest named as an average, and the gross profit being about the same for both classes.

Five-sixths of the replies indicated that the traveler's remuneration is upon a salary and expense basis, and one-sixth of the replies favored a commission basis.

In addition many extracts were given from the replies, having a general bearing upon trade conditions all over the country. A few of these were as follows:

"We prefer to confine our work to the retail druggists exclusively, finding from experience if we sell them what they want we can get a larger and more satisfactory trade. They generally pay more promptly and are more profitable than the outside buyers."

"We permit our travelers to sell to any reliable retail house, whether druggist or not, for the reason that were we to sell to druggists only we could not exist."

"Retail druggists do not seem to possess the commercial tact necessary to retain the drug sundry business. Hence it is drifting naturally into the hands of the dry goods trade. This being a fact, it seems necessary for travelers to drum the dry goods houses or lose a large amount of sales of druggists' sundries."

"While the retailer who demands so much and gives so little in return goes

so far as to insist that we shall not sell certain parties, at the same time he buys of the very class of merchants he says we must not sell. In view of these facts we believe in selling wherever our interests are best served. We take this stand because we have been driven to it."

"We do not consider our traveler's sales as the sole criterion of his usefulness. One whose good sense and judgment enable us to avoid controversies and to maintain the good will and custom of our trade in his section and to avoid losses we consider more satisfactory than the mere order taker."

Olive-Oil Making at San Remo.

A correspondent of Ch. & Dr. writes that on the Riviera Ponente, of which San Remo forms the most prominent landmark, one of the two chief industries is the manufacture of olive oil, upon which fully half of the peasant population depend as their means of existence. The other great industry is the cultivation of lemons for export.

The olive tree (Olea europæa, nat. ord. Oleaceæ) cultivated here produces the purest and finest quality of oil obtainable. It flowers about the month of June, and should the season be favorable, the fruit is ripe and ready for collection in February or March following. A good crop generally occurs but once every three years, and depends entirely upon climatic influences. Sometimes it happens that two good crops follow in successive seasons. This year promised well for a good yield; but owing to a prolonged spell of exceptionally hot weather in September and October, the fruits were attacked by an insect, which deposited eggs producing small worms. These ate into the fleshy part of the fruit, leaving in some instances only the skin and the hard nut-like seed remaining. An average tree will yield four to five sacks of olives—from 420 to 525 pounds weight—and should produce an average of 80 to 100 pounds of oil, or 20 pounds per sack. These calculations are taken as results of favorable seasons when the fruits are sound, but frequently only a fourth or even an eighth of this quantity is obtained.

The olives are collected by spreading sheets on the ground under the trees and beating the branches till the fruit falls; the olives are then conveyed to the oil mills, often long distances, in baskets, usually carried on the head by women. When a sufficient quantity of olives has been obtained, the operation for the expression of the oil is begun: first, the olives are placed whole in a mill and ground for several hours by means of a stone wheel; when sufficiently crushed they are packed into peculiarly-shaped fiber bags, resembling Tam O'Shanter caps, but about twice the size of these. These bags are placed one on top of another to a height of about three feet, and then put in a huge press and gradually pressed until no more oil exudes. The oil obtained is first purified by throwing cold water upon it, which in descending carries down the coloring matter and impurities. The oil is then run off and allowed to stand in casks or troughs till all sediment is deposited, then run or bailed off, and sent to the dealers for putting into flasks or casks for export; frequently the dealers again refine the oil by filtering. This is the finest quality of oil. Inferior qualities are made from the half-ripe olives which have fallen. The pressed marc is not wasted after the oil is obtained from it, but again placed in a mill and well washed by means of a stream of water passing through. The seeds remain at the bottom, while the husks pass away with the surplus water into a succession of troughs till perfectly washed, when they are collected and re-pressed. This second expression naturally yields oil of a very inferior quality, which is generally used for burning purposes or the manufacture of soap. The pressed and now almost dry husks are employed for feeding cattle, while the crushed seeds are eagerly bought up by bakers for heating ovens. Indeed, the dry husks and the crushed seeds realize so much that the mill-owner takes them in payment when the growers, who are usually peasants with no press of their own, send him their olives to be pressed.

Drug Stores as Post-Offices.

St. Louis, Sept. 13.—Postmaster Carlisle, of this city, has proposed a rather novel scheme concerning sub-post-office stations. In order to economize Mr. Carlisle thinks some of the sub-stations could be abolished and the work performed at the drug stores in that district. Mr. Carlisle's first attempt, however, proved somewhat of a failure. He started to try his pet scheme in Carondelet, a Southern suburb, but the people there raised such a fuss that he abandoned it. Mr. Carlisle is of the opinion, however, that it will be only a matter of time before the post-office work of the suburbs will be performed at the drug stores. It is intended to pay the proprietors a certain percentage of the receipts taken in.

The suspensory bandages manufactured by Flavell, 1005 Spring Garden Street, Philadelphia, have certain qualities of fit and durability which have made them favorites with the medical profession, and the druggist will find that a stock of them is one which meets many prescription demands. A sample line of six bandages will be sent by mail at the nominal price of $1.10.

Stewart's Gipsy Pile Ointment has had many good words spoken in its favor by the medical profession, and it is an article which the druggists can sell without the trouble of furnishing an excuse afterward. It pays just 100 per cent. profit—costs 25 cents, retails 50 cents, and transportation is paid by the manufacturer, Fred. W. Stewart, Oswego, N. Y.

DRUG CLERK WANTED.

Proprietors often desire to make a change in their clerks, and a good drug clerk is the best investment. More of these drug clerks read the "Want Ads" in the Era than any other similar ads. When you want a clerk, try one. Answers can be sent to our care if desired.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS
Issued September 3, 1895.

545,456—Wm. B. Cowan, Guelph, Canada.—Triturating and emulsifying machine.
545,481—Robt. Fullerton, Des Moines, Ia.—Medicine dose-indicator.
545,503—Frank S. Hillhouse, Kalamazoo, assignor of one-half to Hazeltine & Perkins Drug Co., Grand Rapids, Mich.—Siphon.
545,552—Wm. R. Taylor, Rochester, England.—Apparatus for burning cement-making materials and process of obtaining carbon dioxid.
545,647—Johannes F. Hartz, Detroit, Mich., assignor to E. J. Hussey & Co., New York, N. Y.—Syringe.
545,679—Richard S. Cills, Philadelphia, Pa.—Remedial-powder-applying device.
545,817—Joseph L. Putegnat, Brownsville, Tex.—Syringe.

Issued Sept. 10th, 1895.

545,899—Emile Martens, Providence, R. I.—Process of and apparatus for removing fatty matters from wool.
545,900—Emile Martens, Providence, R. I.—Process of and apparatus for extracting with volatile solvents.
546,015—Leicester P. King, Cincinnati, O.—Apparatus for sterilizing and purifying liquids.

Claim.—The combination with a filter chamber, a superimposed reboiler and a superimposed steam condensing chamber communicating with a source of steam supply, the filter chamber, reboiler and steam-condensing chamber communicating in consecutive order from the condensing chamber down, substantially as set forth.

546,018—Karl Löfljelm, Uleaborg, Finland.—Apparatus for distilling tar and refining turpentine.

546,086—August Bischler, Zurich, Switzerland, assignor to Fabriques des Produits Chimiques de Thano et de Mulhouse.—Artificial musk and making same.

Claim.—(1) "A process of making artificial musk by first forming a cyanid derivation of an aromatic butylic hydrocarbon (such as cyanid of butyl toluene), introducing said cyanid compound into a mixture of fuming nitric and sulfuric acid, heating, and after cooling precipitating the resulting dinitro derivation from a suitable solvent, as set forth. (2) The artificial musk herein described, being a white, crystalline body, insoluble in water, soluble in alcohol and ethers, having a strong musky odor, and characterized by the presence in the aromatic butylic hydrocarbons of one cyanid, and two nitro groups, as set forth."

546,108—Louis Wojidkow, Brooklyn, N. Y.—Lid for alcohol lamps.

Claim.—A lid for an alcohol lamp, consisting of a lid proper, having a central opening therein, and provided with a handle, and an auxiliary lid immovably secured to said handle, and adapted to be raised or lowered when said handle is revolved, substantially as described.

546,113—Henry K. B. Davis, Philadelphia, Pa.—Depositing gold from its aqueous solutions.

546,148—John R. Hall, Jr., Fort Recovery, O.—Syringe.

546,165—Rudolph and P. Seidel Knietsch, assignors to Badische Anilin and Soda Fabrik, Ludwigshafen, Germany.—Indoxylic acid and making it.

TRADE-MARKS

Registered September 3, 1895.

27,015.—Toilet Soap. Seely Mfg. Co., Detroit, Mich. The words "Almond Milk" projected across the representation of a leafed branch.

27,037.—Remedy for Rheumatism and Diphtheria. Frederick E. Bonyman, Boston, Mass. The word "Alpha."

27,038.—Remedy for Fevers. Laura Manteron, Va. de Gonzalez, Mexico, Mexico. The words "Benedicion del Cielo, Tomad y Sanareis" and the conventional representation of an angel.

27,039.—Remedy for Women's Diseases. The "A. M. C." Medicine Co., Montreal, Canada. The word "Miles" and the representation of the head and shoulders of a man having hair brushed back, wearing a mustache and dressed in high collar, four-in-hand tie and business coat.

27,040.—Worm Powders. Allen S. Olmsted, Le Roy, N. Y. A bust figure of a woman, wearing a cap and having side curls, and the words, "Mother Gray's Sweet Worm Powders."

Registered Sept 10th, 1895.

27,048.—Remedy for Catarrh. John R. Smith, Bartlett, Tex. The representation of a triangle bearing the letters "J. R. S." within its respective corners, associated with the words "World's Wonder."

27,049.—Proprietary Medicine for Indigestion and Similar Diseases. The National Pharmacy Co., Montreal, Canada. The words "Peptone Cornélis" and "Déposé," the letters "J. L. C." and the rectangular inclosing border.

27,050.—Remedy for Stomach, Liver and Bowel Troubles. Klingbeil, Bartelt & Schroter, New York, N. Y. The word "Franciscan."

27,051.—Specific for Rheumatism. Lucy A. Browne, Oakland, Cal. The pictorial representation of a mountain, inclosed by a circular border, with a ribbon crossing the field, on which are the words "Sierra Bark."

27,052.—Effervescing Powder to Be Used as a Tonic. Myers & Co., Toronto, Canada, and Buffalo, N. Y. The words "Golden Fruit Saline," and the representation of a young woman leaning against a wall with a fruit-laden tree for a background.

27,053.—Cream of Petroleum for the Toilet. Augustus P. Stevens, Brooklyn, N. Y. The word "Evanola."

27,054.—Perfumery. Ameen F. Haddad, New York, N. Y. The words "Napoleon's Cologne" and a bouquet of violets.

27,060.—Corks. John M. Maris & Co., Philadelphia, Pa. A diamond-shaped figure.

27,061.—Polishing Compound for Metal Goods. Lubszynski & Co., Berlin, Germany. The word "Amor."

There are several grades of crude spruce gum, but only the best goes into the Yankee Brand Pure Spruce Chewing Gum made by Curtis & Sons, Portland, Me. Its reputation was made years ago through the use of good material in its manufacture, and this policy still maintains its position as the popular spruce chewing gum.

The Berliner Capsules-Fabrik, Berlin, Germany, includes over 400 articles upon its list of manufactures and makes a specialty of Summerbrodt's creosote capsules, gelatine antrophores, Blaud's pills, etc. Their prices and quality of goods compete with the best and their complete list will be sent upon application to the sole agents, Rich. F. Fischer & Co., 96 Maiden Lane, New York.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

NEW ENGLAND DRUGGISTS ACTIVE.

Cambridge, Mass., Sept. 12, 1895.

To the Editor:

It gives me great pleasure to read your words of approval of the efforts of the retail druggists of New England. I can assure you that the retail trade will appreciate it. I know of no good reason that can be given by the manufacturer, wholesaler, retailer or drug journals for not giving all the support possible at this time. Many reasons can be given why they should stand together, but none why they should not. The only excuse I have heard of is that the move will not be a success. That excuse is not based on common sense or experience. There are some men who always want to be judge in all things; they place their thumbs under their vests, take in a long breath, blow out the abdomen, lie back in their chair, and that settles it. I have learned to look on such men with pity. Why not?

I am not prepared to say that I have a guarantee that this move will be a success, but am prepared to say that no one should take a stand that a thing will not be a success before it is tried. After a careful study of the past, with long and persistent effort on my part, which has given me a very large experience with the retail trade, I do say I need no further evidence to make me believe that it will be a success. Because I have been engaged to devote my whole time to the work is not a full reason why it is going to be a success. The fact that some one who is a believer in the success is to do nothing else than to look after the present work in a systematic and business-like way, should lead all men to say we have not seen it tried before as it is now to be tried. Also the fact that I have received the promised co-operation from 95 per cent. of the retail trade which I have called on up to this date, and that almost the entire wholesale trade of New England are with us, and every manufacturer whom I have seen, and that I have found only two cutters out of over 500 who will not come in with us, is evidence enough, it seems to me, why all should stand together.

I am pleased to know that there are only a few men who say they will come in after we have made a success of it. This is a large undertaking and should call for some sacrifice; we should not expect to get it for nothing. I am confident this is the first and last trial, and if we do not succeed it will be better for the majority of our druggists to look for some other line of business to combine with the drug business in order to even make a living. What organization can do we have only to look into past history. The only question to be answered is, Can we get a strong organization? So far we have got more than we expected to get, and I believe we shall get over 90 per cent. of New England. It seems to me the value of the co-operation of the members of the New England Retail Druggists' Union to the manufacturer and wholesaler is of too great importance to be slighted or pushed to one side. We will co-operate with no firm who do not give us assurance of their co-operation. We have no desire to injure any one, but must help our friends and stand together. It is a question of life or death to our profession and a great injury to the public to have the apothecary set aside, and all on account of a few men who wish to have everything. Do what you can to encourage the work and we shall all share alike in the success of this movement.

Yours fraternally, F. W. REEVES.

PHARMACY IN AUSTRALASIA.

Sydney, Aug. 14, 1895.

The members of the Pharmaceutical Society of New South Wales are awakening to the necessity of improving and enlarging the scope of the College of Pharmacy, or, more strictly speaking, the nucleus of a pharmaceutical college. For some years past they have been content with the lectures of a schoolmaster who has never taken any degrees, and the arrangement with him might have gone on for some time to come but for a little friction and the feeling among members of the council that he was slowly undermining the influence of the college by drawing the students away to his home and giving them private tuition. The members saw the key to the position at once. They communicated with the professors of the Sydney University and asked their advice in the selection of lecturers, with the result that the three most advanced medical students—honor men in materia medica, pharmacy, chemistry and botany—were highly recommended, and the council having dismissed the individual lecturer unanimously appointed Messrs. G. H. Broinowski, P. G. Cooley and G. P. Dixon. The students' fees are fixed at five guineas a quarter, the lecturers receiving three guineas and the society two guineas. The students, the examiners and the members of the society are all highly pleased with the new system, and practical proof of this appreciation is forthcoming in the increasing number of students who have long since expressed a wish to be relieved from the monotony of the all-round teaching of one master. After all, it is only a small step in advance, and nothing better can be looked for in Sydney until the Government subsidize the college and make it worthy of the name. Your correspondent almost feels ashamed to tell the readers of the Era that after 107 years the boasted city of Sydney has no better accommodation for pharmaceutical students than the use of a small government room in which lectures are delivered and a still smaller room for a laboratory—a cramped chamber in which you can't turn round without fear of knocking over some of the bottles and apparatus. The library is a trashy sort of collection, and the marvel is that the

council have the front to call it a "College of Pharmacy."

The city of Melbourne, not half the age of Sydney, has a College of Pharmacy almost equal to anything in the world. The building is one of enormous proportions and capacity, and you can judge of its dimensions from the fact that upward of 500 guests were entertained in one hall at a conversazione on July 12. The details were worked out by the lectorial staff, and if there was any drawback at all in connection with the whole affair it was that a plethora of lecturettes and exhibits were on hand, besides a lengthy programme of vocal and instrumental music. The exhibits comprised electrical and other apparatus, plants of novel interest, and methods of drying botanic specimens by Baron von Mueller, kinematical models and photographs of engineering works, cosmoramic photo of the moon, and scientific apparatus, the polariscope and the micro-spectroscope, collection of useful and injurious insects, micrometers and test plates, anthropological collection, biological specimens, bacteriological specimens, fluorescent liquids, Victorian birds, natural history, new remedies, tabloids and other improvements in pharmacy, surgical dressings, compressed drugs and a variety of pharmaceutical preparations and exhibits altogether too numerous to particularize. The exhibition in itself was enough to occupy one's attention for a day, to say nothing of the lectures, concert, etc., yet the guests were expected to see and hear everything in one evening. The Melbourne wholesale drug houses and the representatives of the English drug houses sent enough stuff to fill a court in any exhibition. In fact, there had never before been such a combination of instructive illustration, scientific demonstration and entertainment pure and simple brought together in the colonies. The college is as complete now as money can make it, and all the lecturers are of the very highest standing in their professions. A student is required to attend during a whole session in order to qualify for presentation at the final examination. The certificates for practical pharmacy obtained from the college are those alone recognized by the medical school of the Melbourne University and must be obtained by candidates for the M. B. examination.

The latest phase of pharmacy legislation comes from Western Australia, where the recent opening up of the rich gold fields has attracted so many thousands of people from all parts of Australasia and Great Britain. The regulations made in pursuance of the Pharmacy act are the most conservative extant, and they stand alone among the laws of the Australasian colonies in refusing to accept the certificate of Great Britain. "Registration" is the most important clause in the regulations, as it affects many persons desirous of registering in Western Australia. The clause runs: "Any person may obtain from the council a certificate if he has attained the age of 21 years and holds a certificate or diploma of competency as a pharmaceutical chemist or as a chemist and druggist from any society or college or board of pharmacy recognized by the regulations." The regulations in reference to this are: "No certificate under this section (21) shall be granted to any person who claims to be registered . . . unless and until he shall furnish evidence that he has passed at a society, college or board recognized by the council, in practical pharmacy, chemistry, botany, materia medica and Latin . . . the diploma of competency as pharmaceutical chemist of Great Britain will be recognized by the council upon full reciprocity being established between that society and this council, and also the diplomas from any Australian pharmaceutical society will be recognized when such diplomas are recognized throughout Australasia and when there is reciprocity between such society and this council." The bulk of the other clauses of the act is taken from the Pictorian pharmaceutical legislation.

The history and founding of the Pharmaceutical Society of New South Wales and the "Sale and Use of Poisons act" (the only pharmacy legislation existing in the mother colony) will be published toward the end of the year from the pen of your humble correspondent, who, in searching some old records the other day, came across the following minute in the books of the society under date of Feb. 20, 1879: "The following United States pharmacists have been unanimously elected honorary members of this society and granted the diploma accordingly: Geo. G. Green and Lewis M. Green, Woodbury, New Jersey, U. S. A., Wm. R. Warner and Joseph Willey, Market Street, Philadelphia, and William Henry Hubble Lane, of New York." Mr. Lane's name also appears among the names of the members of the council present at the meeting on Dec. 3, 1878.

The Pharmacy bill which has been brought before the Parliament of New Zealand is a novelty in many of its features. To begin with, it proposes to incorporate under the name of the Pharmaceutical Society of New Zealand all registered pharmaceutical chemists, but no provision is made for the payment of any subscription by the members of the society, nor is it given power to do anything outside the four corners of the act. All its revenue will be obtained from the fees for registration and examinations, and it may only expend this on purchasing or renting land or buildings, salaries of officers and remuneration of examiners, payment of traveling expenses of members of the board, and the expense of any prosecution for offenses believed to have been committed against the provisions of the act. The incorporation seems entirely unnecessary, for the affairs of the society are to be managed by a board of ten members, to be called the Pharmacy Board of New Zealand and elected under the act, and the incorporation of the Pharmaceutical Society of New Zealand seems to provide no facility and to be of no advantage that is not obtained from the existing Pharmacy Board. It will be a name, and nothing more, while it will block the way for any future and more effective organization of the chemists of New Zealand, unless, indeed, larger powers are given to the society before the bill leaves Parliament. The bill has not become law, but it is a striking illustration of the utter impossibility of obtaining uniformity in pharmacy acts while appeal has to be made to different Parliaments. If federation ever comes and a federal Parliament is in existence, and the various colonies in the group decide to refer the question of pharmacy to the federal Parliament, then, and only then, will uniformity be secured by the passing of a single act to control the whole of the colonies.

TRADE NOTES.

From information furnished by manufacturers and dealers in regard to their products.)

Attention is called to the advertisement of F. E. Langerman in the "For Sale" column on page 15 of this issue. This is an excellent opportunity to obtain a good-paying drug store in a live town.

Jas. A. Webb & Son, 165 Pearl Street, New York, will name the lowest market quotations on alcohol and deliver f. o. b. New York or Chicago. Buyers of barrel lots should send for their quotations.

The pharmacist who takes pride in his prescription work has to think when he orders corks. The Williamsburg Cork Works, Lorimer and Bayard Streets, Brooklyn, will, upon application, send samples of the kind which he ought to think of.

The jobber or manufacturer who wishes to save time and money in his shipping department should learn how it can be done by examining Barlow's Patent Manifold Shipping Blanks. Samples are free for this purpose. Address Barlow Bros., Grand Rapids, Mich.

A thermometer in front of a drug store for free public inspection is an excellent advertising scheme. The A. Major Cement Co., 461 Pearl Street, New York, are offering two thermometers for this purpose with small orders for Major's cements. Write for terms.

The Mt. Washington Box Co., Boston, make some very attractive impervious boxes of black walnut and silver poplar for drugs, ointments, powders, etc. Send for their catalogue and use it the next time you order boxes from your jobber.

One of the articles which must claim the drug buyer's attention during the fall season is licorice. There is one kind of which the manufacturers say: "You can't sell a customer any other licorice who has once tasted M. & R." It is a good idea to specify this brand upon your orders.

Your judgment is asked upon the quality, taste, appearance and selling prospects of Magnetic Cough Drops. A decision is wanted in time to meet the demand for the coming winter season. The manufacturers, Brute, Frank & Co., Chicago, will send you a sample box upon application.

McAllister's bird-food specialties are handsomely put up and are just the kind that people who keep birds as pets will prefer to buy. His ordinary mixed bird seed costs 5 and 6 cents per pound package, according to quality; bird gravel, 3½ cents; bird-lice destroyer, $1.50 per dozen; song restorer, $1.80 per dozen; gold-fish food, 60 cents per dozen; canary-bird food, $1.50 per dozen, etc. A complete stock of these specialties forms a very attractive and profitable side line for the druggist. Address F. E. McAllister, 22 Dey Street, New York, for complete list.

Asparagus has an important place in popular or domestic medicine, and a pill containing its active principle is one which will really need but little introduction. However, such a pill is being widely advertised by the Hobbs Medicine Co., Chicago, under the name "Sparagus Kidney Pill," and it will undoubtedly have a large sale in consequence. It costs $4 per dozen through the regular jobbing trade.

A malt extract having a high percentage of extract and a low percentage of alcohol is what the physician will prescribe for nursing mothers, convalescents and victims of nervous depression. Braunschweiger Mumme possesses both these qualities and is a favorite for its tonic and stimulative effect and its palatability. It is made by the Long Island Bottling Co., 280 Bergen Street, Brooklyn, N. Y.

For colors, ointments, pastes, perfumes, etc., the collapsible tube is always preferred by customers, and this preference should guide the druggist. A. H. Wirz, 913 Cherry Street, Philadelphia, makes these tubes in all sizes from 1 dram up to 18 ounces, and his prices will show the druggist that they may be employed with profit in many instances where other containers are now used.

Fresh daily supplies and prompt dispatch of mail and telegraph orders are two features of the business of the New England Vaccine Co., which they specially urge as reasons for the patronage of the retail druggist. Their business is one which depends upon prompt action and they have made it successful by being prompt. For a reminder, their illustrated pamphlet should be where the druggist can find it when wanted. It is sent free upon application.

John Phillips & Co., of Detroit, Mich., lately completed an outfit of "Silent Salesmen" show cases for A. R. Cunningham's new store, corner Joseph Campau and Monroe Avenues, in that city. The cases are of the newest design and are made of beveled plate glass, the woodwork being of genuine Mexican mahogany with Tennessee marble bases. The outfit is very attractive and both parties to the transaction are being congratulated upon its artistic appearance.

Fosgate's Anodyne Cordial will after Sept. 3 be sold on the rebate plan. This well-known remedy, now in its ninety-fifth year, makes friends wherever known. It is an old reliable family medicine, speaking for itself. Retail trade, by obtaining supply of reliable wholesalers only, will avoid counterfeiters. Retail price, 35 cents; three bottles for $1. WILLIAM FOSGATE, Jr., sole proprietor and manufacturer, Auburn, N. Y.

The consumer who desires oils of lemon, orange and bergamot as good as they can be made in Italy, and wants them in exactly the same condition as regards purity as when they left the factory, should try an original package put up by the Sicilian Essential Oil Co. The small consumer's wants can be supplied as well as those of the extensive user, as these oils are put up in one-pound coppers especially for the retail trade. Address the New York office, 96 Maiden Lane, for prices.

C. P. Whittle, of Boston, not only makes the finest store fixtures to order, but has a method whereby the druggist of modest means can secure several really elegant designs at quite reasonable prices. Large quantities of fixtures of specially selected designs are manufactured and shipped knocked down. These can be readily put up by the pharmacist himself. Full information regarding these "K. D." fixtures will be furnished upon application.

When a customer asks for Holland gin he usually wants what he asks for and not some of the "just-as-good" kind. The druggist who wishes to supply this very reasonable demand must be careful in his buying and be sure of the identity and origin of the article he purchases. Swan gin is made by Meder & Zoon, an old and reliable Holland firm, and their agents, Ferd. Ruttmann & Sons, of New York, can be relied upon to furnish the genuine imported article. Write to them for prices.

John Lucas & Co., Philadelphia, not only furnish the trade with the most attractive line of paints, colors, varnishes, etc., but they furnish the dealer with the most effective means for selling these articles. They believe in advertising their paint from the time it leaves the mill to the time when it is spread upon a house. It is easy to sell such goods, as more than half the battle is in getting people up to the buying point. The Lucas advertising literature, color cards, etc., will interest you.

Everybody has heard of the man who tried to reach 20 feet with a 19-foot pole. The pole was all right within certain limits, but was absolutely worthless for that particular purpose. It's the same way with many manufacturers of pharmaceutical specialties. They fix up their goods to reach people within a certain distance, and do not realize that a few cents more added to this "fixing" operation will enable them to reach a lot more people. An attractive wire display stand will greatly extend the trade-reaching qualities of many articles. The price is often the difference between success and failure. Woods, Sherwood & Co., Lowell, Mass., will be glad to quote some of these prices.

Toilet articles such as brushes, mirrors, combs, trays, etc., are always popular for holiday gifts, but the designers of such articles have been rather slow of late years, and lots of people have had such articles presented to them which had to be labeled to distinguish them from the offerings of previous years. This season it will be different. The "Cosmeon" toilet goods are on the market. They look like silver, but are made of aluminum, which is better and cheaper. As to their beauty, words cannot do the subject justice, but the Florence Mfg. Co., Florence, Mass., issue an illustrated catalogue, which, however, gives an idea of what they look like. Send for it.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Buchu Leaves, Celery Seed, Caffeine, Cod Liver Oil, Colocynth Apples, Cream Tartar, Tartaric Acid, Monobromated Camphor, Rochelle Salts, Seidlitz Mixture.

Declined: Alcohol, Chlorate of Potash, Opium.

New York, Sept. 17, 1895.

The improving tendency of the general drug market continues without abatement and the frequent fluctuations in values are considered indicative of increasing interest on the part of the trade at large. Many of the changes are of only minor consequence, but several are of sufficient importance to attract close attention from interested operators, and altogether the situation seems to be steadily developing a degree of activity fully in accord with the expectations and ideas which were freely voiced early in the summer. The speculative syndicate organized in London several months ago for the purpose of controlling the market for crude camphor has thus far been very successful in its operations, and values of refined have consequently been forced to the highest point reached in many years; its efforts have been aided by the condition of producing districts in Japan, where the crude material is reported very scarce and held at extreme figures. Cream tartar and tartaric acid continue to advance in sympathy with the steady upward movement in argols abroad. A number of other articles show a higher range of prices, due to various causes, and there are but very few declines to be noted. An improved export demand has recently developed for several crude drugs indigenous to this country. Orders from interior distributing points continue to come in freely, and with the local trade improving the general market can be said to have fairly entered upon an active autumn season. There is no feeling of distrust or apprehension, and the future outlook seems to be full of promise for a season of greater prosperity than the trade has enjoyed for several years.

OPIUM.—The market has developed a weaker tone owing to reports from Smyrna and Constantinople to the effect that the speculators who were endeavoring to control the article and maintain prices have been unable to stem the tide of large receipts from the various growing districts. The result was a decline in values, and holders here have modified their views, quotations having reacted 2½@5 cents per lb, which is the full extent of the recent improvement. Buyers are keeping close to actual requirements and feel confident that values will be lower when attempts are made to market the large current crop. Advices to hand from Bulgaria state that experiments in that country have resulted in producing a better quality of opium than the average and efforts are being made to induce the farmers to commence its culture.

MORPHINE.—Dealers continue to find a good consuming outlet and manufacturers' prices are unchanged, but the weaker feeling in opium has an unsettling influence.

QUININE.—The demand from the malarial districts of the South and Southwest has continued active, a liberal business being reported by both domestic makers and agents of foreign manufacturers. Prices are unchanged but firm, with the future course of the market almost entirely dependent upon harmonious action on the part of manufacturers. The few lots remaining in second hands are either held out of the market awaiting an expected advance, or are not offered at even a fractional shading of manufacturers' quotations.

ALCOHOL.—The market for grain is quiet, with values depressed owing to continued competition between sellers, and consumers can supply their wants at a decline of 1 cent per gallon from the quotations ruling last week.

ACID TARTARIC—Has again been advanced 1 cent per lb by manufacturers, and the tendency continues upward owing to strong markets abroad for the crude material.

ACID OXALIC.—The combination of makers in Europe is said to have secured control of the output for 1896, and as several large contracts are reported to have been made for regular deliveries during that period the outlook favors a continued steady market.

ACID SALICYLIC—Has ruled quiet at nominally unchanged prices, but rumors are current that lower figures are probable in the near future.

BALSAMS.—Copaiba is fairly active in a jobbing way and an increased export demand is noted for Para grades, but former quotations are still current. Tolu is more active, while Peru and Canada fir remain quiet.

CREAM TARTAR.—Manufacturers have again advanced their prices 1 cent per lb for both crystals and powdered, and offerings are limited, in view of the strong upward tendency of crude argols abroad.

CAMPHOR—Has undergone no further change in price since the marked advance noted in our last issue, but the market is very sensitive, with refiners closely watching the movements of the speculative syndicate in London, which seems to have the crude article entirely under its control.

MONOBROMATED CAMPHOR.—The materially higher market for the gum has influenced an advance in manufacturers' prices to $1.55 for jobbing quantities.

CAFFEINE.—The spot stock has again been reduced and the small lots available are held at an advance of $1@$1.50 per lb.

COLOCYNTH APPLES.—Values of Trieste are hardening owing to increasing scarcity in all the markets of the world, and a further advance of 4 cents per lb is noted. Spanish are unchanged but firm.

COD LIVER OIL.—It is reported that for the first time in many years out-of-town dealers and large consumers failed to make contracts for their current season's supply, having lacked confidence in the published statistical position. The result is that the bulk of recent arrivals was quickly absorbed, and with the demand steadily increasing and every probability of a shortage, the outlook favors extreme prices being reached before the close of the consuming season. Since our last report the inside quotation for prime new oil has been advanced $2 per barrel.

ROCHELLE SALTS.—Manufacturers have advanced their quotations ½ cent per lb.

SEIDLITZ MIXTURE—Is also ½ cent per lb higher.

ESSENTIAL OILS.—Cassia, anise and wormwood are all held firmly at the improved prices noted last week. Lemon, orange and bergamot are cabled higher in Messina and a firmer feeling is manifest here, but former quotations are yet acceptable. Peppermint is unsettled and irregular.

BUCHU LEAVES.—The demand for short has been quite active, and with stocks materially reduced values of desirable grades show an advance of 1 cent per lb.

CELERY SEED—Has undergone a radical change for the better owing to a sharp advance in the primary market, due to speculative manipulation. Values here are 2@3 cents per lb higher and the principal holders offer very sparingly.

CHLORATE OF POTASH—Is weak and freely offered at fractionally lower figures, but the demand is not urgent and only moderate quantities are moving.

IPECACUANHA—Is in better demand for consumption and a good business is reported, but there is a lack of confidence in the stability of the recent improvement in London.

London Market Report.

London, Sept. 7, 1895.

There are distinct signs of improvement in trade and hopes are raised that we have a good autumn business before us. At our drug sales this week a few articles were in good demand and realized better prices; the various American agents were busy on senna (Tinnevelly), cardamoms and round buchus.

ACID CARBOLIC—Is very quiet for disinfecting purposes, 34° to 35° crystals being quoted at 5d. per lb for quantity in large bulk. For 39° to 40° crystals there is a strong demand from the salicylic-acid makers and the color trade, and a considerable business has been done at 5⅝d. per lb.

ACID CHRYSOPHANIC—Is again dearer at 15s. per lb.

ALOES.—Cape is slightly dearer at 24s. to 24s. 6d. for good hard bright; Socotrine neglected; kegs, 62s. 6d. to 65s.; Zanzibar in tins of good but soft-ish quality, 28s. per cwt.; monkey skins, 34s. to 41s for mixed quality.

BUCHU LEAVES.—Rounds in active demand for America; fine green 4d. per lb.; good but mixed slight yellowish, 3½d.; yellow, 2¼d. to 2¾d.; longs, quiet and held for 5½d. per lb.

CAFFEINE.—Tea dust in better supply, so makers are offering more freely for forward delivery. October and November, 20s. to 21s.; December, 18s. per lb., but September is scarce and worth 22s.

CAMPHOR.—Crude decidedly dearer, but no change yet made in prices of refined.

CARDAMOMS.—In very active demand, resulting in rather higher prices. Fine bold pale Mysores up to 2s. 9d. per lb.; medium do., 2s. 5d.; small, 2s.

CASSIA FISTULA.—In better supply; fine pods 19s. down to 7s. 6d. for poor.

ERGOT OF RYE.—Good Spanish of the new crop is offered at 10d. per lb.

IPECACUANHA.—Demand slack, but holders firm; nearly all the offerings in the auctions were bought in.

JALAP.—Good sound root offered at 10½d., being easier.

KOLA NUTS.—Tending easier; 5d. to 8½d. paid according to quality.

LYCOPODIUM—Is easier at 1s. 7¾d. per lb. c. i. f. terms.

MORPHIA.—Salts dearer at 4s.; for powder, 4s. 2d.; crystals in bulk.

COD LIVER OIL.—Norwegian is tending higher, and very much higher prices may be looked for shortly.

OPIUM.—A fair business has been done this week at full prices, although such on this market are below those in Smyrna.

QUININE.—A quiet week. Stock on Aug. 31 about 63,000 ounces less than the previous month; 1s. 1⅛d. per ounce nominal value.

RHUBARB.—Still tending lower; stocks large.

SCAMMONY RESIN.—Dearer at 9s. per lb.

SENNA, TINNEVELLY—Was in good supply, some 450 bales being offered. These were, however, of medium quality only, but the whole sold at an advance in values.

Humphreys' Specifics in Paris.

Dr. Frederick Humphreys has recently returned from Europe and was much gratified to learn that his specifics are used and recommended by the leading physicians of Paris. The doctor is in his eightieth year, hale and hearty, and stands a living monument to the value of Humphreys' Specifics. You had better write to the Humphreys Co., New York, for their liberal terms and inducements.

Cucumber and Elder Flower Cream is a delightful toilet preparation, and this fact can be made known to the public through the advertising booklets and samples which are furnished by Mrs. Gervaise Graham, 1424 Michigan Avenue, Chicago. Transportation is paid upon the smallest order.

Fletcher's Bottled Cocktails are packed in quart, pint and eight and four ounce bottles, and their perfect flavor and purity make them popular sellers. A sample half-pint bottle of Manhattan, Martini, Whisky, Gin, Vermouth or Congressional will be sent upon receipt of 50 cents by the Fletcher Cocktail Co., 421 Broad Street, Newark, N. J.

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ALCOHOL BLANKS.

Section 61, Act of Congress, dated Aug. 28, 1894, provides for the refunding of the Internal Revenue tax on all alcohol used in manufacturing in the arts and in medicinal or other like compounds. Retail druggists to secure this rebate should be prepared to present accurate record and proof of such use. We have prepared for druggists' use some special ALCOHOL BLANKS for keeping a proper record of alcohol used for manufacturing purposes, with full directions for keeping the record and for preparing your claims to secure the rebates. If you are not keeping such records, *these blanks may save you a lot of money.*

If you are a subscriber to the Era, we will send you a package of these Alcohol Blanks on receipt of 16 cents to cover the expense. *To non-subscribers the Alcohol Blanks are strictly net 50 cents per package*, postpaid.

Address
THE PHARMACEUTICAL ERA,
New York.

AN A. PH. A. SOUVENIR.

Yes, and a very handsome and valuable souvenir, too.

The Era has prepared a group portrait of the officers of the American Pharmaceutical Association from the time of its organization in 1852 down to the present year. This includes every president, the corresponding and recording secretaries, the treasurers and reporters on progress of pharmacy. The task has been a laborious one, but the result is of a nature to justify the amount of time and exertion necessary to its attainment.

This group portrait is executed in the finest style of the engraver's art. There are 56 half-tone portraits, artistically grouped around a central one, the first president of the association. The design in grouping and the borders and scrollwork are graceful and appropriate. The portraits are printed over a delicate tint, the picture thereby gaining a life and naturalness often lacking in ordinary half-tone work. The paper used is of extra fine quality lithographers' board and the sheet measures 24 by 28 inches, a size very suitable for framing. Each individual portrait is numbered and a list of the numbers, names and offices occupied is printed upon the sheet.

This group portrait is sure to prove very welcome and valuable to many members of the A. Ph. A. So far as could be learned no person, not even the association itself, has a complete collection of portraits of past officers, and this group will, therefore, not only supply this lack for the past, but furnish a basis for future collections. While portraits of living members were comparatively easy to obtain, not so with those of men long since dead. Some it was almost impossible to secure; in one instance a tintype of the man in his coffin was the only picture in existence; in two or three cases old-fashioned daguerreotypes had to be utilized, in others crayon or oil portraits were photographed, and other difficulties encountered which it would be tiresome to relate.

Many of these men have occupied several official positions in the association, but, of course, their portraits appear but once in this group. In the list of names below the group, however, are mentioned the several offices each has held.

The cost of production of this picture has been very great, but a price has been set for single copies so low that every member of the American Pharmaceutical Association can afford to have one, and still have enough left to pay for framing it. Hung up in his store or home, it will be to its possessor a constant reminder of the life and work of men who have helped to make American pharmacy what it is, for this association has numbered among its presidents and other officers during the forty-three years of its life those who are of world-wide renown as truly representing what is best and greatest in the profession. A Procter and a Parrish are sufficient to spread the fame of any association; this they and others as earnest and as able have done for the A. Ph. A.

THE STUDY OF BOTANY.

Some one has said that the pharmacist must know everything. This statement is excusable, though exaggerated. The pharmacist must know a great deal about some things and something about a great many things. Botany is one of the things about which he should be posted; it should, indeed, be included in the category of the few things about which he should know a great deal. There is no need to argue the value of botany to the pharmacist, but a word or two may be said concerning the best method of acquiring a working knowledge of the science, and such method is well illustrated by the paper on botany in the series on the Study of Pharmacy, which is commenced in this issue.

There is an easy and a hard way to learn. The didactic lecture and theoretical study, common in all branches until very recently, constitute the hard way, hammering information into the student in the hope that some of it will stick and be of use to him. This method is in vogue in many a college, and perhaps will never be entirely superseded, but there is a decided tendency toward replacing it by object teaching and experimental work, manual training appealing to the intelligence through all the senses and faculties. One may read a description of a knife and that it will cut, but he does not really know what a knife is until he has handled one and tried its blade upon a stick. Botany is no exception to the rule, and the necessity for a change in methods of teaching is great, especially for pharmaceutical botany, the main purpose of which is to fit the student for practical pharmacognosy. A laboratory course of instruction, where the student handles and studies the thing itself, is superior to any instruction that can possibly be gained through the use of literature.

The author of this paper on botany has decided and valuable ideas on the best way to teach the science: he is a believer in laboratory training and enforces it in all his class work. In his paper the want of laboratory exercise is obviated so far as possible by the richness of illustrations. The same objects which are presented to his classes and which the students are required to examine are in this essay represented by pictures of the dissections. These pictures are not drawn from the text-book literature of botany; very few of them have ever before been used for this purpose. The writer is a continuous worker in the field of original investigations in systematic botany, and the illustrations have been selected from the extensive field over which he has worked. So far as practicable medicinal plants have been used for illustration, but when a more perfectly typical illustration could be found elsewhere it has been employed.

So numerous are the illustrations and such the limitations of space that it is found impossible to place each figure next the text which refers to it, and in numerous instances references to a single figure are made in widely-separated portions of the text. Hence the student should carefully save all copies of this journal till he has completed the paper, which he will find comprehensive, complete and satisfactory.

Requirements of American pharmacy regarding knowledge of this kind necessarily differ from those of foreign countries, to just what extent is of little interest. While it is doubtless true that we should be better off in this country if our studies of the sciences relating to pharmacy were carried further, it is yet probable that within proper limits the tendency shown by us toward condensing, abridging and selecting shows a high appreciation of fitness and practical economy. While our pharmacists study far less, they manage to get more benefit in proportion than do their representatives abroad. It is with these ideas steadily in mind that the matter for this essay has been selected and that the form of treatment has been adopted. It has been written with a special view to the wants of American pharmacy on the average.

QUESTIONS ON THE NEW REBATE PLAN.

Now that the new rebate plan of the N. W. D. A. has been successfully launched, its provisions will undoubtedly receive the earnest study of all directly or indirectly interested. If there are any criticisms, or a lack of information upon any of its points, they should be thoroughly cleared up before the final details, such as actual printing and signing of contracts, are attended to.

A criticism which occurs to us, one which is due so much to a lack of information that it cannot be deemed captious, is the possible bearing which cash discounts will have upon the otherwise seemingly perfect method of maintaining prices. We note that the Committee on Credits and Collections at the late N. W. D. A. meeting stated that these discounts were not uniform throughout the country, ranging from 1 per cent. in the East to 1½ to 2 per cent. in the West. In the proposed new plan "each proprietor shall announce that his prices hereafter to all dealers will be his long prices only, freight upon quantity orders from the parties who shall be designated by the general agent as his sub-agents to be prepaid or deducted from the bill."

Nothing is said about the usual cash discount, and unless the term "long prices" has a fixed and definite meaning among all members of the trade in all parts of the country, and the general understanding is that long prices are subject to cash discount, it is barely possible that others are also uncertain about this matter.

We are somewhat apprehensive as to the prosperity of the cutter under a literal construction of the new plan. Under the old order of things we believe it was the rule for the proprietor to pay or allow freight on jobbing quantities. The new plan says quite plainly that the proprietor is to pay freight on quantity orders only to the regular sub-agents. The inference is that parties who are not regular sub-agents or who do not maintain prices will have to follow the famous example of "Jones of Binghamton." Should this literal construction of the new plan be allowed, the cutter, or the person not a sub-agent, who purchases quantity lots will be under the necessity of paying the long price and the freight, and must forego the usual discount for cash.

Returning now to the main question—the cash discount—we find upon referring to the form of contract between the sub-agent and general agent that the former agrees, in consideration of a certain commission, "not to quote or sell the preparation of —— either directly or indirectly, etc., at less than the prices stated on the inclosed price list." This refers, of course, to the long prices named by the proprietor, and the question arises whether a cash discount properly applies to the cost of goods, or is an entirely different matter, as interest upon money. Strictly speaking, it should be considered in the latter category, but there is nothing to prevent a department store which makes a practice of paying cash from regarding it as bearing upon the cost of a particular article, and thus regulating the selling price of that article. It is merely a matter of words and bookkeeping.

When a jobber or sub-agent bills out a lot of proprietary goods, and allows a discount of 2 per cent., which his customer takes, is he selling the goods at list price, say $1, or 98 cents? As the range of cash discounts is from 1 to 2 per cent., as previously shown, and as the question of discount is one to be determined by the individual jobber, would a cash discount of 3 or 4 per cent. upon a bill of goods consisting largely of proprietary articles be considered an "indirect" violation of contract? It would appear that here is an excellent opportunity for the proprietor to say something about cash discounts all along the line, and although such action in the matter might appear officious, it might produce uniformity in cash discounts which the Board of Control so strongly recommended. However, we may be anticipating safeguards which are not necessary, or which have already been considered by the contracting parties, but for fear that we may be accused of splitting hairs, we will only remind the drug trade that the cutter and department stores profess to make a very good living indeed by splitting hairs on prices.

THE TEXAS ANTI-TRUST LAW.

Reference has already been made in these columns to the peculiar provisions of the Texas Anti-Trust law, and the fear has been widely expressed that its provisions defeat some of the objects which it was intended to secure. Every one is satisfied that there should be legislative enactments to restrain that familiar operation of securing control of a particular commodity in such a manner that the price can be raised to the highest possible point, but in reality people in every condition of life are so imbued with the idea that it is perfectly proper to get as much as one can for anything, whether it be merchandise or labor, that any restrictive measure framed to meet popular demand usually deals only with the more prominent abuses, leaving the underlying principle absolutely untouched.

Every man in business, no matter how small, will have to confess, if he examines his own motives closely, that his aim or object is essentially that of the so-called trust, and further that his methods, except in the degree of their operation, are quite similar. Therefore when the majority, which is composed of the small fish, attempts to capture the whale, it is sometimes found that it is enmeshed in the same net. It is quite so in the Texas legislative incident.

This law defines a trust as "a combination of capital, skill or acts by two or more persons, firms, corporations or associations of persons" for several enumerated purposes, among which are: Restrictions of trade or commerce or aids to commerce; the increase or the reduction of the price of merchandise, produce or commodities; to prevent competition in the manufacture, transportation or sale of commodities; the fixing of any standard or figure whereby its price to the public shall be in any manner controlled or established on any article of merchandise, etc., intended for use within the State, or, to quote the text of the law: "To make or enter into or execute or carry out any contract, obligation or agreement of any kind or description by which they shall bind or have bound themselves not to sell, dispose of, or transport any article or commodity of trade, use, merchandise, commerce of consumption below a common standard

figure, or by which they shall agree in any manner to keep the price of such article, commodity or transportation at a fixed or graded figure, or by which they shall in any manner establish or settle the price of any article or commodity or transportation between them or themselves and others to preclude a free and unrestricted competition among themselves or others, or by which they shall agree to pool, combine or unite any interest they may have in connection with the sale or transportation of any such article or commodity that its price might in any manner be affected."

For the prosecution of this act it is provided that in the indictment it is sufficient to state the effects or purposes of the trust or combination, and that the accused was a member of and acted with or in pursuance of it, without giving its name or description, or how, when or where it was created. To secure conviction "it is sufficient to prove that a trust or combination as defined herein exists, and that the defendant belongs to it or acted for or in connection with it, without proving all the members belonging to it, or proving or producing any article of agreement, or any written instrument on which it may have been based, or that it was evidenced by any written instrument at all. The character of the trust or combination alleged may be established by proof of its general reputation as such."

Persons out of the State may be liable to indictment and conviction for committing any of the offenses enumerated in the act, which do not in their commission necessarily require a personal presence in the State, the object being to reach and punish all persons offending against its provisions, whether within or without the State.

Any contract or agreement in violation of the provisions of the act shall be absolutely void and not enforceable either in law or equity.

There is a provision, however, that the act shall not be held to apply to live stock and agricultural products in the hands of the producer or raiser, nor shall it prevent the organization of laborers for the purpose of maintaining any standard of wages.

As a majority of the trade methods now in vogue in this country usually exhibit some understanding between producer and middleman affecting prices, and as the small merchant in the country town seeks to fix a definite price on butter and eggs by agreeing with his competitors, it is hard to see how any one can do business in Texas without a complete revision of present practices. The trouble which the sub-agent might have with the general sales agent under the new N. W. D. A. plan, or the difficulties which might beset a local organization of druggists whose object is to maintain prices on proprietary goods, can only be surmised. The law apparently furnishes a rich field for lawyers, especially in the exemption of certain classes from its provisions, and the possibilities of wrangling over the extradition of persons living in another State, and the avoidance of contracts between citizens of Texas and other States, which the former State may see fit to declare illegal.

PRACTICAL HINTS.

——Dampen your duster slightly before wiping off woodwork and marble. Use a cloth as well as a feather duster if you would be thorough.

——Receipts for Success.—Mix the fresh information in the Era with your own knowledge of the trade. To be taken once a week, after meals or at any time when the mind is alive to suggestions and opportunities.

——Keep a cost book, if you use nothing more than the catalogues issued by your jobbers. Enter every article that you purchase, the date, amount and price. The mere act of keeping such a record will keep you posted on stock and prices.

——The chief causes of failure are, says an official English report, a lack of business capital, ignorance of bookkeeping, of want of attention to books and accounts, excessive trade credit given to untrustworthy customers, misplaced confidence in employees either at home or abroad, the system of accommodation bills and reckless speculation. There is a hint here for druggists.

——Stock the prescription counter with a small supply of the chemicals and preparations generally used in compounding prescriptions. It saves time to have material at hand, and further, the dispenser's attention is not so likely to be taken from the work in hand. Another hint—Don't oblige your prescription clerk while in the act of compounding a prescription to leave his work and dispense soda water.

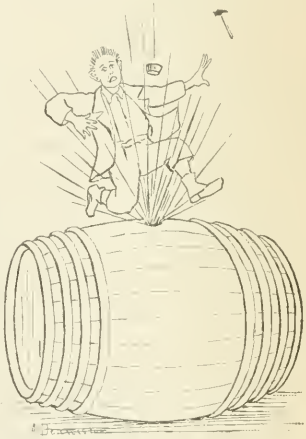
——When it is desired to cap bottles with colored glazed paper, take a piece of suitable size, round or square, and lay inside it a piece of silk paper of the same size; lay this double sheet on the cork, hold it firmly with the thumb of the left hand, while with the thumb and forefinger of the right hand it is fitted to the neck of the bottle. Tie it with a correspondingly-colored twine, and either make a bow with the ends of the twine or bring these to the top or in front of the cork, where they can be fixed either with a wafer or with a seal. Tinfoil or parchment paper is used similarly, the latter being dampened before use.

——How did your prescription trade in August of this year compare with the corresponding month of previous years? A successful pharmacist in this city has kept a record of this part of his business for the last twenty-five years. By it he is able to tell how many prescriptions he has compounded in any month, the number filled on his best and poorest days and his daily average. He is also able to tell just how much money he received for the month's work and the average price per prescription. He makes a memorandum each night of the day's work and says it takes but very little time. He deserves to succeed, because he knows just how much he is doing in that part of his business which pays him best. The idea can be carried out along other lines of trade with just as much detail and work as one wants to put into it.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

Along about this time of year cider is being made, and the druggist in country districts is or ought to be having a trade in cider preservatives. It will be a good idea to remind the farmers of this cider-preserving idea, so they will know just where to go the next time they come to town. The suggestion in our sample advertisement may also attract people in town who are not aware that cider can be preserved so that it will retain its delicious flavor during the coming months. If these people see the announcement they are quite likely to lay in a supply of cider for the winter, and they will want some of the preservative. The advertisement, therefore, has a two-fold object: it reminds regular customers and makes new ones by calling their attention to something they haven't thought of before. The druggist should post himself on the subject. Some formulas for preservatives were published in this journal Sept. 5.

(No. 32.)



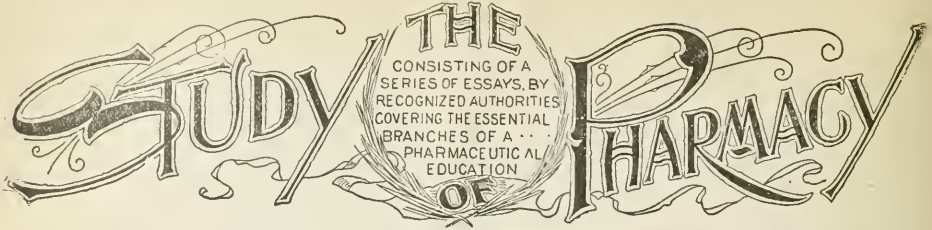
When you get a good thing—keep it. Cider is a good thing, and when you lay in a supply for the Winter, keep it from fermenting by using our Cider Preservative. It will keep it pure and sweet. It is perfectly harmless, and a package, just the size for one barrel, costs 25 cents.

KNIGHT & DAY, DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

Otto R. Kurz, Detroit, Mich.—Have been a subscriber to your valuable Era since January, 1893. I never did regret subscribing for the Era. I most emphatically state "the Pharmaceutical Era is O. K."

J. H. Weber, Cascade, Ia.—Find inclosed express order for $2, in payment for the Era for another year. Don't let me miss a single copy, as I would rather miss a meal than a copy of the Era.



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[*Continued from page 361, September 19.*]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXIV. BOTANY.

By Henry H. Rusby, M. D.
Professor of Botany, Physiology and Materia Medica, New York College of Pharmacy.

INTRODUCTION.

The fundamental facts and principles relating to matter and bodies, energy and force, have been admirably presented by Prof. Kraemer in his essay on Physics in this series and apply to Animate as to inanimate nature.

Living Bodies differ from lifeless in their ability to grow by assimilating to their own substance extraneous and dissimilar substances, as seen in the use of carbonic acid in the production of starch and cellulose. This process is called Assimilation. They consist also of more or less distinct parts, each of which performs special work differing from that performed by the other parts. These parts are called Organs and the special work which each performs is called its Function. Living bodies are, therefore, designated as Organic Bodies and the part of nature composed of them the Organic Kingdom. Of the two terms that of "organic body" is usually preferable, as it applies equally well to a body in which life has ceased to exist. A third important characteristic of living bodies which may be mentioned is their power to give origin to other independent living bodies, which, separating from their parent, or remaining attached thereto, grow into a resemblance to it. That is, they possess the power of Reproduction.

The assimilated matter of organic bodies is called Organic Matter. Organic matter may be living, as cellulose, or lifeless, as starch. It may, as in the case of the starch, be prepared for future use as food, for the construction of tissue, as in the case of cellulose, or it may exist as disassimilated matter resulting from the performance of function. The latter may still be of some service in the plant economy, or, perhaps, be entirely useless. The energy and force of living matter are called Vital. The same laws govern the conservation of vital as of other force, though the manifestation is different and the working of the law is not so patent. There is a direct ratio between vital energy and the energy represented in the inorganic matter consumed, though the relations are complex and the estimations necessarily difficult, owing especially to the direct contribution of energy by the sun.

Organic bodies are of two kinds—Vegetable and Animal—and are denominated respectively, Plants and Animals. A third class was once recognized as consisting of those not distinctively either animal or vegetable. It is not now believed that any such exist, although no one means has yet been devised for ascertaining in every case to which sub-kingdom a body belongs. This fact, however, does not imply any difficulty in applying such distinctions in pharmacognosy, for all plants and animals which contribute to the materia medica are readily distinguishable. The only known invariable characteristic distinguishing plants from animals is the ability of the former, when not modified by parasiticism, to subsist exclusively on foods consisting of inorganic matter. Still, even independent plants are not entirely devoid of ability to consume organic matter with advantage, and animals require abundant supplies of inorganic matter as a portion of their food.

There are many other characteristics which distinguish those plants which are under common observation from animals, of which the following may be mentioned:

1.—The consumption of an excess of carbonic acid over that of oxygen and the discharge of an excess of oxygen as waste.

2.—The absence of a distinct digestive cavity.

3.—The lack of the power of locomotion. This term is not at all equivalent to that of "movement," for distinct and characteristic movements are present in all plants.

The study of the organic kingdom constitutes Biology. Biology in attention to the structure of bodies is Anatomy. Biology in attention to functions is Physiology. We have therefore both animal and plant anatomy, and animal and plant physiology. Biology relating to plants is Botany. Owing to the totally different methods of examination employed in the two cases it becomes of the greatest convenience to divide anatomy, in practice, into two parts. That part depending upon observations which can be pursued without the aid of the compound microscope is known as Gross Anatomy. That which requires such aid is Minute Anatomy, or Histology. Applied to botany the latter is commonly known as Microscopical Botany, a term which, though incongruous, possesses the excellent merit of being highly convenient and thoroughly expressive. As the study of botany involves the use of physics and chemistry, it is apparent that when so applied they become parts of botany, just as botany becomes a part of physics or chemistry when applied in the pursuit of those branches. The propriety of such terms as "chemical botany" or "botanical chemistry" is thus explained.

In accordance with fundamentally different considerations which concern us in studying botany at different times, various departments of the science are recognized. When such considerations have the attainment of scientific truth as their aim, these several departments pertain to Scientific Botany, as, for instance, a study of the natural processes of fertilization of the ovule. If upon the other hand the object be the utilization of such truths in advancing the arts, they belong to Economic or Applied Botany, as, for instance, the artificial fertilization of ovules in such a way that the resulting seeds will produce new and superior varieties of useful plants.

Departments of Scientific Botany.—The departments of scientific botany, and the manner in which one may arise from the necessities of another and contribute to it, may be illustrated as follows: It being understood that no plants are now in existence which existed in the beginning, all having originated through changes effected in some manner in those which formerly existed, one of the great objects of botanical study is to ascertain the genetic relationships which exist between plants and to constitute such a systematic arrangement of them as shall, so far as practicable, indicate the lines and order of their development from others. This department constitutes Systematic Botany. Since such classification is based

[The writer's text book on Pharmaceutical Botany was in course of preparation when the present essay was undertaken, and it was hoped to carry both projects on together, so that publication could take place previous to the commencement of the fall session at the New York College of Pharmacy. This has been found impossible, so that the publication of the text-book will be delayed some weeks. The essay constitutes an abridgement of that work. H. H. R.].

chiefly upon structure it is necessary that there should be a department known as Structural Botany. Before the facts ascertained by the structural botanist can be utilized in classification it is necessary that the relative ranks of the structural characteristics should be determined. Of any two structural characteristics that which was first developed, or is the older in creation, should form the basis of the primary division of the group, the other of a sub-division. In ascertaining such relative ranks a consideration of the uses of the several characters is of great value, so that Physiological Botany or Vegetable Physiology is brought into service. The genesis of plants is in no way more certainly indicated than in the appearance of the remains of their ancestors in earth formations, the study of which constitutes Fossil Botany or Paleo-Botany. A knowledge of the geographical distribution of plants is of great service in the same direction, and this constitutes Geographical Botany. As the genesis of any particular kind of plant is frequently indicated in the early states through which an individual of that kind passes, the truths of Vegetable Embryology are of great assistance to the systematist. Each of these divisions may in turn become the principal object of pursuit and all the others become tributary to it. Each also has its peculiar phases and its subdivisions. For example, when structural botany has for its object merely the determination of the organs as they exist it becomes Organography. When such object is to determine the development of organs through the transformations of others it becomes, in a restricted sense, Organogeny or Morphology.

The ancestral organ and its developed product are called Homologues of each other, and a Homology or Affinity is said to exist between them. When they are only similar, without any genetic relationship, they are Analogues of each other, and Analogy exists between them. Morphology might, therefore, be defined as the study of homologies and analogies. As classification has been based very largely upon flower structure and fruit structure the study of these, respectively, has been dignified by the titles Anthology and Carpology.*

The description of plants in such manner that they can be recognized therefrom is called Descriptive Botany or Phytography. Botany has also numerous departments depending upon the class of plants under study, as Phanerogamic Botany, the botany of flowering plants; Cryptogamic Botany, that of flowerless plants; Mycology, the study of fungi; Agrostology, the study of grasses.

DEPARTMENTS OF ECONOMIC BOTANY.

The mere fact that botanical knowledge is utilized in a certain art is not sufficient to establish a separate economic department of the subject. This depends upon its application in such a way as to demand and receive special researches of a scientific nature in the performance. The history of the arts shows that very rarely have the investigations of scientific botany proceeded far enough or its deductions been so presented, that the economic botanist has been enabled to depend upon them alone. Almost invariably has he been obliged to extend and modify them in special directions. Upon such facts depends our recognition of the absolute necessity of scientific study and training as a foundation for high art in any department. The departments of economic botany are named from the particular arts for the advancement of which they are established. Agricultural Botany is subdivided into a number of different departments, such as Agrostology, or Graminology, the study of grasses and of their culture; Horticulture, the study of garden plants and of their culture; Floriculture, Pomology and Forestry. Doubtless a very large and important department will yet be established in the study of medicinal plants and of their culture. The term Medical Botany is self-explanatory as to its general nature. In use, however, it should be more strictly regarded than is customary. The term originally included all botany relating to medicinal plants; but with the development of Pharmacy the greater portion of what was once comprised in the former term has naturally and permanently established itself in the form of the separate department Pharmaceutical Botany. Medical Botany properly concerns itself with the medicinal properties of plants, the localization of the proximate principles of the latter, their uses, including the principles (but not the practice) of their preparations as based upon such facts, and their classification in view of medical considerations.

PHARMACEUTICAL BOTANY.

In its widest scope Pharmaceutical Botany would include the classification, phytography, histology, distribution and culture of medicinal plants; the collection, preservation, packing, transport, commerce, identification and selection, composition and methods and processes of preparation for use of the drugs derived from them. From this it would follow that the pursuit of pharmaceutical botany would demand a thorough knowledge of nearly all departments of scientific botany. This conclusion is to be modified, in view of existing conditions, in important directions. The pursuit of the study to such an extent would almost necessarily involve the average pharmacist, at least in this country, in financial failure, through the inattention to practical affairs which would ensue. It is the peculiar office of the teacher of technical science to place its practical benefits within the reach of his students while relieving them from attention to the greater portion of the field. It is not to be overlooked, however, that while such a process of extensive exclusion is possible, utility requires that a corresponding degree of elaboration shall be attained in special directions. The faithful teacher, moreover, will not refrain from urging as liberal an indulgence in extra-utilitarian study as individual circumstances will properly permit. The directions in which botanical knowledge is most useful to practising pharmacists will determine the most important requirements for botanical study. The identification and selection of drugs—that is to say, Pharmacognosy—constitute the principal field for the exercise of botanical knowledge on the part of the pharmacist, and it is those departments of botany which bear directly upon this subject, and upon Materia Medica, to which attention will be restricted in this essay.

It is convenient to divide botanical pharmacognosy, like vegetable anatomy, into the gross and minute, the latter concerning itself with those characters which require the compound microscope for their demonstration. Remembering that vegetable drugs may consist of the entire plant or of any one or more parts thereof, and that they may reach the pharmacist in any condition, from that of unbroken or even fresh to that of a fine powder, the department of botany necessarily pertaining to pharmacognosy and materia medica will appear as follows:—A knowledge of classification or systematic botany, while a prime necessity in medical botany, there being a distinct co-relation between natural classification and medicinal value, is one of the less practical and essential elements of pharmaceutical botany. Still, it aids the student in the application of phytography and especially in understanding distribution, and it serves to crystallize and systematize his knowledge of groups of medicinal agents. A good working knowledge of phytography may be regarded as the leading essential. If the drug is to be sought by the pharmacist in nature, he can recognize it only through phytography, whether that knowledge be acquired through folk lore or book lore. If, on the other hand, he seeks the crude drug in commerce, he merely restricts his phytography to the plant part under inspection, and so far from being by this consideration relieved from phytographical labor, its requirements are the more exacting and its methods the more refined, as the recognition and estimation of a fragmentary representative becomes more difficult than that of the complete individual. As "Phytography" in its ordinary employment is about equivalent to "the study of the manifest organs of plants," or of their gross units of structure, morphology becomes the key to the situation. He who endeavors to understand and familiarize himself with plant structure by regarding the organs in a disconnected and arbitrary view encounters a tedious and uninviting task, and it may truthfully be said that it is this

*The classification of plants upon the basis of anthology and carpology alone has prevailed largely in the past. The more recent development of the department of minute anatomy and even of physiology has indicated an importance not previously suspected of the facts so ascertained in establishing relationships, and systematic work which does not take due cognizance of these subjects is not likely to be accepted in future. At the same time it is to be noted that the results so reached are with but few exceptions only corroborative of the deductions of the departments above mentioned.

method or custom which has rendered the study of botany very much of a *bete noire* in pharmacy. Proceeding upon the basis of morphology and recognizing in the plant a structural unit through the transformations of which the higher or more recently developed organs have arisen, the study becomes in reality as in name, natural history, and as full of meaning and as entertaining a subject of thought as history of any other class. Such pleasures, however, do not constitute its justification in pharmacy, but rather the fact that by so studying the pharmacist effects a great economy of time and fixes his knowledge beyond the possibility of ready dislodgement. When drugs come to hand in a comminuted condition, as they really do in a vast majority of cases, the compound microscope is the only resource, and the department of plant histology becomes the foundation of work. As will be shown farther on, the greater portion of this subject can be passed over, but that portion which receives attention, permitting the recognition of detached tissue elements and the determination by their examination of their source, requires observations quite as careful and knowledge quite as accurate as are called for in any other portion of the field. In pursuing these observations micro-measurement and micro-chemical manipulation are indispensable, and a lack of ready facility in drawing will be appreciated with regret.

An intelligent knowledge of the distribution of medicinal plants and of the collection, preservation, packing, transport and commerce of drugs manifestly constitutes the highway to a commercial success, and it is to a considerable extent the demands of this portion of the pharmacist's work which, under existing conditions, prevent a closer attention to scientific details.

The cultivation of medicinal plants is as yet in its infancy. Its development will call for a very extensive additional equipment on the part of the pharmaceutical botanist in the direction of plant physiology, this depending in turn upon a great extension of the department of histology in connection with physiological chemistry.

The composition of drugs and the methods and processes of preparing them must be regarded from a chemical standpoint, and it is only by virtue of association that we regard this portion of pharmaceutical chemistry as pertaining to pharmaceutical botany.

Finally we note that only an insignificant portion of the materia medica originates in flowerless plants, so that the great department of cryptogamic botany may with profit be dismissed from our consideration as relates to detailed treatment.

O DER OF SUBJECTS.

In attempting a comparative view of the series of plants it is unquestionably well to begin with the lowest form and follow the line, or rather lines, of upward development. But in gaining our first knowledge of the structure of the plant organism, sound and accepted rules of pedagogy require that we begin with the more obvious characters of the higher plants, and pursue the analytic method, so far as the special conditions of the case will permit.

It has been repeatedly remarked that plant life is a circle of germination, growth and reproduction, passing again into germination. It therefore makes little difference, on general principles, at which point we enter upon our series of observations. Begin where we will, we must labor at the disadvantage of requiring more or less knowledge of facts preceding our point of departure, and therefore not as yet studied. In special cases, however, there is much room for choice, and there are many reasons why we would advise pharmaceutical students to commence by observing the organ concerned in reproduction, namely, the flower.

Not until mankind shall learn to breathe by some different method from that followed by his ancestors will any method of studying botany become popular which passes over the rose, buttercup and aster for the making of microscopical preparations of myxomycetes, or the sectioning and staining of tissues.

ANTHOLOGY.

THE GENERAL NATURE OF THE FLOWER.

In order to accurately understand the structure of the flower we must first consider the general characters of its structural units, pertaining in turn to the stem upon which the flower is borne and of

Fig 1.

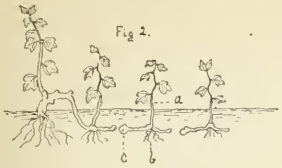
which it is a part. These are well displayed in a willow twig (Fig. 1), presenting a main stem, with perhaps short branches below and leaves above. These leaves are found upon examination to arise at regularly occurring points, thus dividing the stem into parts which are seen to possess definite and uniform characteristics, each being complete in itself. In common language, these parts are called "joints" and technically, Phytomers. The upper portion of each is commonly somewhat enlarged and it possesses the power of giv-rise to three new structures:—(1) the leaf (a), or in many plants a circle of two or more leaves; (2) a superimposed phytomer, continuing the growth of the stem in the direction of its original axis; (3) a branch (b), extending the growth of the stem in a lateral direction, or, if there be more than one leaf, then a corresponding number of such branches. Upon the upper portion of the stem the branches are seen still undeveloped, and in the form of buds (b). The bud originates, with rare exceptions, at the point where the leaf emerges from the stem and upon the upper side of the former. This point is known as the leaf-axil. The portion of the phytomer which gives origin to these three structures is called its node (c). The portion intervening between two nodes is called the internode (d). The internode does not normally possess the power of giving origin to new parts. The branch is found, after development, not to differ essentially from the stem, so that a branch may be regarded as a lateral stem, secondary, tertiary, and so on. In noting hereafter the development of the other parts of the plant out of those here named we shall frequently find the latter so modified that we shall be unable to recognize them by the ordinary methods of examination, and the relative positions which they occupy will prove an important guide. A correct understanding of morphology requires, therefore, that we keep in mind the following facts relating to the internode, node, leaf, branch and superimposed phytomer.

1. Any of them may remain more or less undeveloped.
2. There is a definite and regular arrangement as to position of the leaves upon the stem in most cases.
3. Several leaves and as many branches may develop from one node.
4. The branch normally develops in the leaf-axil, and conversely a leaf, in some form, is normally at the base of each branch in its rudimentary condition.
5. All growth developing in the leaf-axil is a manifestation of the branch.
6. All organs of the plant which we consider, except the root, are constructed of the above parts in some modified form, or are appendages upon them.

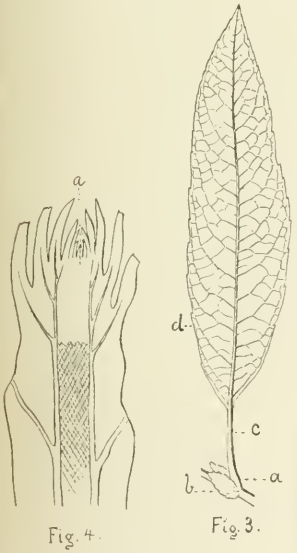
Certain necessary qualifications of these statements can be made only when we come to the study of the stem, and these do not involve any failure to understand correctly the principles of anthology.

Before proceeding to consider the forms of structural modification of the phytomers in the development of the flower certain important properties pertaining to them, in addition to their ability to multiply and grow as above indicated, should receive attention in order that later a comparison of reproductive methods can be instituted. It is found that if, in the case of certain plants, a stem be laid prostrate in the soil, its connection with the parent not destroyed (Fig. 2.), its nodes, in addition to producing branches (a), may develop roots (b) similar in structure and function to those of the parent. If now the phytomers be separated through some

portion of the internode, they will heal the wound so produced by the formation of a callus (c), continue to grow independently



and become plants similar to the parent. Such a process, here of artificial production, is of frequent natural occurrence and is called Propagation. It is seen to be purely vegetative, and may be defined as the production by vegetative processes of a plant body growing independently and separately from that from which it was derived. The question has been raised as to when the new plant becomes an individual, or whether it does so at all. Their conduct after separation shows clearly that they previously possessed perfectly independent powers of support. If an individual after separation, why not before,



and why is not each phytomer upon the plant an individual? If, upon the other hand, it be considered that even separation does not involve individuality, then the vast number of propagated plants which may result from an original seed must constitute but a single individual.

Various other modes of stem propagation may here be referred to, and it may be remarked that the process is not confined to the node, occurring in exceptional cases from fragments of the internode, root, or even leaves. The phytomers, instead of remaining attached during the rooting process (Layering) may be first separated (Propagating by Cuttings). The cutting, then called a Scion, may be inserted (grafting) or a bud may be so inserted under the bark of a living stem (Budding), or may be caused to take root in the soil. Propagation by tubers or parts of them, as in the case of the potato, is identical. It may be remarked in passing, that in the seed itself nature resorts to a similar method, for the contained embryo consists of one or more phytomers.

Roughly stated, the phytomer may be said to consist of three portions: (1) a framework consisting of strands of conducting vessels and commonly of fibres; (2) between and around the last a quantity of soft, non-fibrous tissue; (3) a covering, membranaceous when young and changing greatly with age. All these parts are extended into the leaf, the first existing in a system of branching ribs or veins, the second as a filling in the meshes of the former, and the third as a highly developed epidermis. Morphologically considered, the typical leaf (Fig. 3) consists of three parts which, like those of the stem, will be considered in detail hereafter. The Base (a) bears the Pulvinus or organ of attachment to the stem, and upon either side a membranous expansion (b) called the Stipule. The stem of the leaf (c) is called the Petiole. The blade (d) is called the Lamina. In some plants an additional organ, the Ligule, develops as an appendage upon the face.

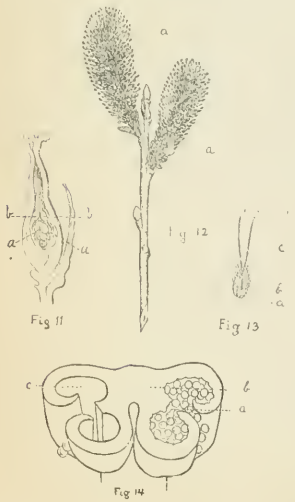
If we could observe the phytomers of such a twig during the process of formation in the bud (Fig. 4) we should find them in a more and more rudimentary condition toward its apex or centre until we reached an ultimate growing point (a), where development had not yet manifested itself. Yet this point would possess the power, under proper conditions, of continuing indefinitely the process of development and growth of phytomers. It therefore may be said to represent a certain amount of vital energy or potential growth, though by this it is not meant that such energy is actually stored there. Now, our fundamental ideas of flower structure rest upon the fact that this vital energy or potential growth may be diverted from the production of phytomers and leaves such as we have been considering and may produce in their stead other structures in which resemblance to and variation from them are mingled in variable proportions. These new structures we then call Modified Phytomers and Modified Leaves. The student should here dwell upon this point until the exact

meaning of these terms becomes clear. When hereafter he encounters, as he very frequently will, a reference to some organ being modified or transformed, it must never be understood that it was first produced and then changed. The exact meaning is that the change takes place in the direction or exercise of the energy which is to produce the modified structure.

Such a diversion of energy may be caused by accident, as seen in the so-called "Willow-cone" (Fig. 5), resulting from an injury inflicted by an insect in depositing its eggs in the centre of a bud. A portion of the structures, having been originated before such injury, will reach a partial development, but further production is checked and a distorted product results.

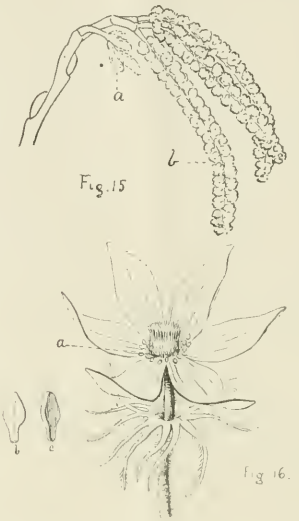
In the case which we have to consider the modification dates from an earlier

stage and is natural and physiological, instead of pathological, as in the case of the willow-cone. Fig. 6 represents one twig after the fall of its leaves in the autumn. Each bud is seen protected by its lowest leaf, permanently enlarged and developed into a covering scale. At the base is seen the scar of the leaf in the axil of which the bud was developed. Fig. 7 illustrates the twig in the spring after early growth has enlarged the buds. In Fig. 8a the covering scale has fallen, the branch has developed, and its structure can be seen to consist of a great number of very short phytomers, each of the crowded nodes bearing a scale (c) and in its axis (Fig. 9) a peculiarly shaped body. That the scales are modified leaves is proven not only by their position, as previously explained, and further explained in our study of the leaf, but by the fact that in exceptional cases the branch will produce them in a form intermediate between that of a scale and of an ordinary leaf (Fig. 10, a). Such being the case, anything produced in their axils must, according to the same laws of position, be modified branches. We must therefore regard the body shown in Fig 9 as a modified branch, one of a great many produced upon the parent modified branch shown in Fig. 8. How profound is the modification which has taken place in the latter can be appreciated from a consideration of its reduced size, for it is now approximately full grown. The great number of phytomers upon it, had they reached the form and extent of development reached by those in Fig. 1, would have produced a branch many feet, or even yards, in length, whereas in their present form they will



produce a structure only an inch or two long. As we shall soon see, increased complexity of structure has replaced the greater amount of tissue growth of the leafy branch.

Examining now the little modified branch (Fig. 9) we observe that it presents two uniform portions or halves, united into a single body except at the tip, where they are separate. In exceptional cases we find this separation extended down ward, perhaps even to the base of the body, and each of the separated portions

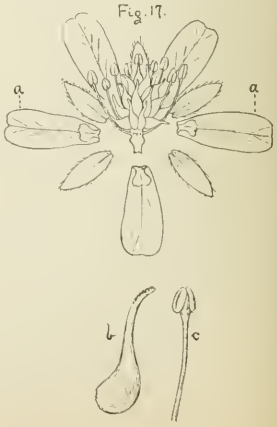


expanded, formed and veined very much like a small leaf, which, in fact, it is. The little branch a-d is then to be regarded as bearing two leaves which have been developed in a united condition. Upon dissection (Fig. 11) the body thus formed is found to be hollow at one portion, bearing two slight projections upon its inner wall (a), and upon these a number of minute rounded bodies (b). If allowed to develop and mature under the requisite conditions we should find that these bodies had become seeds. The structure producing them we now see to be *a reduced branch, modified for the production of seeds, and this constitutes our definition of The Flower*

It does not follow that because constructed for the production of seeds a flower is always capable of performing this office independently, and, indeed, such is not the case with the flower under consideration, which is an Imperfect one. Its minute structure, to be described in a succeeding chapter, shows it to contain within the bodies which are to become seeds, minute structures called Macrospores, which produce cells comparable, in their essential characters, to the ova of animals, and requiring a similar fertilizing process to cause their development. Flowers, or at least certain of their products, are thus seen to possess sex and to be capable of performing sexual reproduction, or Reproduction Proper. Commonly both sexual parts are present in one flower, and of these the female is called the Gynaecium, frequently represented by the symbol G. The gynaecium, or one of its parts when these are entirely separate from each other, is called a Pistil. This flower possesses only gynaecium, and is therefore often spoken of as a "Female Flower," technically Pistillate, and indicated by the symbol ♀ This gynaecium consists of but a single pistil, but the number of pistils a gynaecium may possess is indefinite.

Before considering the structure of the pistil we will examine a "Male Flower," borne, in the case of the willow, upon a plant which produces no pistillate flowers. Fig. 12 illustrates branches (a) crowded with male flowers, each (Fig. 13, a) in the axil of a scale (b). In this case the two modified leaves forming the flower are entirely separate and the hollow portion of each (d) is small, borne at the summit of a stem (c) and filled (Fig. 14) with a great number of minute rounded bodies. These correspond, though of the other sex, to the macrospores which we have found the pistillate flower to produce, and they are called Microspores, in flowering plants called Pollen-grains. They possess the power of germinating, growing and producing Male Cells, comparable to the spermatozoids of animals, and requisite for the fertilization of the corresponding element produced by the macrospores. The male portion of a flower is called the Androecium, frequently indicated by the symbol A, and it consists of one or more Stamens, in this case of two. As this flower consists only of androecium it is known as a Staminate Flower, indicated by the symbol ♂

A vessel in which one or more spores is developed is called a Sporangium, Macrosporangium, or Microsporangium, as the case may be, and a modified leaf producing sporangia is a Sporophyll. A plant body bearing spores is called a Sporophyte. When, as in this case, the macrospores are produced by one plant



and the microspores by another, the plant is Dioecious. If in addition each plant produced some perfect flowers it would

be Dioeciously Polygamous. If, as in the Alder (Fig. 15) pistillate flowers (a) and staminate flowers (b), or, otherwise stated, spores of both sexes, are produced by the same plant, it is Monoecious. If in addition the plant bear some perfect flowers it is Monoeciously Polygamous. When, as illustrated in Figs. 22, 24, &c., the flower possesses both gynaecium and androecium it is Hermaphrodite, indicated by the symbol ☿ Hermaphrodite flowers are not always perfect, as one of the organs, while perfect in form, may be functionless. Imperfect flowers present all intermediate grades between that last mentioned and that in which there remains no trace of the lost part, or in which it has even been transformed into an organ of a different kind.

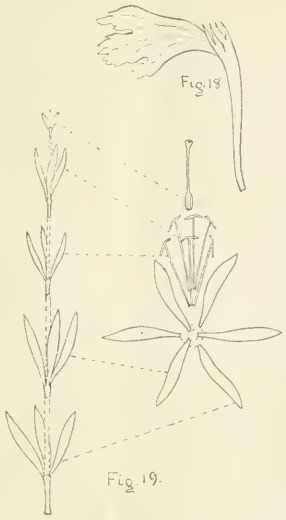
The parts of the stamen and pistil will now be named.

Of the Stamen.—The stem-like portion (c) regarded as corresponding to the petiole of the sporophyll, is the Filament. The portion containing the spores or pollen is the Anther (d). The two halves of the anther, each corresponding to a half of the lamina of the sporophyll, are the Thecae (sing., Theca) (Fig. 14, a). At an earlier stage each theca is subdivided into two Locelli (Fig. 14, b), and in many plants this condition persists to maturity. The portion connecting the thecae with one another and with the filament is the Connective (c). Our detailed study of the stamen, as of the pistil, may here be anticipated by the statement that any or all of their parts may in other flowers be found modified in an extreme degree by reduction, exaggeration or special form of growth, and may bear appendages in great variety, their true nature in many cases being thus masked. In many cases an appendage apparently consisting of a modified stipule exists.

Of the Pistil.—The stem-like base (Fig. 9 a), not present in most flowers, is the Stipe or Thecaphore. It represents the united petioles of the sporophylls. The body of the pistil represents either a single sporophyll having its edges brought together and united with the upper leaf-surface inside of the cavity, or, as in this case, more than one sporophyll with the edges of one meeting those of the other in the same manner, or in many cases in a different manner. The edges along the hollow portion, after meeting, project inward more or less. Elsewhere, for a greater or less distance, they may be everted.

The seed rudiments which produce and contain the macrospores are the Ovules (Fig. 11 b). The outgrowth from the inner wall of the ovary upon which the ovules develop is the Placenta (a). The hollow portion of the pistil, containing the placentae and ovules is the Ovary (Fig. 9 b). The divisions of the ovarian cavity, which sometimes exist, are called Cel's (Fig. 198, &c.), and the partitions which separate them are called Septa or Cell-Walls. A point upon a pistil (Fig. 9 d), which lacks its epidermis and permits entrance into the ovary of the pollen-product is a Stigma. A usually non-hollow portion connecting the stigma to the ovary and narrower than the latter is the Style (Fig. 9 c).

Since the androecium and gynaecium are capable of producing seeds without the necessity for other floral parts they



are commonly known as the Essential Organs, other parts as the Non-Essential Organs.

The danger of accident as the result of blows, punctures, erosion, or even changes of temperature, to the complex mechanism and delicate structure of the essential organs, and the resulting necessity for their protection, is obvious. In the case under consideration the flowers are so closely crowded upon their supporting branch that their subtending leaf-scales afford the necessary protection. But commonly this is not the case, and the flower must provide its own protecting organs, if it have any. It must be borne in mind, however, that protection is the least important office which such organs fulfil.

A series, or apparent or real circle, of such modified leaves, underneath or surrounding the androecium, is displayed in the flower of Pulsatilla (Fig. 16) and constitutes its Calyx, frequently indicated by the symbol K, the several leaves being called Sepals, or Calyx-Lobes, in accordance with conditions to be considered hereafter. Commonly there is a second circle between the calyx and androecium, as in the buttercup (Fig. 17 a), and this is called the Corolla, frequently indicated by the symbol C, its several leaves Petals or Corolla-Lobes, according to their condition. Rare cases occur in which, although but a single circle is present, it is regarded as a corolla. The space between two adjacent petals or corolla-lobes—and the same is true of a similar space between any two organs or divisions standing side by side—is called the Sinus. Occasionally the petals will be numerous, forming more than one circle. Petals and sepals are normally not composed of distinct parts, unless it be by a narrowed insertion, called the Unguis or Claw, which is frequently present (Fig. 18 a), the broad part being called the Lamina, Blade or Limb. They are then said to be Unguiculate. Usually their form is more obviously foliaceous than that of the stamens and carpels, and frequently in color and texture, particularly of the sepals, they are also foliaceous. The calyx and corolla may, however, possess any color or texture and they may be similar or dissimilar, usually the latter, in this feature. The color and texture of the petals, as of the sepals, may even differ among themselves. The calyx, or the calyx and corolla together, when both exist, constitute the Perigone, less aptly called the Perianth or Floral Envelopes. A flower possessing both calyx and corolla is called Dichlamydeous; one with calyx only, Monochlamydeous, indicated by Co, and one with neither, Achlamydeous or Naked, indicated by Ko-Co. Those which are not dichlamydeous are called Apetalous. A flower possessing calyx, corolla, androecium and gynaecium is called Complete. Some plants habitually produce a portion of their flowers without essential organs (Fig 23 a). Such flowers are called Neutral. It must ever be borne in mind that all these parts are constructed of the modified leaves of the floral branch. The latter is called the Torus or Thalamus, or, less desirably, the Receptacle. The torus may, therefore,

be defined as *the reduced branch which gives origin to the parts of the flower* (Fig. 16 a).

The relation of these parts to their branch may be displayed by comparing the leafy stem of a lily with the dissection of a lily flower (Fig. 19). What appears to be a double calyx, or one calyx

outside of another, is frequently seen. This appearance is sometimes due to the actual manifestation of two circles, as in the mustard; at others to appendaging (see Fig. 31); sometimes to a circle of modified foliage leaves standing close to the torus (Figs. 20 and 21 a), and known as the Epicalyx. When, as in the last case, the flower has in addition a calyx and corolla the real nature of the epicalyx is readily understood. But when (Fig. 22) there is no corolla, the calyx (b) being colored like one, the epicalyx (c) may easily be mistaken for a calyx. In this instance, however, it may be seen by turning back the epicalyx or removing the calyx (Fig. 23) that its point of insertion is upon the stem below the torus (a), so that it can be no part of the flower proper. The divisions of the epicalyx are called Bracts, though the term is not restricted to this use, as will be seen further on.

(To be continued.)

[Special Contribution to the Era.]

SOME FACTS REGARDING HYDRASTIS CANADENSIS.

By Alfred R. L. Dohme and Herman Engelhardt.

Last year at the meeting of the American Pharmaceutical Association at Asheville, one of us presented a paper in which it was stated that most probably hydrastine was contained in golden seal root in the free state, as some hydrastine had been obtained from the root by treating it with a neutral solvent, benzine, in the cold. These experiments were made with dried root only and were merely qualitative in their character. During the discussion subsequent to the paper the question was asked if no experiments had been made with fresh root; this was answered in the negative, the promise being made, however, to take up the work with fresh root when the opportunity presented itself. This has been done during the past summer and the results of this work will be presented below. As it is desirable to have some reliable method of assaying this drug for hydrastine, some experiments were also made with this end in view, using the methods of Keller and Linde.* These methods are:

Keller's method.—Take 12 gm. powdered root. Shake with 120 gm. ether for 10 minutes. Then add 10 cc. ammonia (sp. gr. 0.96) and shake for half an hour. Add 15 cc. water and shake for a few minutes, when the root will ball together. Pour off 100 gm. supernatant ether. Extract this in a separating funnel with three portions of dilute hydrochloric acid (1 per cent.). To combined acid solutions add 30 cc. ether and sufficient ammonia to render alkaline. Repeat twice with 20 cc. ether and evaporate the ethereal solutions in a tared dish. The increase in weight multiplied by 10 gives the percentage of hydrastine in the root.

Linde's Method.—As originally published, this method was intended for fluid extracts and was modified by us so as to render it applicable to the powdered drug. As modified it is: Twenty gm. of powdered root are macerated for 24 hours with a mixture consisting of 2 cc. glycerin, 40 cc. water and 80 cc. alcohol and frequently shaken; 61 cc. = 10 gm. drug were filtered off, evaporated on a water-bath down to 5 cc., washed into a 100 cc. measuring cylinder with a little water and filled up to the 10 cc. mark with water. After adding 10 cc. petroleum ether, 50 cc. ether and 5 cc. ammonia (10 per cent.) the liquids were vigorously shaken. Upon separation of the liquids an aliquot part of the petroleum ether, ether mixture, was shaken in another 100 cc. measuring cylinder with 10 cc. of a 5-per-cent. hydrochloric acid solution. The ethereal solution is next pipetted off and the acid solution again shaken with 30 cc. of ether and this again pipetted off. Then ammonia is added to alkaline reaction and 50 cc. ether added; 40 cc. of this ethereal solution are evaporated in a tared flask and weighed. Linde states that 50 cc. are to be drawn off and evaporated, but this we found impracticable, thus rendering a slight calculation necessary.

By applying these two methods to samples of dried and fresh drug we found that dried golden seal root contained 2.62 per cent. of hydrastine by Keller's method and 3.14 per cent. by Linde's method. Fresh root contained 2.32 per cent. by Keller's method and 2.42 per cent. by Linde's method. The fresh root was found to contain 50.4 per cent. of moisture and the calculations in case of the fresh root were based upon this fact. Linde's method hence appears to be preferable to Keller's method for hydrastine. Next an effort was made to determine the amount of hydrastine in both the fresh and dried root that was not in combination with an acid, as well as the amount that was combined with an acid. What this acid is has not yet been determined.

Twenty gm. of powdered golden seal root were macerated for 24 hours with 80 gm. of benzene and the benzene solution, which was slightly brown in color, filtered off. The process was repeated and the drug finally washed several times with benzene and ether. The combined benzene and ether extracts and washings were extracted with a 5-per-cent. solution of hydrochloric acid.* The acid solutions were made alkaline and extracted with ether. On evaporation of the ether crystals of hydrastine were deposited weighing 0.097 gm. Hence 100 gm. of dried golden seal contained 0.485 gm. hydrastine in the uncombined state. This root assayed 2.62 per cent. hydrastine by Keller's method, of which 0.485 is 18.5 per cent. The residue, after the extraction with benzene and ether, was treated by Keller's method of assay and yielded 2.13 per cent. hydrastine, which is 81.1 per cent. of the total hydrastine found in the root by Keller's method. Hence we find that 18.5 per cent. of the hydrastine in dried golden seal root is in the free state and 81.1 per cent. is combined with acids. Similarly treated, the fresh root yielded the following results: 31.7 per cent. of the hydrastine is in the free state and 66.8 per cent. is combined with acids. The shortage of 0.4 per cent. in case of the dry root and of 1.5 per cent. in case of the fresh root is to be accounted for by the fact that it is very difficult to get an absolutely uniform sample, especially in case of the fresh root. The crystals resulting from the benzene and ether extracts of the root were found to melt at 135° C., which is the melting point of hydrastine. These crystals were invariably accompanied by a small amount of a pale-yellow resinous body, which could not be made to crystallize and was hence not determined. Whether this is the canadine of Schmidt could not be ascertained. We hope to be able to report upon this and the acid with which hydrastine is combined in the drug later.

Baltimore, September, 1895.

* Pharmaceutische Centralhalle, June, 1895.

* It should be mentioned here that it had been previously ascertained that the hydrastine was present in the benzene in the free state, as crystals of it were obtained on evaporating the colored extract. The resolution and reprecipitation were for the purpose of purification merely.

THE ATTITUDE OF PHARMACIST AND PHYSICIAN.*

By A. L. Johnson.

There are many influences during these times of tense commercial strife which are tending to the belittlement of pharmacy as a profession and to the curtailment of profits in the legitimate drug trade. Evidence of these influences is patent in the development of the cut-rate and department store, the introduction of proprietary medicines, the use of tablets, ready-made prescriptions and their concomitants, and in the increase of dispensing by the physician. To successfully combat all these influences is impossible, but those which depend upon the action of the physician should be subject to the studied influence of the pharmacist. This is not a subject for legislation or the organized action of pharmacists as a body, but one which must be worked out alone and must depend upon the individual effort and influence of each pharmacist with the physicians of his immediate constituency.

To influence and control political bodies is supposed to require what is called diplomacy. We look upon the diplomat, however, as a man of more policy than honesty of purpose. The doctor as exponent of the "divine art of healing" has a right to expect and must receive the honest support of the supplementary art of pharmacy. The doctor as a human being may be amenable to the exercise of diplomacy, but the doctor as a scientist is certainly amenable to the expression of facts, and it is by facts that the pharmacist as a scientist should gain the confidence, control and support of the physician.

There is probably no branch of science in which there has been such rapid and

* Read before the Nebraska Pharmaceutical Association, June, 1895.

continued improvements and in which new discoveries have unexpectedly contributed so materially to advancement as the study of medicine. This has led the physician to be in many cases oversanguine and ready to adopt a new treatment in the hope that it will be all that is claimed for it and possibly more, and the result of these conditions becomes in time no small tax on the druggist would he be prepared to supply the transitory demand which is thereby created.

Advantage has been taken of the spirit of investigation on the part of the physician in the introduction and wide advertisement of alleged new remedies, many of which are sophistications, and the same feverish desire to obtain the best results in their work has been played upon in the same way to breed what amounts to a lack of confidence in the pharmacist's judgment, as evidenced by specifying the A, B or C brand of whatever drug or pharmaceutical the prescription may call for. Whether the specifying is by means of some fanciful title or writing out the name of the favorite manufacturer is one and the same thing. It is an infringement on the rights and a reflection on the ability of the druggist, and is withal expensive.

To enlarge on some of these common disturbing elements which are the bête noire of every dispenser, and to encourage as much as may be their opposition and possible elimination is the purpose of this paper. To attain this object by acquiring the full confidence of the physician through expressed evidence of a superior knowledge of drugs and their combinations, and so being able to influence and control the character of the prescription, will be the burden of proof.

It goes without saying that a prime necessity of the successful prescription business is the patronage of the prescribing physician. Following, therefore, the old recipe for making a certain meat pie, first catch your doctor. There are a good many ways of accomplishing the same object, and we are reminded that circumstances sometimes alter cases, but there are many ways of doing things that cost more than the thing is worth. The author of a paper of this character has the advantage of being able to treat with ideal conditions, and he can therefore unhesitatingly say that the first thing to do to win a physician whose patronage is worth having is not to patronize him. Do not give him to understand that your cigar case was filled especially for his benefit, or that your stock of perfumes was put in with particular reference to the gratuitous needs of his family and friends. On the contrary, give him to understand that you understand your part of the medicine business. Let him know that his prescriptions will be filled intelligently and accurately and with pure drugs of standard activity and strength. Give him to understand that you yourself know of the quality of the drugs you dispense, that you do not depend upon what somebody says, or on reputation or advertisements, but are yourself as a pharmacist able to judge of the quality of your stock, and that you issue only products of assured value. Having established this fact you will not be troubled by "doubting Thomases," prescriptions in which every other item, it may be, specifies the brand of this, that or the other manufacturer. The wholesale druggist is the only one who can afford to carry a wholesale stock. Let the retailer do the specifying and do it intelligently—it is his prerogative.

Let us now consider some of the fallacies of specifying. A product which enjoys considerable specification at the expense of the druggist is syrup hydriodic acid, a pharmacopœial preparation which any pharmacist can make at 30 cents a pint and can buy from any manufacturer at 50 cents a pint. Now, syrup hydriodic acid, U. S. P., is a definite chemical compound which the merest tyro can pronounce upon as right or wrong having once seen the article. As the Pharmacopœia states, it is "a transparent, colorless, or not more than pale, straw-colored liquid." If it does not answer to this description but has turned dark it is decomposed and is not fit for use, and that is all there is of it. Whenever and however made and by whom is obviously and wholly subservient to this condition, while, as a matter of fact, there are probably more packages of some flavored proprietary article on the druggists' shelves in a decomposed state than any other.

As showing the foundation for much of the specifying I may relate the substance of a personal interview not long since, which, as it happens, was upon this same article. I asked the doctor if he used syrup hydriodic acid and he replied that he did and volunteered the information with assurance that he always specified So-and-so's. I asked him why he specified that particular one and he said that it was because a professor in his college some years ago had explained to the class that it was the best. Having ventured some remarks upon the keeping qualities of respective brands, he hastened to enlighten me and presented with apparent pride a sample of the syrup he praised, and which was as black as the fluid extract of gentian, and which, so far as I could judge, met with his entire approval.

Another form of specifying which is equally inimical to the interests of the druggists is found in the fanciful-named or semi-proprietary preparation. Ethpharma-proprietary preparation is the recently coined term for these products.

The demand for these articles, which in most instances are well known and common remedies in a new guise, is in some cases fast monopolizing the prescription business, as they are sold in small packages at high prices by virtue of the rechristening which they have received. The immortal Shakespeare has told us that "a rose by any other name would smell as sweet," but present conditions of the drug business, it would seem, are not amenable to Elizabethan philosophy. A mixture of boracic and salicylic acids, a solution of phosphate of soda and citric acid, a combination of acetanilid with bicarbonate of soda will not answer unless dispensed under fanciful names.

It is futile to assert that this class of preparations cannot be duplicated by any skillful pharmacist who has the facilities and the time and patience to experiment on them, and it is unreasonable to believe that any reasonable physician when he once understands the true character of such preparations will be unwilling to have the less expensive and more ethical product used on his prescriptions.

The following incident which occurred not very long ago can hardly be called fairly representative of either class upon which it reflects, but it clearly shows the receptive attitude of the physician and the ease with which he may be led, even in the wrong way; but it also shows that one should be positive of his position before inaugurating reforms of this character. The doctor startled No. 2 by asking him if it was a fact that "dermatol" was nothing more than a mixture of subnitrate of bismuth with inspissated ox-gall, and being assured that he must have been misinformed he replied that a representative of one of the largest manufacturing houses in the country had told him that they had a scientific substitute for dermatol and that that was all there was of it. Such stupid guesswork will hardly help to establish the confidence of the physician, and affords good capital for the local druggist to work upon.

It is far from the purpose of this paper to be entirely depletive, for new products of merit are continually being introduced. It should be the policy of the pharmacist to investigate as carefully as possible all new products; anticipate the doctor in these matters and call his attention perchance to new products which have the elements of merit. By making it a study to please and instruct the physician, and showing an honest desire to aid him in his work, it should be possible to so gain his confidence and influence his support of the profession of pharmacy as to add to both the dignity and the competency of the calling, and these are the considerations wished.

From some of the instances above noted it is hoped that it may be inferred that the position of the pharmacist entitles him to a completer knowledge and to the exercise of a better judgment in pronouncing upon the quality of drugs than the physician can ordinarily attain. And from this position we would have him appear as the doctor's consultant in the matters of specification, new remedies, etc., rather than, as now sometimes held, the slave to his temporary fancies and groundless prejudices.

This is the attitude which we would have the pharmacist hold to the physician, and one which, if attained, will successfully meet many of the counter-influences which are now working against him in the maintenance of the dignity and the compensation to which he should be justly entitled by the profession of pharmacy.

A. PH. A. PAPERS.

A METHOD FOR THE ESTIMATION OF STARCH IN POWDERED ELM BARK.

By W. B. Day, Chicago.

A short time ago, at the suggestion of a friend, the writer undertook a microscopical examination of the powdered elm bark of the market. Ten samples of powdered and four of ground elm bark were obtained from pharmacies in this city. Attention has been called to the fact that this drug is often adulterated with flour, and such proved to be the case, as the microscope revealed in every sample the presence of characteristic granules of wheat starch. As this starch itself rarely occurs in the market, its presence was held to be satisfactory evidence of the admixture of wheat flour.

To determine the amount of foreign starch was the next step—foreign starch, for this bark normally contains starch. H. B. Foote estimates the amount of starch in pure elm bark at 0.3 per cent. (Pharm. Era, Vol. XIV., p. 43.) While casting about for some method of making this determination microscopically, it was suggested to me that E. B. Stuart, of this city, had in 1882 devised a method for determining the amount of starch present in the washings from starch tables by examining in a cell of known capacity a portion of the liquid containing the starch in suspension and counting the granules. This method has, to my knowledge, never been published. The idea seemed to be a good one, so I have followed a similar method.

0.1 gm. of wheat starch was suspended in 10 cc. of syrup. The latter was chosen on account of its viscosity, high specific gravity and lack of solvent action upon starch. From this mixture the starch did not wholly subside in a week's time. Glycerin diluted with one-fourth of its weight of water makes an excellent medium; it has a lower specific gravity, but a greater refractive power than syrup.

Having in this manner a known weight of starch suspended in a known measure of liquid, it remained only to count the number of starch granules in a definite quantity of the liquid. To this end a counting apparatus similar to that known as Thomas' hæmacytometer was employed. This apparatus consists essentially of a cell 0.1 mm. in depth, and having for its bottom a crossed-line micrometer of an area of a square millimeter, and divided into 400 squares. Each square has, therefore, an area of $^1/_{400}$ of a cubic millimeter. In making cubic contents of the fluid below the cover-glass, and resting upon one square, is $^4/_{1000}$ of a cubic millimeter. In making the examination the lines of the micrometer were blackened with graphite, and the starch, having been evenly distributed through the syrup (there being no objection to stirring or shaking to accomplish this, as the presence of air-bubbles need not interfere with the work), the cell was filled with a drop of the liquid and the cover-glass put in place. Using a quarter-inch objective, the number of granules in each square was counted, squares containing air-bubbles being omitted. A mechanical stage is a great help here. By its aid one can readily count the granules in twenty consecutive squares, ranging from right to left, and bring each square directly into that most favorable position, the center of the field of view. A count of the total number of granules in a 1: 100 mixture of wheat starch and syrup resulted as follows:

First trial: 24 squares gave 189 grains; average, 7.87.

Second trial: 24 squares gave 172 grains; average, 7.17.

It became necessary here to devise a method of distinguishing quickly between the starch of elm bark and that of wheat. This is not difficult, as the starch granules of elm bark are quite small. In four samples of pure powdered bark examined, none were found to exceed 5 mmm. (micromillimeters) in diameter. Wheat starch, as is well known, consists of two classes of granules, the diameter of those of the larger class being about four times that of the smaller. The average measurements are given by Flückiger as 26.9 to 28 mmm. and 6.8 mmm. respectively. Size offers a distinction that may be readily applied, and using a micrometer eyepiece all granules of a diameter less than 7 mmm. were omitted from the count.

Examination with the same mixture as employed before now gave the following results:

I. Fifty-six squares gave 63 granules; average, 1.12.

Three other mixtures, wheat starch, 1, syrup 100, gave:

II. Eighty squares gave 85 granules; average, 1.06.

III. Two hundred squares gave 234 granules; average, 1.17.

IV. Two hundred squares gave 218 granules; average, 1.09.

All were from the same lot of starch. Nos. III. and IV. were stained with five to six drops of a strong potassium iodide-iodine solution, and as this stain was used in subsequent tests, their joint average, 1.13, was taken as a standard.

Determinations of five of the adulterated samples were made, and furnished the following results:

Percentage of Admixture of Wheat Flour in Powdered Elm Bark, Estimated from Starch Found.

No.	Trial.	No. of Granules 7mmm. or over in Diameter.	Estimations. Wheat Starch.	Flour
1.	a.	72	37.7%	46.7%
	b.	76		
2.	a.	53	24 0%	34 3%
	b.	55		
3.	a.	67	31.8%	45.4%
	b.	75		
	c.	74		
4.	a.	52	22.8%	32.6%
	b.	51		
5.	a.	79	34 3%	49.0%
	b.	76		

Two hundred consecutive squares were counted in each trial.

Admixtures of the pure drug with wheat starch were now made and examined in the same manner. A specimen with 25 per cent. of wheat starch yielded: a, 200 squares, 57 granules; b, 200 squares, 53 granules; average, 55 granules, $\frac{55}{200} = 0.275$; $\frac{0.275}{1.13} = 0.244$, or 24.4 per cent. Error, 0.6 per cent.

A specimen with 33⅓ per cent. of wheat starch yielded: a, 200 squares, 72 granules; b, 200 squares, 74 granules; average, 73 granules, or 32.3 per cent. Error, 1 per cent.

A specimen with 25 per cent. of wheat flour yielded: a, 200 squares, 42 granules; b, 200 squares, 37 granules; average, 39.5 granules, or 17.5 per cent. of wheat starch.

In the latter case the flour used would contain 17.5, or 70 per cent. of starch. König (Nahrungsmittel, Vol. II., page 519) gives from 65.88 to 69.30 as the percentage of starch in flour. Allen gives an analysis of fine wheat flour containing 74.3 per cent. of starch. (Organic Analysis, Vol. I., page 36.) Seventy per cent. was assumed to be correct in making the above estimations.

Mr. H. B. Foote, of Cincinnati, sent me three samples of powdered elm bark obtained in the market there, and practically pure. I mention this only to point out the fact that the pure article may be had if the pharmacist will insist upon it.

PHARMACY.

RUST PREVENTIVE.—The Canadian Engineer gives the following recipes for preparations to keep tools from rusting: Dissolve ½ oz. of camphor in 1 lb. of melted lard, take off the scum, and mix in as much black lead (graphite) as will give it an iron color. Smear the tools with this mixture, and after twenty-four hours rub clean with a soft linen cloth. Another coating is made by mixing slowly 6 oz. of lard to 1 oz. of resin and stirring till cool. When semi-fluid it is ready for use.

METRIC SYSTEM IN ENGLAND.—At last we seem in a fair way to see the metric system adopted by Great Britain. The Select Committee on Weights and Measures recommend: "(a) That the metrical system of weights and measures be at once legalized for all purposes; (b) that after a lapse of two years the metrical system be rendered compulsory by Act of Parliament; (c) that the metrical system of weights and measures be taught in all public schools as a necessary and integral part of arithmetic, and that decimals be introduced at an earlier period of the school curriculum than is the case at present." And it is to be hoped that early legislation will give effect to these recommendations. It has been definitely announced that the metric system will be introduced into the forthcoming edition of the British Pharmacopœia, and to facilitate the transition it is intended that the proportions in the official monographs shall be given in terms of both the present and metric systems, the latter being made authoritative in analytical operations.

PHOTOGRAPHIC PROGRESS. — Professor Thorpe in his presidential address to the Society of Chemical Industry gave a summary of photographic progress for the year. The principal advances have been made on the optical side of photography and in photo-mechanical processes. Great improvements have been made in the manufacture of the most rapid dry plates, and both in certainty of action and keeping qualities they are but little behind the slower plates. Considerable advance, too, has been made in the preparation of the so-called isochromatic or color-sensitive plates. Advances have also been made in printing-out papers. Among the principal recent additions to developers are the aromatic amido compounds and phenol derivatives, as amidol, metol, glycin, paramidophenol. Attempts to connect the action of organic developing agents with chemical constituents have not been wholly successful, although certain broad generalizations are possible. It appears that for an aromatic organic substance to act as a developer it must contain at least two hydroxyl or two amido groups, or one of each, in its molecule.

MAGNESIUM SALICYLATE. — R. Van Gool (Journ. de Pharm. d'Anvers) points out that when prepared by neutralizing salicylic acid with magnesium carbonate this compound, instead of being pure white in color, has a more or less pink tint, owing to the presence of iron in the magnesium salt used. He therefore recommends the following process for the preparation of the compound free of impurities: Sulphuric acid is neutralized with calcined magnesia, and to the solution of magnesium sulphate he adds first hydrochloric acid, then potassium sulphocyanate in excess, lastly shaking with ether until the latter is no longer colored by the sulphocyanate, showing that all traces of iron have been removed. The solution of magnesium sulphate is next evaporated to a low bulk and allowed to crystallize, after which the product is washed with spirit to free it from the hydrochloric acid and excess of potassium sulphocyanate which it contains, until no reaction is given with ferric chloride. The pure salt is then dissolved in distilled water, and solution of sodium carbonate added gradually until precipitation is complete, the solution being constantly shaken and kept at a temperature of 70° C. The precipitate, having been washed with water until free from sodium sulphate, is mixed with a little water, neutralized with salicylic acid at a temperature of a water-bath, and finally evaporated to dryness at the same temperature.

ANG-KHAK.—This Chinese fungoid pigment is imported into Java from China and used there for giving a fine purple color to foods and beverages. It is the product of a special fungus which is propagated in the province of Quantung for preparing the coloring matter. Rice, thoroughly boiled, is spread out upon plates to cool, and when cold is sprinkled over with ang-khak of a former preparation. The plates, with their contents, are then kept for six days in a dark, cold place. It then has a red color, which afterward becomes darker. The coloring matter readily dissolves in alcohol, with a splendid garnet-red color. The fungus vegetates upon any kind of carbohydrate in the presence of oxygen, but the chief difficulty in its preparation is to keep away other fungi and bacteria, especially in a species not yet examined. This is effected by means of a trace of arsenic, which prevents the growth of other bacteria without preventing the growth of the ang-khak. The coloring matter can be extracted with chloroform, and in a state of purity dissolves in methyl and ethyl-ether, glacial acetic acid, aceton and ethyl acetate, but very sparingly in water and dilute acids, and not at all in benzene, petroleum ether, oil of turpentine, carbon disulphide and glycerin. It melts at 50°, and at a strong heat it is decomposed without subliming, and it behaves like most of the aniline colors, but is distinguished by its precipitability with mercuric oxide. (Chemiker Zeitung.)

THE COD FISHERIES.—In the Lofoden district the cod fisheries commenced, says the U. S. Consul at Bergen, as usual in the middle of January, but although the weather was favorable, the catch was small, and at the end of February it only amounted to about 5,000,000 fish. The quality, with few exceptions, was poor, and the fish singularly small. The prospects seemed unpromising, but from the first week of March the situation changed. Rich shoals of fish touched at all the principal stations at the Lofoden coast, and during the month not less than 25,800,000 cod where brought ashore, which quantity, up to April 20, was increased by 7,500,000 more, making a total catch for the district of 38,100,000. Up to the same date, the other different stations (Finmarken excepted) gave a return of 15,700,000, a total catch for the present season of 53,800,000 cod, the largest on record for many years. Of this quantity 11,000,000 were prepared (dried) for stockfish, besides 16,000 hectoliters of medicinal oil, 18,000 hectoliters of liver for other kinds of oil and 58,000 hectoliters of fish roe. As to the number of fish caught, the result of this season's fisheries is the largest hitherto reported, but, on the other hand, the yield of liver and medicinal oil was small. This disproportion is owing to the smallness and meagerness of the livers, of which from 800 to 1,300 were required for one hectoliter, against 300 or 400 when the fish are in fat condition. The total value of the Lofoden catch is estimated at 7,000,000 kroner ($1,876,000), distributed among 32,500 fishermen, leaving an average profit to each of 215 kroner ($57.62). Owing to the small size and meagerness of the fish the prices ruled low, and cannot be quoted higher than 9 to 11 kroner ($2.41 to $2.95) per 100, being 26 to 30 per cent. lower than in 1894. The cod fishery in Finmarken has commenced, but up to this date, April, the catch has only amounted to 1,000,000 fish, the quality being as inferior as those caught in Lofoden. The winter herring fishery in this district (Bergen) closed at the end of March with a total result of 105,000 barrels (against 84,000 in 1894), whereof at least 20,000 barrels were sold fresh and used for bait in the cod fisheries in the North, where this article was greatly wanted, owing to the complete failure of past years' herring catch in these districts. The size, as well as quality, was good, and the average price, $2 per barrel, left some profit.

USE OF POTASH IN FRUIT GROWING. — W. E. Britton, in the American Agriculturist, calls attention to the use of potash fertilizer in orchards. Potash and phosphoric acid promote the vigor of the tree and increase the quantity and quality of the fruit, while excess of nitrogen tends toward an increased growth and wood production at the expense of the crop of fruit. The experience of many large fruit growers favors the use of potash in manuring orchards. It is most commonly applied in the form of potassium chloride, from 200 to 300 pounds per acre being considered an economical dressing if the orchard is so treated annually. Kainit may be used instead, but double the quantity must be used. The author considers that the practice of applying potash or phosphoric acid is sometimes carried too far, and considers that if a complete fertilizer were used it would in many cases give better results. The result of experiments in New Jersey on fertilizing peach orchards shows that the best results were obtained with a mixture of potassium chloride and sodium nitrate. One of the best sources of potash for orchards is wood ashes, from 40 to 50 bushels of dry ashes per acre, but the chloride is a more reliable and constant form of applying the alkali. An apple orchard in full bearing may receive as much as 1,000 pounds per acre, but it is noted that in some soils a much better effect is obtained from potash than in others; a small portion of the orchard should therefore be treated experimentally before applying the potash or potash and nitrate dressing to the whole.

CARBORUNDUM: HISTORY, PHYSICAL PROPERTIES AND CHEMISTRY. J. A. Mathews, in School of Mines Quarterly (Jour. Soc. Chem. Ind.), says that a works capable of turning out 300 pounds a day has been established for the electric manufacture of "carborundum." The manufacture is conducted in a furnace, the walls of which are built of vitrified bricks, upon a masonry foundation 3 feet wide by 8 feet long. From the end walls project the carbon electrodes; these may be as many as nine in number, and each of them is 1 foot long by 2 inches in diameter; the carbons of one end are separated from those of the other by a distance of 5 to 5½ feet. The charge, which is a mixture of four parts of coke ground to an impalpable powder, with five of good glass sand and

one or two of salt, fills the furnace, except the region between the electrodes, where is laid a core of loose carbon. The current supplied by the dynamo is an alternating one, thus preventing any electrolytic action. After the current has passed for about eight hours and the furnace has cooled, a hollow cylindrical mass, 4 or 5 inches thick, of carborundum crystals, is found surrounding the carbon core, while a thin layer of soft, greasy-feeling graphite separates the carbon from the carborundum. Beyond the latter is a thin layer of light-colored, amorphous carborundum, and beyond this again part of the charge, unaltered, except that the salt has been fused. The raw product is crushed in a pan by hard steel rollers, boiled for a week in dilute sulphuric acid to remove iron and sodium silicate, sifted, and the finest powders (distinguished as 1, or 4-minute powder) graded by the length of time they are found to float upon water when stirred up therewith. The carborundum is now fit for use as a polishing powder or to be made up into grindstones of any size. Carborundum crystallizes in the hexagonal system, flattened rhombohedra being the usual forms. The crystals vary in size from a fraction of a millimeter to 3 mm. in their largest dimensions; they have a specific gravity of 3.12, and the color, which is probably due to the small percentage of impurities, viz., Fe_2O_3, Al_2O_3, CaO, MgO, etc., varies from greenish (the usual tint) to yellow and sapphire-blue. With regard to hardness, it is still uncertain whether carborundum is not harder than diamond; the difficulty of demonstration is caused by the brittleness of the crystals. Though not serviceable for the first rough treatment of diamond, it is successfully used for polishing it. Upon analysis it is found to accord with the formula SiC, the reaction of its formation being represented as $SiO_2 + 3C = SiC + 2CO$. It is unaltered by any heat short of that of the electric arc, and is entirely unattacked by the ordinary mineral acids. Prolonged treatment with HF and H_2SO_4 only slightly affects its weight, and this loss is probably due only to silica present as an impurity, and not to combined silicon. At a red heat, in a current of O, a trifling amount of carbon is lost, and this carbon, it is supposed, was present also as an impurity. Analysis is effected by fusing carborundum with either caustic or carbonated soda for some time, when the entire mass becomes black, from the separated carbon, and sodium silicate is formed. Eventually the carbon burns off. Carborundum appears to be suitable for most abrasive purposes, and there is especially a large application for it in glass grinding and cutting, "the same amount of material doing much more work and acting more quickly than any abrasive now used. Wheels made from carborundum are used in grinding the necks of the Westinghouse incandescent electric-light globes, and unless the wheels grind from twelve to fifteen times as many globes as the emery wheels formerly used they are returned marked 'Not good.'"

FROM ERA READERS.

Alcohol Rebates.

B. F. Michaels, Albion, Ill.—For eight or ten years past I have been buying alcohol by the half-barrel and I keep a record of all alcohol sold (and I have done so for years, according to requirements of our town ordinance). Why would not these two facts be sufficient proof? Having the bills for the same and a record of amount sold, why could I not deduct the amount sold (straight) from the amount purchased, leaving the net amount used in manufacturing medicines, extracts, etc.? I also ask you if it will be lawful to take off the stamps from the alcohol barrels, when the law says "to destroy all marks and face stamps," etc. What think you?

In case the Court of Claims decides in favor of free alcohol the government officials will prepare regulations which will be satisfactory to them. We, of course, cannot now tell what they would require, but the sounder your evidence the better your claim. It seems that in your case you are able to prove just the opposite of what is desired, that is, you have a record of alcohol sold, but not of alcohol used in manufacturing. You could not prove how much had been used for this extract, how much for this tincture, etc. Your second question is pretty fully answered on page 98, July 25, Era.

H. S. Blachly, Waynesburg, Pa.—I think it an outrage that we have to pay the tax on the alcohol we use in preparing our pharmaceutical preparations. Let every druggist have his two packages; one stamped with the government stamp, the contents of this package to be used only for preparing tinctures, fluid extracts, etc.; then package No. 2 to be sold on prescription, for whatever purpose the purchaser may see fit to use it. I would like to see every retail druggist do this; it would have a bearing on the question. If we don't fight for our rights, who will fight for us? I congratulate you upon the articles you have published in the Era. They would open the eyes of any druggist to the fact that he should help fight this to the end. Other journals are slow to speak. Why should they be? We subscribe for them, and they are published for the druggists' benefit, but on this question they certainly have been slow to act. The Era deserves credit for the part it has taken for the druggists. Keep it up until every one will be sending for your blanks.

ALUMINUM VESSELS.—At a recent meeting of the Academy of Sciences M. Berthelot drew attention to a note by M. Bolland, army pharmacist, concerning experiments made by him regarding the use of utensils made of aluminum. (Ch. & Dr.) He finds that each time they are cleaned with alkali they lose weight, apparently the loss amounting to about $^1/_{50}$. When, on the contrary, no alkaline substances are used, the aluminum utensils wear as well as those made of other metals, such as copper, etc.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Queries.

"Steady Reader," New York. Read the rules at the head of this department.

Removing Stamps from Alcohol Barrels.

(C. C. A.) Soak them in hot water.

Crab Apple Blossom.

(H. B. R.) See Feb. 7, 1895, Era, page 174.

Hair-Curling Preparation.

(H. & C.) Four formulas are given in the April 18, 1895, Era, page 495.

Spots on Cigar Wrappers.

(W. S. H.) See issues of Era, Aug. 15, 1894, page 157, and March 21, 1895, page 366.

Cannabis Sativa Remedy.

(C. A. C.) See reply to a similar query under "Grateful Sufferer Prescription," April 4, 1895, Era, page 430.

Artificial Sprudel Salts.

(J. S. S.) Two formulas for this article are given in the National Formulary, p. 112.

Cockroach Destroyer.

(C. F. & Co.) A number of formulas were given in the June 15, 1892, Era, page 388. Since that date various others have been given. Consult the indexes.

Montana Pharmacy Law.

(Inquirer.) Montana has a pharmacy law. The next meeting of the Board of Pharmacy for that State will be Oct. 8 at Anaconda. For further particulars address Secretary G. W. Shoemaker, Billings.

Dieterich's Neues Pharmaceutisches Manual.

(B. H.) Many extracts from this work have appeared in various American pharmaceutical journals, but as a whole it has not been translated into English. It can be obtained through any importer of books at a cost of about $3.50.

To Take Cracks Out of Paraffined Paper.

(J. J. F.) Warm the paper or pass a heated iron over it. Unless you have a very small quantity of damaged paper to manipulate, it will pay you better to throw away your present stock and buy some new. It will be cheaper and more satisfactory in the end.

Bleaching Sponges.

(W. E. M.) The process you submit is substantially that of the National Formulary, the difference being that you employ a much weaker solution of potassium permanganate. For a discussion of the subject see Era, Aug. 8, 1895, page 175.

New York State Pharmacy Law.

(Pills.) The amendment to the Pharmacy law passed by the Legislature last winter does not affect the standing of those holding licenses to practice pharmacy at the time of its passage. The proposed Reregistration bill did not become a law.

Compound Fluid Extract Cardamom.

(Y. Z.) The following formula has been published: Cardamom, 180 gm.; cinnamon, 180 gm.; caraway, 80 gm.; cochineal, 60 gm. Reduce all to a No. 50 powder and percolate with a menstruum consisting of alcohol 3 parts and water 1 part. The above quantities are intended for 500 cc.

Poultry Food.

(W. J. H.) We cannot give you the formula for the proprietary article. The following, however, may be taken as a typical formula:

Powdered eggshell or phosphate of lime	4 ounces
Sulphate of iron	4 ounces
Powdered capsicum	4 ounces
Powdered fenugreek	2 ounces
Powdered black pepper	1 ounce
Silver sand	2 ounces
Powdered lentils or powdered dog biscuit	6 ounces

A tablespoonful to be mixed with sufficient meal or porridge to feed twenty hens.

Dieterich's Solution Peptonated Iron.

(B. H.)

Dried egg albumen	1	part
Pepsin, pure	0.05	part
Solution of oxychloride of iron (Germ. Pharm.)	12	parts
Syrup	3	parts
Brandy	10	parts
Distilled water	100	parts

Dissolve the egg albumen in 19 parts of distilled water, add the pepsin and digest during four hours at 40° C. (104° F.). On the other hand, mix the iron solution with the syrup and 55 parts of distilled water, mix this liquid with the solution of the peptonized albumen, and heat the whole in a steam-bath to 90–96° C. Then allow it to cool, add the brandy, finally, enough water to make 100 parts. Let the mixture stand during eight days, then pour off the clear solution from the insignificant sediment.

Furniture Polish.

(H. H. K.) See formulas under "Wood Polishes and Polishing" in Oct. 15, 1894, Era. Here are some others taken from English work:

1.) Hydrochloric acid ..... 2 drams
Butter of antimony .... 6 drams
Beeswax ..... 2 ounces
Methylated spirit ..... 12 ounces
Oil of turpentine ..... 12 ounces
Linseed oil ..... 3 pints
Vinegar ..... 3 pints
Raw eggs 3

The turpentine is emulsified with the eggs and vinegar, and then placed in a bottle with the other ingredients and well shaken together.

2.) Olive oil,
Oil of amber,
Oil of turpentine, of each .9 parts
Tincture of alkanet ..... 1 part

Mix and keep in a well-stoppered bottle. When using, pour a little upon a pellet of cotton, apply it lightly to the wood several times and rub dry with a cotton rag.

For carved work in furniture: Shellac, 30 parts; gum arabic, 7 parts; copal, 15 parts, and spirits of wine, 700 parts. Reduce the resins to a powder and sift through a piece of muslin or a fine-mesh sieve; place it in a capacious bottle, pour the spirits of wine on it, cork up the bottle and let it stand in a moderately warm place until the resins are thoroughly dissolved. When solution is effected strain the fluid through a piece of muslin. For use, apply the polish with a soft hair brush to the carved portions.

Mixing Paints.

(H. H. K.) The exact proportions of ingredients best to be used in mixing paints vary according to their quality, the nature of the work required, the climate, and other considerations. Then, too, the composition of paints for different coats also varies considerably. The following statement showing the composition of the different coats of white paint and the quantities required to cover 100 yards of newly-worked pine may serve your purpose: For inside work, priming: Red lead, ½ pound; white lead, 16 pounds; raw linseed oil, 6 pints; drier, ¼ pound. Sometimes more red lead is used and less drier. For second coat: White lead, 15 pounds; raw linseed oil, 3½ pints; turpentine, 1½ pints; drier, ¼ pound. For third and fourth coats: White lead, 13 pounds; raw linseed oil, 2½ pints; turpentine, 1½ pints; drier, ¼ pound. For outside work, priming: Red lead, 2 pounds; white lead, 18½ pounds; raw linseed oil, 2 pints; boiled linseed oil, 2 pints; drier, 1 to 8 pounds. Second coat: White lead, 15 pounds; raw linseed oil, 2 pints; boiled linseed oil, 2 pints; drier, 1 to 10 pounds. When the finished color is not to be pure white, it is better to use nearly all boiled oil. For pure white, a larger proportion of raw oil is necessary, as boiled oil is too dark. Of course, this statement will only serve you as an approximate guide. The area which a given quantity of paint will cover depends upon the nature of the surface to which it is applied, the proportion of the ingredients and the state of the weather. When the work is required to dry quickly, more turpentine is added to all the coats. For outside old work exposed to the sun, both coats should contain 1 pint turpentine and 4 pints boiled oil, the remaining ingredients being stated as above. A little experimenting along the lines indicated will, we think, enable you to secure satisfactory results.

Treatment of Eczema.

(J. J. F.) We cannot give you the formula for the proprietary article. The following advice is given by Dr. R. C. Matheny in the Medical Record, and may be of service to you. The dusting powder is to be used as a palliative in acute eczema:

Rice powder	40 grams
Talcum	20 grams
Zinc oleate	10 grams
Bismuth subnitrate	5 grams

This should be dusted freely on the surface and repeated every two or three hours. Sometimes, on account of the intense pruritus, it is necessary to apply a cooling application; a solution of thymol, 1 to 1,000, is probably the best. Salicylic acid and menthol are also useful. A mixture such as the following is effective:

Brandy	100 grams
Glycerin	15 grams
Cologne water	15 grams
Tincture benzoin	5 grams
Salicylic acid	2 grams
Menthol	1 gram

After applying the above the powder should be dusted on freely. Continue the cooling treatment as long as the active stage continues, and then use a mild ointment containing substances that influence the inflammation, such as:

Ointment rose water	20 parts
Petrolatum	20 parts
Zinc oxide	15 parts
Bismuth subnitrate	5 parts
Ichthyol	3 parts
Carbolic acid	1 part

Apply twice a day.

Nearly all cases of simple eczema will respond satisfactorily to this line of treatment.

In the chronic stage, where you have a thickened hypertrophied epidermis, scaly and hard, the object is to change the chronic to an acute form. For this purpose use a strong ointment to soften the parts and remove the scales. The best thing for this purpose is the ointment diachylon, with the addition of 5 to 10 per cent. salicylic acid, and continue to apply this until the skin is smooth, when one of the bland ointments should be substituted for an indefinite time.

Silicic Acid and Silicates.

(C. M. P.) There are several acids derived from silicon dioxide, SiO_2, but from the readiness with which they give up water, it is probable that none has ever been obtained in a state of purity. Of these may be mentioned orthosilicic and metasilicic acids, the latter being derived from the former by the abstraction of a molecule of water. A gelatinous precipitate, consisting of the dibasic acid H_2SiO_3, may be obtained by adding to a solution of an alkaline silicate hydrochloric acid, thus:

$$Na_2SiO_3 + 2HCl = H_2SiO_3 + 2NaCl.$$

When the alkaline silicate is added to an excess of hydrochloric acid, silicic acid in solution is produced. This product is thought to be an orthosilicic acid, H_4SiO_4. Thus: $Na_2SiO_3 + 2HCl + H_2O = H_4SiO_4 + 2NaCl$. The sodium chloride in this reaction may be removed by dialysis. The aqueous solution of silicic acid may be concentrated by boiling and evaporation in vacuo until it contains about 21 per cent. of tetrabasic silicic acid, or 14 per cent. of silicon dioxide. In this condition it is a tasteless liquid, having a feeble acid reaction. It cannot be preserved, as on standing it solidifies into a transparent gelatinous mass, which has approximately the composition H_4SiO_4.

Silicon dioxide, SiO_2, often improperly called silicic acid, occurs abundantly in nature. It is a constituent of every soil. In sand it covers a large portion of the earth's surface and it is found in rocks of all geological periods. Flint, quartz, agate, chalcedony, etc., contain it in nearly a pure state. Clays are chiefly aluminum silicate, while glass of

all descriptions is made from various fusible silicates. Mortar is essentially calcium silicate. Portland, Roman and other "hydraulic" cements are calcium silicates with more or less aluminum silicate, and we think if you were to submit a sample of your mineral to some manufacturer of these substances he will be glad to give you an estimate as to its value. Write to the Moore's Lime Co., 593 West Fifth Street, Cincinnati, O.

Óximes in Organic Chemistry.

(C. M. P.) Oximes are compounds formed by reaction of hydroxylamine directly with aldehydes, acetones and nitriles. The derivatives of the aldehydes are called aldoximes, whose general formula is $R-C\begin{smallmatrix}<H\\ \equiv N.OH\end{smallmatrix}$ and those of the acetones are known as acetoximes, whose general formula is $R-C\begin{smallmatrix}<R\\ \equiv N.OH,\end{smallmatrix}$ in which R is a hydrocarbon radical. They are formed by action of hydroxylamine chloride upon the corresponding aldehyde or acetone. The amidoximes are formed by direct union of the nitriles with hydroxylamine, and have the general formula $R-C\begin{smallmatrix}<NH_2\\ \equiv N.OH.\end{smallmatrix}$ The first of this series, isuretine or carbamidoxime, $H-C\begin{smallmatrix}<NH_2\\ \equiv N.OH,\end{smallmatrix}$ is isomeric with urea, and is produced by direct union of hydroxylamine and hydrocyanic acid.

The formation of ethylaldoxime may be indicated by the following equation:

$$\underset{\text{Acetaldehyde}}{CH_3.CHO} + \underset{\text{Hydroxylamine}}{H_2N.OH} = \underset{\text{Ethylaldoxime}}{CH_3.CH:N.OH} + \underset{\text{Water}}{H_2O}$$

The aldoximes are, as a usual thing, liquid bodies that boil without decomposition. Ethers are produced when the hydrogen of their hydroxyl group is replaced by acid radicals, the alkali metals, as sodium alcoholate, and the alkyls. When boiled with acids they are again changed to aldehyde and hydroxylamine.

Ethylacetoxime is thus formed:

$$(CH_3)_2CO + H_2N.OH = (CH_3)_2C:N.OH + H_2O.$$

Acetoximes are sometimes called ketoximes, from the fact that ketones combine with hydroxylamine to produce them. Like the aldoximes, they are split up into their components when boiled with acids. They are distinguished from the aldoximes in that the latter yield nitriles with acetyl chloride, while acetoximes, under like influence, form oils with peculiar odor. Acetoxime, formed in the above reaction, is described as readily soluble in water, alcohol and ether. It fuses at 60° C. and boils at 135° C.

The action of hydroxylamine upon hydrocyanic acid noted above is typical of that between the first-named compound and the nitriles, i. e., derivatives of the alcohol radicals with the cyanogen group CN. Thus:

$$\underset{\text{Hydroxylamine}}{H_2N.OH} + \underset{\text{Hydrocyanic Acid}}{HCN} = \underset{\text{Carbamidoxime}}{CH_4N_2O}$$

The compound formed in this reaction is also known as methynyl-amidoxime or isuretine, and is isomeric with urea, $CO(NH_2)_2$. It appears on evaporating the alcoholic solution of hydroxylamine and HCN. It crystallizes in rhombic prisms, similar to those of urea, and melts with partial decomposition at 104° C. It is alkaline and forms crystalline salts with acids. On heating the solutions of its salts they are decomposed into formic acid, ammonia and hydroxylamine.

In a general way the above is an outline of the synthesis of the oximes. Organic chemistry contains many such substances. Thus, in the first group mentioned (aldehydes), all bodies containing CO, such as ketonic acids and alcohols, react with hydroxylamine to form oximes. Some acid anhydrides do the same. So do the diketones, as in the formation of glyoximes. There seems to be no limit to their derivatives. We suggest you secure some complete work upon organic chemistry for further reading upon the subject. The products mentioned are of but little interest from a medical standpoint.

Preserving and Mounting Bird Skins.

(E. G. R.) The following is taken from a technical work on the subject:

A very small proportion of the skull bone, say from the fore part of the eye to the bill, is to be left in, as well as part of the wing bones, the jaw bones and half of the thigh bones. Everything else, flesh, fat, eyes, bones, brains and tendons, are all to be taken away. In taking off the skin from the body it will be well to try to shove in lieu of pulling it, to avoid stretching it. Throughout the whole operation, as fast as you detach the skin from the body put cotton immediately betwixt the body and it: this will prevent the plumage getting dirty. Have close by a little bottle of corrosive sublimate, also a little stick and a handful or two of cotton. Now fill the mouth and nostrils with cotton and place the body on your knee on its back, with its head pointed to your left shoulder. Take hold of the knife with the two first fingers and thumb, the edge upward; do not keep the point of the knife perpendicular to the body of the bird, because it would cut the inner skin of the belly and let the bowels out. To avoid this let the knife be parallel to the body. Begin on the belly below the breast bone and cut down the middle, quite to the vent. This done, put the bird in any convenient position and separate the skin from the body till you get at the middle joint of the thigh. Cut it through and introduce cotton all the way on that side, from the vent to the breast bone. Do exactly the same on the opposite side. Now place the bird perpendicular, its breast resting on your knee, with its back toward you. Separate the skin from the body on each side of the vent and never mind at present the part at the vent to the root of the tail. Bend the tail gently down to the back, and while your finger and thumb are keeping down the detached parts of the skin on each side of the vent, cut quite across and deep until you see the back bone near the oil gland at the root of the tail. Sever the back bone at the joint, and then you have all the root of the tail, together with the oil gland, dissected from the body. Apply plenty of cotton. Get the skin pushed up until you come to where the wing joints join the body. Apply cotton and then cut this joint through, and do the same at the other wing; add cotton and gently push the skin over the head, cut out the roots of the ears and continue skinning until you reach the middle of the eye; cut the membrane quite through, otherwise you would tear the orbit of the eye. After this nothing difficult intervenes before arriving at the root of the bill; when this is effected cut away the body, leaving just a little bit of the skull; clean well the jaw bones and touch the skull and corresponding parts with the solution. Now all that remains to be removed is the flesh on the middle joints of the wings, one bone of the thighs and the fleshy root of the tail. Fasten thread to the joints of each wing and then tie them together, leaving exactly the same space betwixt them as existed there when the bird was entire; hold the skin open with your finger and thumb and apply the solution to every part of the inside. Neglect the head and neck at present. Fill the body moderately with wool to prevent the feathers on the belly from being injured.

Half of the thigh, or, in other words, one joint of the thigh bone, has been cut away. As this bone never moved perpendicularly to the body, but in an oblique direction, of course as soon as it is cut off the remaining parts of the thigh and leg, having nothing to support them obliquely, must naturally fall to their perpendicular. Hence the legs appear considerably too long. To correct this take a needle and thread, fasten the ends round the bone inside, push the skin just opposite to it and then tack up the thigh under the wings with several strong stitches. This will shorten the thigh and render it quite capable of supporting the body without the aid of wire. Now put in the cotton for an artificial body by means of the little stick and then sew up the orifice you originally made in the belly, beginning at the vent. Lastly, dip your stick into the solution and put it down the throat three or four times in order that every part may receive it. When the head and neck are filled with cotton close the bill as in nature. Bring the feet together by a pin and then run a thread through the knees, by which draw them to each other as near as may be thought proper. Add the eyes; adjust the orbit to them as in nature, and that requires no other fastener. After this touch the bill, orbit, feet and former oil gland at the root of the tail with the solution. Procure a common box, fill one end of it, about three-fourths up to the top, with cotton, forming a sloping plane. Make a moderate hollow and place the bird in its right position. If it is wished to elevate the wings do so and support them with cotton. If desired to have the tail expanded reverse the order of the feathers, beginning from the two middle ones, and when dry place them in their true order, and the tail will preserve the expansion given to it. In three or four days the feet lose their natural elasticity and the knees begin to stiffen. This is the time to give the legs any desired angle and to arrange the toes. When the bird is quite dry pull the thread out of the knees and take away the needle and all is done.

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AN IMPORTANT DECISION.

THE SALE OF SODA WATER ON SUNDAY IS NOT ILLEGAL.

A decision that will go a long way toward deciding a question that has worried New York City druggists for some months was delivered last Sunday by Magistrate Kudlich, one of the reform justices appointed by Mayor Strong. It will be remembered that President Roosevelt, of the Police Board, announced three months ago that after he had closed up all the liquor saloons which kept their side doors open on Sunday he would turn his attention to the druggists. The general supposition was that he had an idea that the sale of soda water on Sunday was a violation of the law just as much as the sale of liquor. The arrest of a Westchester County druggist for selling soda on Sunday gave the druggists a real scare. Some of them announced that if they were prevented from selling soda water they might as well shut up shop on that day. Others were of the opinion that President Roosevelt was going beyond his jurisdiction. At any rate the Police Board allowed the public to understand that they considered the druggist almost as great a law breaker as the saloon keeper who sells liquor on Sunday. This reflection was considered an insult by the entire trade.

Now comes a reform magistrate who declares emphatically in a decision that the sale of soda water on Sunday is a right given by the laws of the State, if one chooses to look at the matter in a common-sense light. His decision will relieve thousands of druggists and will be hailed with satisfaction by almost everybody except the members of the Police Board. The magistrate had before him the case of a saloon keeper who sold "soft drinks" on Sunday and who was arrested for a violation of the Sunday law. In his written opinion the magistrate says:

"How can it be asserted that the sale of a glass of soda water interrupts in any manner whatsoever the repose and religious liberty of the community? What is to-day considered a necessity, or needful for the health and comfort of the community, may have been considered a luxury not many years ago, when the use of ice during the heated term was practically unknown, just as there was a period when tea and coffee may not have been considered needful for the health and comfort of the community. No American community, if the question were tested by a vote, would decide that ice cream and soda water are not absolutely needful to its health and comfort during the summer months.

"But there are other provisions of the Penal Code which not only do not prohibit the sale of soda water, sarsaparilla, ginger ale and other non-intoxicants on the Sabbath, but when properly construed and interpreted actually permit it. By Section 267 it is provided that the sale of fruit, confectionery, newspapers, drugs, medicines, etc., shall be permitted on Sunday. Now, accepting the word 'confectionery' in the sense in which it is used in this community, it cannot be seriously contended that the Legislature did not intend to include therein whatever is ordinarily sold or dispensed in a so-called candy or confectionery store, and this Court takes judicial notice of the fact that in such places soda water is among the articles sold.

"To infer that the Legislature intended to permit—and the law does permit—the sale of soda water, sarsaparilla, vichy or any mineral water in a confectionery store and intended at the same time to prohibit it elsewhere, is clearly untenable.

"Laws are necessarily adopted or enacted by the use of general terms to declare the purpose of the law-making power. It is the duty and province of the courts to determine by the words used, as used in a particular community, the meaning and purpose of a law.

"To adopt any other method is to strangle the spirit of our laws by the dead letter of the statute. It therefore appears to me that the defendant committed no crime, and I order him to be discharged."

If President Roosevelt still clings to the idea that the drug stores of the city can be prevented from selling soda on Sunday he can make another arrest and take the accused before another magistrate. In case a like decision is rendered he can proceed in the same way through the line of police magistrates until a decision to his liking is reached. If none is secured no more arrests can be made in that line. There is no appeal from the decision of a single magistrate. In case a magistrate is found who renders a decision contrary to that of Magistrate Kudlich the defendant has the right of appeal by reason of the previous favorable decision.

——At Ottawa, Canada, Jos. Rickey, druggist on Bank Street, has sold out to Ernest D. Storey, formerly H. Watters' head clerk. Kirby Bros. have sold their Bank Street store to R. B. W. Robinson, who has been managing the store for some time.

The Chicago Telephone Squabble.

Chicago, Sept. 21.—The Chicago Retail Druggists' Association held a meeting on Monday to take up the work done some time ago by the State board in reference to the new Pharmacy law, to hear the report of the Committee on National Legislation, that of the Committee on the A. Ph. A. Meeting, and to discuss the telephone controversy.

Mr. Green, of the State Board of Pharmacy, explained the board's construction of the law, as already published in the Era. The board has formulated a set of questions for applicants desiring to be registered as apprentices, with the object of excluding all those from registration who are not qualified with a common-school education and who do not honestly intend eventually to become registered pharmacists. On motion, a committee was appointed to confer with the State board in regard to the construction of the law, the association giving a vote of approval of the work already accomplished. Mr. Ebert read the report of the Committee on National Legislation. On motion, the report was received. On motion, the committee was directed to confer with similar committees in other retail drug associations and keep on in the work.

Mr. Ebert read the report of the Committee on the A. Ph. A. Meeting. This report was, on motion, accepted.

The telephone matter now engaged the attention of the meeting. Mr. Wooten, as chairman of the 'phone committee, read the report of the work done by the committee, going over the whole matter as already explained. Mr. Ebert moved that the report be accepted. Mr. Thiele thought that the committee had exceeded its powers in making a definite arrangement with the telephone company. Mr. Ebert thought otherwise. Secretary Lehman read the resolution under which the committee had acted. This resolution was to the effect that the committee make a canvass of the druggists for the purpose of making definite arrangements with the telephone company. Mr. Bodemann now called attention to the insinuations made by the press touching the motives of the committee, and espoused the cause of the automatic 'phone. Mr. Morris introduced a resolution to the effect that any insinuations touching the motives or honesty of the gentlemen composing the telephone committee be declared by the association to be utterly false. This resolution was carried unanimously by a rising vote. The discussion now became general, Mr. Wells, Mr. Ebert, Mr. Bodemann, Mr. Morris and others favoring the plan as formulated by the committee, and Messrs. Engelhard, Thiele and others opposing it. On motion of Mr. Engelhard the matter was continued and the chair directed to appoint two new members to the 'phone committee to see what, if any, more favorable arrangements could be made with the company. Pending the further report of the committee, the matter will be dropped and nothing more done in the premises until such report has been prepared. On motion, the meeting adjourned.

Not Going Out of Business.

Cincinnati, Sept. 22.—A rumor has been in circulation here for several days past that the proprietors of the Standard Drug Co., of this city, intend to wind up the affairs of that concern and retire from business. The Era reporter called on President Calvert, of the Standard Company, Saturday and apprised him of the stories afloat.

"While it is a fact," said Mr. Calvert, "that we are disposing of our sundry stock, and do not expect to handle fancy sundries hereafter, I can assure you that we have no intention at all of closing out the other departments of our establishment or of discontinuing our business. There is a probability, however, that the title of the company may be changed and its capital increased considerably, but the business will be carried on at the old stand. We have found it unprofitable to carry a big sundry line and for that reason concluded to relieve ourselves of that handicap. My colleagues and I feel well satisfied with the aggregate business of the past year and look forward to the coming one with pleasant anticipations."

Perhaps the Quality of the Perfume.

Baltimore, Sept. 23.—A good story about a young New Yorker traveling for a house which manufactures druggists' fancy articles was told yesterday by Mr. German P. Tetnew, of Galveston, Tex., who has been stopping at the Altamont Hotel. "This young man," said Mr. Tetnew, "was traveling in the State of Coahuila, Mexico, some months ago and went one night to Saltillo, the capital. It was the first time he had been in the town, and after transacting some business he started out to see the sights. As he entered a deserted street he was suddenly confronted by an evil-looking fellow, who in glib mongrel Spanish demanded the New Yorker's valuables, accompanying the demand with gestures which made his meaning perfectly intelligible. With his right hand the highwayman brandished a knife. The salesman reached into his pocket, as if to comply with the order, but in an instant pulled out what looked like a revolver and leveled it at the would-be robber's head. 'Excuse me,' said the young tenderfoot, 'but this is my game.'

"Naturally, the surprise occasioned by the unexpected presentation of the supposed revolver produced a change in the threatening attitude of the highwayman, who started back, whereupon the Easterner knocked the knife from his hands, picked it up and then took the footpad by the collar and marched him before the police authorities. At the preliminary hearing on the following morning the fellow's guilt was readily established and he was about to be committed when he asked if it was not an offense for strangers in the country to carry concealed weapons. On being answered in the affirmative he insisted upon the arrest of the salesman for having in his possession a revolver.

"The alcalde, being assured of the truth of the charge, asked the salesman if he still had the weapon concealed about his person. The young man said that he had, but pleaded that to this circumstance was due the prevention of a robbery, and possibly murder. He was informed, however, that this did not alter the case.

"Then it was that a guileless smile lighted up the young man's features. Quietly he pulled out the revolver and laid it on the alcalde's desk. And, behold, it was nothing but a cologne atomizer."

Drug-Grinding Plant for St. Louis.

St. Louis, Sept. 20.—Work on a $25,000 drug-grinding establishment—the only one in the West—has been commenced in this city. The large five-story brick building at the northwest corner of Fourth and Spruce Streets is being equipped for the purpose. The company will be known as the Aroma Coffee and Spice Co., and consists of the following stockholders: George Prothero, formerly of Gilpin & Langdon, Baltimore, W. S. and Albert F. Thomas, capitalists of Mount Pleasant, Ill., George Meade, of Chicago, John S. Williams, treasurer of the American Brake Co. of St. Louis, and Attorney Albert Blair, also of St. Louis. The company has not yet been incorporated, but will be as soon as possible. The company will do no buying or selling, but will give its entire attention to the milling of all kinds of drugs, coffees and spices for the wholesale trade. Incidentally the company will engage in the manufacture of compounds. The different wholesale drug concerns received the company with a feeling something akin to joy, as heretofore they have had to have all their drugs ground in the East, which entailed shipping and other expenses. At a meeting of the local wholesale druggists the other day, the new company was urged to make the grinding of drugs a feature, which was agreed to and the necessary machinery ordered. Another feature of the new plant will be the preparation of crude opium for market use.

Mr. Prothero, who will be the manager of the new concern, talked interestingly to your correspondent while he was overseeing the construction of machinery. "We propose," said he, "to make our plant one of the finest in the country, and similar to the big drug mills in Philadelphia and New York. The machinery will be the latest as well as the best. We expect to have our plant ready for use by Oct. 15, and will begin work immediately. I think $25,000 will cover the cost of equipment. When we get started we will employ about 100 persons."

Opium Labeled Peaches.

San Francisco, Sept. 20.—On the last trip of the steamer Australia from this port to Honolulu the district customs inspectors at Honolulu seized 650 five-tael cans of opium packed in boxes labeled peaches and apples. The officers think some one on the vessel or on the Oceanic dock is connected with the swindle and that 50,000 cans of opium are hidden in the city, intended for shipment to Honolulu on the next voyage of the Australia.

Fraudulent Patent-Medicine Firm.

Washington, D. C., Sept. 14.—Acting Postmaster-General Jones to-day issued the latest, and what he hopes will be the last, of a long series of fraud orders against a Philadelphia firm of alleged patent-medicine dealers, which for months, under no less than twenty-eight different aliases, has been using the mails to defraud gullible people all over the country. The firm first began business under the name of Weart & Co. When a fraud order forbade the further delivery of mail to them under that title, they began to advertise as A. H. Weart. Being barred under this title, they advertised successively A. L., A. M., A. N., A. P., B. H., B. P., C. C., D. D., E. E., etc., Weart, and most of the others letters of the alphabet, as Jos. T. Weart & Co., as the Home Cure Company, and "Box 443," Philadelphia.

Some of the street numbers, it was ascertained by the postal inspector who investigated the case, were vacant lots, and when the carriers came with the firm's mail, a man would be there to receive it. It is against the rules of the service for carriers to deliver mail in this way, and hence the department is convinced that there was connivance between the carriers and the firm. A special investigation of this feature of the case will be made.

The Department's experience with this firm is the most remarkable and annoying in the whole history of postal frauds.

Charles V. Riley.

Late on the night of Sept. 14, at Washington, D. C., occurred the death of Prof. C. V. Riley, late entomologist of the U. S. Department of Agriculture. His death was the direct result of a fall from his bicycle, sustained while coasting. Professor Riley was a scientist of international repute, and was for many years connected with the Agricultural Department, where he did most excellent work and gained a solid reputation for thoroughness and enthusiasm. He was born in London, England, and acquired his education in France and Germany. When a young man he came to the United States and settled upon a farm in Illinois, and it was while there that he turned his attention to the habits of destructive insects, in which branch of entomology he quickly became recognized as an expert. He had been made the recipient of honorary decorations from various scientific bodies of Europe. He was a journalist and soldier as well as a scientist, and as a man was much esteemed for his kindliness and inbred geniality.

H. T. Clarke Drug Co. Fails.

Lincoln, Neb., Sept. 19.—The H. T. Clarke Drug Co. made an assignment last night for the benefit of creditors. Liabilities are placed at nearly $100,000, with assets considerably in excess of that amount. The firm was one of the oldest and supposed to be one of the most substantial in Lincoln, and the failure caused much surprise. Lincoln and Omaha banks are the principal creditors. Poor collections caused the failure.

Blue Laws for Philadelphia.

Philadelphia, Sept. 18.—While we have not experienced a change in party in politics, we have had a new mayor and he follows somewhat after Mayor Strong, of New York. In certain sections of the city many of the stores, of all kinds, keep open on Sunday, and the authorities have determined to put a stop to it, and so last Sunday the police were ordered to arrest all storekeepers that were doing business. It was not long before the patrol wagons of the different districts were busy bringing in the prisoners. The police were overzealous in their attempt to put down the evil and they did not discriminate, so druggists as well as others whose stores were opened were notified, and the next day nearly 300 storekeepers were summoned to appear before the magistrate and give their reasons for keeping their stores open. As soon as Magistrate South saw the list of accused he noticed that most of them were druggists, and he immediately notified them that they need not appear, as the law did not apply to them, but W. K. Mattern, one of the druggists charged with selling soda water on Sunday, paid his fine before the hearing, not knowing that the charge had been dropped. The fine was subsequently returned when the mistake was discovered.

Louden & Hill Case.

Philadelphia, Sept. 20.—The suit of the Government against Louden & Hill, sponge importers, who were charged with undervaluing their imports, has practically been settled. The customs officials are satisfied that the firm was not knowingly a party to the fraud, but as the goods were found in their possession they were compelled to pay the penalty. After considerable legal sparring it was thought to make the settlement and the goods that were seized were returned and further trouble has been prevented.

More Phenacetin Smuggling.

Montreal, Sept. 20.—The smuggling of phenacetin and sulfonal from this city into the United States has been revived, and those engaged in the business have taken a large quantity of the drugs to New York and Boston during the last ten days. It is stated that a large package has been seized at a small town in northern New York State. Treasury officials are investigating the matter and expect to make some arrests. The local United States customs officials have located the parties implicated in this city.

——Edward Von Wyck, probably one of the oldest and best-known pharmacists of Cincinnati, was committed to the Longview Insane Asylum last Thursday. Mr. Von Wyck conducted a pharmacy for a number of years on upper Central Avenue, and, it is said, accumulated considerable wealth. Declining years and accompanying illness seem to have affected him mentally, as recently his actions have been rather peculiar and at variance with his usual behavior. Mr. Von Wyck believes that his family are endeavoring to cause his death by poisoning his food.

Chicago Trade.

Chicago, Sept. 21.—Affairs in our line show a marked improvement over the conditions prevailing during July and August. The hot weather of the past few days has caused a temporary lull, no doubt from a physical disinclination to do anything. All the wholesalers are unanimous in pronouncing trade much better than for some time past, and money easier. Orders have already begun to come in for holiday goods, and an exceptional trade in this line is confidently predicted. Lord, Owen & Co. have taken many holiday orders, as also have Fuller & Fuller and Morrisson & Plummer. Mr. J. F. Matthes, of Whitall, Tatum & Co., said: "There are now only a very few new stores being commenced in the city. We have a man out all the time, as also have Mr. Mathews, of Sharp & Dohme, and Mr. Antrim, of the Randolph Box and Label Co., and I have not heard of a new store for a week. But our business is exceptionally good. I am busy all the time. Yes, business is away ahead of what it was last year, and the prospect is for further improvement."

For the past week the soda-water fountain in the corner drug store has been as the shadow of a rock in a weary land. Drug stores are the only cool places in town for those who have a prejudice against the saloons.

The telephone agitation is simmering down, and now that the smoke of battle has cleared away one is apt to think of the passage in the play:

"What readest thou, my lord?"

"Words, words, words."

A scheme is on foot and, I understand, is being pushed by one of the representatives of a leading wholesale house, whereby the cutters and the department stores can be met by the other retailers on their own ground. I have thus far been unable to obtain the details of the plan, and can form no opinion as to its merits.

Peter Van Schaack, senior member of the firm of Peter Van Schaack & Sons, reports having had an excellent time at the N. W. D. A. meeting, and expresses himself as satisfied with the results.

St. Louis Drug Trade.

St. Louis, Sept. 20.—The drug trade in and about St. Louis is picking up to a gratifying extent, while many of the retail and wholesale druggists look upon it as a sort of boom. Rudolph S. Vitt, manager of the Information Bureau of the St. Louis Drug Clerks' Society, says the demand for first-class drug clerks is unparalleled, and looks upon it as an omen of prosperity. Many new stores have also started up lately, among them the El Merito, on Pine Street, between Seventh and Eighth, and the Mount Pleasant Pharmacy, in South St. Louis. J. H. Converse, a druggist from Memphis, Tenn., is also here looking over the field with the intention of permanently locating in business. Altogether the prospects for a big fall trade are considered exceedingly bright.

Brunner, Mond & Co.

The half-yearly report of Brunner, Mond & Co., Ltd., alkali manufacturers, Norwich, England, was posted to the shareholders on Wednesday evening, Aug 14. The balance sheet and profit and loss account show a balance on the work of the half-year of £148,762 14s. 7d., which, with £89,117 15s. 6d. brought forward from the previous half-year, makes a total of £237,880 10s. 1d. This the directors propose to deal with as follows: Dividend on preference capital at 7 per cent., £15,225; dividend on the ordinary capital at 30 per cent., £129,857 2s. 6d.; amount to be written off patent accounts, £2,500; balance to be carried forward, £90,299 7s. 7d. The directors have purchased the lands, works and business of Murgatroyd's Ammonia, Soda and Salt Syndicate, Ltd., of Middlewich (exclusive of their salt works and business), as a going concern on advantageous terms. It is contemplated to make a call of £1 per share on the ordinary shares, now £2 10s. paid, to become due on Oct. 1 next. The directors have resolved to offer for subscription to the registered shareholders of this date 6,000 7 per cent. preference shares of £10 each, part of the shares authorized to be issued by special resolution passed on Feb. 20, 1893. They are offered at a premium of £7 per share, and the amount received on account of the premiums will be placed to the credit of the reserve fund.

Duty of Purchasers in Examining Goods.

The New York Supreme Court delivered the following decision of general application in rendering a verdict upon a case recently before it:

"It is the duty of a purchaser to act promptly in examining goods sent to him upon his order, and thus determine whether they comply with it. He must also give prompt notice to the seller of their rejection, if defective, or he cannot avail himself of his right to return them. He has, however, a reasonable time in which to make such an examination, and what is a reasonable time is generally a question of fact to be determined by a jury upon all the circumstances, including the situation, liability of injury to the vender by delay, and the convenience and necessities of the purchaser. And when, from the terms of the contract of purchase and sale, or the nature of the property, the examination can be made only when it is used, and such was, therefore, the mode of examination contemplated, the purchaser is not foreclosed until the test is made."

——Dr. Willard Wright, ex-mayor and ex-postmaster of Atlantic City, N. J., died at that place Sept. 8 from a stroke of apoplexy. He was also the principal druggist in that well-known resort, carrying on a medical practice in connection with the drug business. He was a public man in all respects, having served in numerous offices and being a member of various political and social bodies. He was born in Greene County, N. Y., in 1832.

Do You Believe It?

Here is a veracious tale, coming from Orange, Tex., and published in a Galveston paper: "At Dr. E. W. Brown's drug store some repairs are being made upon the floors, and where a bad floor joist is found it is being replaced by a new one. This morning the carpenter removed a piece of 1x5, 20 inches long, that had been used for bridging, one end of which had fallen to the ground, while the other remained fastened to the sleeper. When this board was taken out there came with it a woody growth to the lower end of which clung several long roots or feeders, perfectly flat on the bottom but rounding on top, showing it had lived on the surface. Some of them reached out nearly 2 feet, with clingers or secondary feeders running off from them. This growth extends the entire length of the piece of board, quite covering it on one side, and where it comes in contact with the floor it sprangled off in several branches of a fibrous substance, not a weed, but like old wood, yet clearly of recent formation. There is no bark on any part of this singular growth, and differing from other members of the fungi, or mushroom family, it is not at all spongy, but, on the contrary, has all the appearance of a hard, well-seasoned piece of wood that bears a close resemblance to that of a cypress knee. The present building, over the spot from which this growth was removed is the third that has occupied the ground since 1866, and at no time since that date has the ground been exposed to light long enough for any kind of vegetable growth that required the sun to get a foothold.

"Almost in keeping with this, but in an entirely different line, is a bar of Castile soap turned to limestone. It is a solid rock and is on exhibition in the same drug store. It is not quite as hard as limestone, but fully as firm as sandstone, and while it has brittle and crumbling spots, it has a metallic ring about it when brought down upon iron or other hard substance which would clearly prove that the last trace of its former relation to the soap family has departed. It is as white as marble and has no more aroma about it than other stones. The piece is 2x3½x6 inches long; has been in the store four years; it became unsalable about three years ago. It sinks in water as quickly as lead would."

Gleaned in St. Paul.

St. Paul, Minn., Sept. 23.—Nothing could be more encouraging than the increase of business now being enjoyed by the wholesale druggists of this city. To illustrate the upward sliding scale it may be stated that one of the leading houses reports the following gains in its trade for the past few months as compared with the corresponding period of last year: July, $17,000; August, $25,000; September (estimated), $30,000.

The new rebate plan is taking definite shape. The country, as readers of the Era already know, is being divided into sections for action on the question. Minnesota, Wisconsin and the Dakotas will be grouped into one section, and a big one it will be, too.

Western dealers are pleased to note that in all probability their wishes in connection with open charge for box and cartage will be complied with. They have reached this conclusion in view of the favorable progress reported to them from the East.

Several of our city pharmacists have had or are taking a little vacation. R. A. Becker recently returned from Louisville, where he went as one of the successful delegation to the G. A. R. to secure the next meeting in St. Paul. He says it was not much of a success as a vacation, as there was nothing but hard work for the committee, but is, of course, gratified with their success. Fred Conger, of the three-store firm of Conger Bros., is out of town for a little rest.

E. Lohrbauer is putting a new stock into Turtle Lake, Wis.

Ole Noer, late of Eau Claire, Wis., is putting a new stock into Colfax, Wis. (drugs and general merchandise).

Several of the younger pharmacists are making changes. R. H. Simpson has left this city and returned to his old haunts at Grand Forks, N. D. (Trepanier & Co.). W. T. Gilmore is back from Lindstrom. F. A. Holcomb is now in charge of his father's store at the latter place. C. S. Kendall is leaving Stillwater and going to Superior, Wis.

Dr. Omich sold out his drug store at Northwood, N. D., recently for cash and has bought a stock of clothing to take back to Northwood. He says it is cold up there in winter and he is going to see to it that it is not his fault if every man and boy does not keep warm this winter. After making a few thousand out of clothing the doctor is going back into the drug business.

Artificial Coloring in the Manufacture of Vinegar.

In the case of Weller vs. the State of Ohio, the Supreme Court of that State recently decided that where, in the manufacture of vinegar, low wine, formed from fermented grain, is, previously to its acetification, passed through roasted malt, not for the purpose of adding any substantial ingredient to the vinegar, but for the purpose of giving it color as well as aroma and flavor, and without this treatment it would be colorless, the vinegar so produced contains artificial coloring matter within the meaning of Section 2 of an act to prevent the adulteration of vinegar, as amended April 14, 1888, and its possession for the purpose of sale is an offense under the provisions of Section 5 of the same act. Section 2 of that act, as amended April 14, 1888, does not exceed the police power of the State conferred on the General Assembly by the constitution in the general grant of legislative power, and is a valid law.

——A feeling seems to prevail in Chicago that there are too many drug stores in that city, and in consequence very few new ventures in this line are being made.

NEW YORK AND VICINITY.

——E. J. Hoadley, of Hartford, was in town last week.

——M. N. Kline is expected to return from Europe about Oct. 1.

——S. W. Lothrop, of Tarrant & Co.'s sundries department, is on an Eastern trip.

——John Woell has accepted a position at M. Hartvigson's pharmacy at 2550 Third Avenue, this city.

——Carl Trites has resigned from the management of Frank E. Hatch's pharmacy at Rutherford, N. J.

——L. Brinkerhoff, of Morrisson, Plummer & Co., of Chicago, has been spending his vacation in New York City.

——G. H. Macon left for North Carolina last Friday. He will spend some weeks there and will later on go to Colorado.

——Tarrant & Co. have just issued a neat pamphlet, called "A Condensed Dispensatory of New and Rare Remedies."

——S. T. Green, N. Y. C. P. '86, has resigned his position as head clerk of William Stark Starr's drug store at New London, Conn.

——Manager Ed Fluhr, of the New York office of W. R. Warner & Co., is one of the happiest men in town. If you want to know why ask him.

——A new and very attractive drug store will shortly be opened at Ninety-fourth Street and Third Avenue. Henry W. Brodil is one of the proprietors.

——David Heaton, of Cuero, Tex., returned home from New York and Boston by way of Chicago. He will also spend a few days in Waukesha, Wis.

——C. H. Howe has left his position with Weis & Chubbuck, 381 Fourth Avenue, and will take the senior lecture course at the New York College of Pharmacy.

——George J. Duerr has accepted a position with Dr. Walter H. Snow, 5 East Forty-second Street, in this city, and will have charge of the pharmaceutical laboratory.

——Frederick Knauf, a graduate of the Albany College of Pharmacy, class of '90, is now with Fred P. Schlesinger at Eighty-second Street and Amsterdam Avenue.

——George Strauss, in charge of Lehn & Fink's city department, has recently become a Brooklynite, which accounts for his being missed from his desk for several days.

——George St. John Snyder has purchased the store of Dr. Mangold, at the corner of Fifth Avenue and 132d Street, this city. Mr. Snyder is a N. Y. C. P. '86 graduate.

——William H. Wickham, of McKesson & Robbins, returned home from the Adirondacks last week, a little earlier than was expected. He is in excellent health and had a most enjoyable time at Blue Mountain Lake.

——Henry Hasenohr, pharmacist at 466 Grand Street, has returned with his family from his vacation. M. Lewson, who has been in his employ for some time, will resign his position to continue his studies at the University Medical College.

——The Southern men of most all the New York houses write that business is assuming a much better look in their territory. They all speak of going to the Atlanta Exposition later on.

——J. Burgheim, of Houston, Tex., has been in this city for a few days, coming North with his son, who is to enter the College of Pharmacy here. Mr. Burgheim is a well-known member of the American Pharmaceutical Association.

——Louis Kreutz has left his position with Wheeler & Guck, on New Chambers Street, to accept a vacancy at Max L. Walter's pharmacy, 1708 First Avenue. Mr. Kreutz will attend the lectures at the New York College of Pharmacy this session.

——Emil J. Maring, formerly in the drug business in East New York, has recently returned from Aquetuck, Albany County, where he spent two months. Mr. Maring is at present confined to the house by illness, but expects to re-enter the drug business in a short time.

——John Kiehl & Co. are the successors to Englehardt & Huber at 105 Third Avenue. They have improved the looks of the pharmacy and are doing a good business. King & Goldberg's store at 108th Street and Third Avenue is another new store that appears to be flourishing.

——A mysterious drug clerk is mixed up in the Mrs. McCarthy suicide case in Brooklyn. The woman killed herself with morphine taken from an original package that bore a Powers & Weightman wrapper. The Brooklyn police are looking for the drug clerk, who is said to have been a friend of the woman.

——Both Messrs. Walther and Robertson, of the Walther-Robertson Drug Co., of Pittsburg, successors to the A. C. Henderson Drug Co., have been in town on business and have seen many in the trade. Mr. Robertson was formerly secretary of the G. A. Kelly Co., and Mr. Walther is the owner of four large retail stores in Pittsburg.

——Samuel W. Fairchild, of Fairchild Bros. & Foster, and president of the New York College of Pharmacy, has returned with his family from the Adirondacks and has gone to Bangor, Me. Mr. Fairchild will try moose hunting for a week or two, and visitors to the firm's office in the Rhinelander Building may see this winter some evidences of his skill with the rifle.

——The Paint, Oil and Varnish Club of New York held its forty-eighth annual meeting last Thursday night at the Broadway Central Hotel. The delegates elected to attend the national convention of the trade in Chicago on Oct. 8, 9 and 10 are William E. Lucas, J. Seaver Page and M. D. Ehger. After a brief business session the members sat down to dinner and were afterward entertained by music and good stories.

——Ex-President Thomas F. Main, of the N. W. D. A., also speaks of the exceedingly pleasant character of the recent convention at Denver. He says he was never before so impressed with the exhibition of good fellowship as at the meeting just concluded, and he regards it as the natural result of the "getting together" of the men in the trade, whose interests are the same and who see that business and social benefits are to be gained by being members of the association.

——Business men near Cedar and William Streets have been much annoyed for more than a year by the flooding of the basements of their buildings by water. Several efforts have been made without success to find where the water comes from. Lannan & Kemp last week appealed to the Public Works Department to stop the nuisance. Workmen were put at work tearing up the William and Cedar Streets pavements and it is hoped to find the cause of the trouble, which is either a broken water main or natural springs.

——Suit has been brought in the Supreme Court by Orlando H. Jadwin and others to set aside the transfer of certain notes and money amounting to over $50,000 made by William H. Riker to William B. Riker. The defendants were the owners of the drug store on Sixth Avenue. It is alleged that in February, 1892, they sold out to a syndicate, the price paid being $50,000 in notes, and the claim is made that the notes were illegally transferred from William H. to William B. Riker. The plaintiffs also say they hold judgments against the firm of William B. Riker, Sons & Co. amounting to $5,586.45.

——Chas. H. Tompkins, of Schieffelin & Co., is one of those persons who have read notices of their death in the daily press. The death of a man by the same name in Somerville, N. J., led a Connecticut paper to issue a notice of the death of the drug-trade man, who is well known in southwestern Connecticut as the former commodore of the famous Neptune Club. No harm would have been done by the publication had not Manager Tompkins' aged mother seen the notice. She was in South Norwalk and immediately telegraphed for information. Schieffelin & Co. sent word that their manager was all right.

——R. W. Phair, of 14 Platt Street, and secretary of the Drug Trade Club, returned from Europe last week after a seven weeks' jaunt through England, France and Germany. It was his first trip abroad and he expressed himself as delighted with all he saw, particularly regarding Germany. While in Frankfort Mr. Phair ran across M. J. Breitenbach, the druggist at Fifty-seventh Street and Madison Avenue, who is to return in a few days on the Normannia. It is understood that a pleasant little party of friends of both gentlemen will celebrate that meeting when the Madison Avenue druggist returns, and arrangements are now being made.

——Charles Girber, a clerk at the Hegeman Co.'s store at 196 Broadway, was recently seriously assaulted by John Shine, son of the ex-deputy coroner. Shine went into the drug store and called for a glass of soda. Girber served him, whereupon Shine threw the drink in the clerk's face. Shine told him the drink was not what he called for and was ordered out of the store. This so enraged the rough that he drew an iron wrench from his pocket and hit Girber several blows on the head, felling him to the floor. Shine was arrested while trying to escape and has been held for trial. Girber had to be attended by a surgeon, but is not seriously hurt.

Halifax, N. S.

——F. C. Simson has been afflicted with the loss of two children within a few days of each other.

——Tupper Foster, of Canso, has accepted a position in the laboratory of Simson Bros. & Co., Halifax.

——Among our recent visitors has been Mr. Riley, in the interest of the perfume house of Lazell, Dalley & Co.

——D. L. Tremain, at present with S. Burns & Son, Sydney, C. B., will go in business for himself at Truro, N. S., about Oct. 1.

——W. Kennedy, formerly with H. W. Cameron, Halifax, has returned from Newfoundland and intends trying the next examination.

——R. Braine, formerly city traveler for Brown & Webb., has started a store in Canso, N. S., for himself. His place with his late employers is being filled by Frank Angwin.

——A. A. Patterson has returned very much improved in health and resumed his old position with Simson Bros. & Co. after an absence of over a year and a half in South Africa.

——Mr. Blackie, at present with H. W. Cameron, has leased a fine stand on the corner of Spring Garden Road and Queen Street and intends opening for himself in a week or two.

Oakland, Cal., and Vicinity.

——W. Clay Smith, formerly of this city, is now located in Stockton in connection with E. L. Hudgin, also of this city. They have gone to the slough city to anticipate the boom which is expected to follow the building of the Valley Railroad.

——The city marshal of Alameda descended upon all the Park Street druggists last week and issued warrants of arrest for the Prosser Brew Co. and Ambrose O'Neill, their clerk; R. T. Van Voorhies and his clerks; Dr. Mervy, and F. Binder and his clerk, for violating the liquor ordinance by selling liquor without taking out a city license. Dr. Mervy expects to be acquitted on the ground that he prescribed liquor for the policeman who swore out the warrant because he looked as though he needed it and stated he was suffering from cramps in the stomach. The Alameda pharmacists have the sympathy of their Oakland brothers who have just passed through the same ordeal, sixteen being arrested and three convicted and the balance acquitted for lack of evidence. It seems that Osgood Bros. were the first ones to be arrested, and they immediately went to work to secure evidence against the others, thinking that they would then effect a combination and contest the validity of the ordinance, but the other druggists, finding out who had gotten them into the mess, refused to combine, so in the end the Osgoods were among the convicted and the virtuous ones were acquitted.

HERE AND THERE.

——R. G. Moreland, manager Buck & Raynor's retail house, Chicago, is away on a vacation.

——Druggists of Rochester, N. Y., are said not to observe the requirements of the Poison law very closely.

——Ed J. Hemm, druggist of St. Louis, has taken a position with Adam Roth at Thirty-fifth and Olive Streets.

——At Roseville, O., a doctor is suing a local druggist for $5,000 damages, but for just what reason is not divulged.

——Charles H. Bowersox, with John Byrne & Co., Columbus, O., has just returned from a very pleasant outing.

——Burglars entered J. W. Darrah's drug store at Martin's Ferry, O., Sept. 12, but secured nothing for their pains.

——Thomas Burton, traveler for Morrison, Plummer & Co., of Chicago, has returned from a vacation trip through New England and Canada.

——Burglars have visited the drug store of E. H. La Pierre, Putnam Avenue, Cambridge, Mass., but their stealings, fortunately, have been small.

——George Shaw, formerly of the Chicago house of Lord, Owen & Co., has secured a lucrative position with a stationery firm in Lawrence, Kan.

——Charles Bauer, the St. Louis druggist of relief clerk fame, has settled down to business and purchased the drug store at Taylor and Cottage Avenues.

——Charles Klug, formerly of Heyers' pharmacy, St. Louis, has been appointed to the position of chief prescription clerk at Raboteau's pharmacy on North Broadway, St. Louis.

——Daniel H. Wuller, a well-known druggist of Butler, Pa., who pleaded guilty to selling liquor without a license, was sentenced to eight months in jail, fined $2,500 and the costs.

——The San Francisco wholesale men report business on the increase, but collections very quiet and slow. In the retail trade the druggists are ordering larger stocks with increased confidence.

——At Steubenville, O., Dr. R. Laughlin has sold out to his partners his interest in the Steubenville Drug Store. George Borden has resigned from the same store and is now at Long's pharmacy.

——J. C. Dent & Co., wholesale and retail druggists of Bridgeport, O., who were burned out a month ago, have resumed business in a handsome new store at Pike and First Streets.

——Andrew H. Ward, ex-inspector of drugs at the Boston Custom House, has gone into the advertising business in that city, making a specialty of promoting the sales of fertilizers and fodder.

——Instructions have been given to the police of Weymouth, Mass., to enforce the Sunday law, and the druggists will suffer in consequence. Apparently public opinion is against the movement.

——The Southern Journal of Pharmacy and Materia Medica is announced for first appearance about Oct. 1. It will be published at Nashville, Tenn., by Franc M. Paul; editor, Robert C. Bicknell.

——Dr. Aaron Meyers, a druggist of Rochester, N. Y., whose eccentricities and insane delusions have been the subject for public and newspaper comment for some time past, is dead from heart disease, it is thought.

——A Milwaukee paper reports that for the purpose of publishing a paper the Pharmaceutical Review Publishing Co. has been incorporated with a capital stock of $5,000 by Albert Kremers, Ewald Haase and Edward Kremers.

——A new drug store on Lower Broad Street, Augusta, Ga., will be opened Oct. 1 by Charles B. Patterson, and in the same city, at Ninth and Calhoun Streets, E. W. Stothart, formerly of Graniteville, S. C., has opened a new drug store.

——An arrest has been made in the case of robbery at the drug store of Walter E. Nichols, 697 Center Street, Jamaica Plain, Mass., though the missing clerk, who is supposed to have received the greater part of the $600 taken, has not yet been caught.

——The Geo. A. Kelly Co. of Pittsburg has entered suit against A. C. Robertson, a former member of the company, to recover $1,867.98, alleged to be due from him. It is claimed he borrowed and overdrew the amount sued for, and has refused to return it on demand.

——John Kilgallin, formerly manager of Dr. White's pharmacy, Jackson, Mich., is desirous of buying a drug store in some large town. Sam J. North, of Pontiac, wants to sell his store very badly, and it is possible that he can satisfy Mr. Kilgallin that it would not be wise to look any further.

——Druggist S. M. Sackett, of Monroe, Mich., had an economical streak on, and patched up a hole in his window with paper. The workmanship of the job attracted the attention of some roughs, who tore the paper out and then proceeded to squirt tobacco juice all over the goods inside, completely ruining them.

——Quinine is being offered in Washington by an individual who is a stranger to those engaged in the trade at 21 cents an ounce, about 4 cents below the regular price. The article is labeled Lion Brand and is said to be manufactured in Germany. Little disposition is being shown to purchase in view of the circumstances.

——Wallace Bros., of Statesville, N. C., the largest dealers in medicinal herbs in the world, have assigned. They have been in business thirty-six years. The pressure of certain creditors caused the assignment. Their liabilities approximated $200,000 and are said to be fully covered by the assets. Among the principal creditors are H. B. Claflin & Co. and the Cone Export Co., of New York. It is quite probable arrangements will soon be made for resumption of business.

——In a breach of promise suit for $10,000, brought by Miss Mary R. Streicher, Charles B. Blouch, a leading druggist of Lebanon, Pa., was served with a capias and admitted to bail in the sum of $1,000. The plaintiff alleges that the promise to wed was made nine years ago, and that, to all intents and purposes, she was Mr. Blouch's wife, at his home in West Lebanon for three of those years, but that there was no marriage ceremony performed. Mr. Blouch is indignant in his denials of any purpose to marry the prosecutrix, and pronounces it a case of blackmail. He seemed chiefly annoyed at its becoming public just before his prospective marriage to another woman.

——Quite a lively pharmaceutical scrimmage took place at Marshalltown, Ia., Sept. 14. Harry Ackert, a drug clerk, had trouble with another young man named Charley Whitehead, a clerk in another drug store, over a young lady with whom Ackert keeps company. The latter met Whitehead and slapped his face. Whitehead, without resenting the insult, passed into the store, but directly came out again, when Ackert assaulted him with a heavy druggist's pestle, breaking it in pieces over Whitehead's head and face. In the excitement that followed Ackert escaped and it is supposed took a train for Chicago. Whitehead was knocked down and severely, though not dangerously, hurt.

——Baltimore drug houses are watching with much interest the rapid rise of buchu, which last week advanced at the rate of nearly one cent per day. The jump was three cents in as many days. It is predicted that the drug will touch 18 cents. In speaking about this phase of the market, Mr. Alfred Dohme, of Sharp & Dohme, said it had been observed that a year of high prices followed one of low rulings. Last year buchu was quoted at 8 cents, which did not pay for gathering. As a consequence the quantity brought into the channels of trade fell off greatly, with the result that the scarcity is used to bull the market. Those houses which laid in a big stock are making a good thing out of it.

From Denver.

——The Denver Pharmaceutical Association held its regular monthly session on the afternoon of the 10th. A large number attended—in fact, the meetings of this association are rapidly increasing in interest and the association itself is of vast benefit to those who are within its fold. The Committee on Membership, of which Charles E. Ward is chairman, is doing some good work in endeavoring to bring into this association every reputable druggist, either clerk or proprietor, in the city of Denver. Once in two or three months the members meet and have a short session and then adjourn to the banquet room, and the good things spread before them combined with the feast of love and flow of soul tend to cement more strongly the brotherly feeling existing between them all. This plan is a good one to pattern by, and will do more toward establishing and maintaining that feeling of fellowship that must exist between the members of our craft to enable us to cope successfully with the numerous questions that are constantly arising that will materially affect the condition of our bank accounts unless we act in unison. Organize is the watchword of success to all pharmacists, and don't stop at that; when you have an organization support it morally, personally and, if needs be,

financially; attend all its meetings; have something to say, no matter how little it is, so long as it is of benefit to your fellow-druggists.

——Professor Ford has brought his family back to the city from their summer home in the mountains.

——Many are the words of praise heard for the poison register, sample sheets of which were sent out in the last issue of the Era.

——F. B. Angell, the Seventeenth Street druggist, has been attending the Boston conclave and returns to Denver highly pleased with his trip.

——Charles E. Ward, the "up-to-date" druggist at Eighth and Broadway, has a number of popular specialties of his own manufacture that are taking well.

——A. G. Clark, C. D. Barnes, A. B. Levi and C. E. Ward were among the Denver druggists who attended the session of the Grand Lodge Knights of Pythias at Boulder this week.

——Advertising as an adjunct to a successful pharmacy has in this city (since the Era commenced its series of examples and letters of advice) assumed large proportions, and now the store without some sort of an original or slightly-modified copy of some unique display, properly carded, etc., is a back number.

——The members of the N. W. D. A. made the circle trip and a number went out to the City of Zion, Salt Lake. When in the Southern Ute Reservation, near Durango, their special train was stopped and through the courtesies of Col. Dave Day, Indian Agent at this point, they witnessed a regular wild Indian dance and war-song accompaniment. In the glowing light of the camp fires the Indian figures made a weird spectacle, one that caused many of the ladies to cling closely to their escorts and numerous men to feel in their pockets for a flask or other articles of encouragement. Chas. H. Hover accompanied the party, doing the honors for W. A. Hover & Co. J. J. Riethmann, Jr., did the same for his house, and the guests speak in glowing terms of the treatment received at the hands of these gentlemen.

A St. Louis Druggist Sued.

St. Louis, Sept. 21.—Suit for $5,000 damages was filed in the Circuit Court in this city yesterday against Arthur H. Friedberg, a druggist at 1600 Biddle Street. The plaintiffs are Bernard J. Devaney and Belle F. Devaney, his wife. In their petition they allege that Mr. Friedberg carelessly compounded a prescription and caused the death of their infant child. The child, it appears, became sick on Aug. 5 and Dr. Langan prescribed for it. The plaintiffs allege that they sent the prescription to Druggist Friedberg, and that he put up a compound which failed to have the ingredients called for by Dr. Langan, and in consequence, they say, "the child became violently ill and died on Aug. 12."

Druggist Friedberg when seen denied that he put up a wrong prescription, and claims that the plaintiffs failed to use it according to directions. He proposes to fight the suit, and says he has no fear of the result. The case will not go to trial until the October term of the court.

ASSOCIATIONS,
CLUBS, SOCIETIES.

——The annual meeting of the Philadelphia Wholesale Drug Co., Limited, will occur early in December and the meeting will be an interesting one, as some action will be taken toward increasing the capital of the company. The last year the business has been fair and the company has done all the business possible with the capital it has. It has turned its capital over about eight times. The company has recently issued a neat catalogue, which is sent to members only, so that they can form some idea of what goods are kept on hand. The president of the company, in speaking of the application made for admission into the N. W. D. A., said: "I do not know yet what success the application has met with, as all the information that I have had in relation to it was from the secretary, who notified me that the application had been received and would receive proper attention. The object in applying for admission was to break down the prejudice in regard to the company. We wish to show the members of the association that the company is a business one and in this way we test the association, as its principle is to bring about more uniformity among the wholesalers. The impression has been given that this is an irregular company, which is not true, as we are willing to abide by the rules of the N. W. D. A. in every respect. We do nothing but a wholesale business and only sell to members."

——The officers of the Kentucky Pharmaceutical Association announce that the committee which had in charge the drafting of "An Epitome of the National Formulary" has completed its work, and that now the work is ready for sale at cost price to the druggists of that State for presentation to their neighboring physicians with their compliments. The Epitome is a small leather-bound vest pocket edition, containing 53 pages, and is so arranged that the name (according to scientific nomenclature), ingredient and quantity in each dose and general medical properties of each preparation can be seen at a glance. A therapeutic index has also been added, whereby a number of formulas may be found for the same indications. The cost will not exceed 14½ cents per copy. The conditions which caused it to be issued, its objects, etc., are set forth as follows in the preface to the Epitome:

"To the Medical Profession: In accordance with a resolution adopted at the meeting of the Kentucky State Medical Society, held in Shelbyville June, 1894, recommending the use of the National Formulary, and with the indorsement of the several medical societies of Louisville, the Kentucky Pharmaceutical Association presents, with her compliments, to the physicians an Epitome of the National Formulary. For the benefit of those who are not familiar with the National Formulary it would be well to state that it was compiled by a committee from the American Pharmaceutical Association and adopted by that body in recognition of the need of a standard formulary for the large class of preparations on the market which are unofficial yet meritorious. The committee to whom the work was assigned was composed of the most competent chemists and pharmacists in this country, and each formula was thoroughly tested as to its therapeutic value and pharmaceutical elegance before being adopted. We respectfully ask that you give this work a fair and unbiased trial. In prescribing, please abbreviate the words National Formulary with 'N. F.'"

Trade Interests Toward National Unity.

To organized pharmacists: In order to facilitate national organization as promptly as possible, I respectfully ask the president or secretary of all existing societies and organizations, including local, county and State, to favor me with, at their earliest convenience, the names of the following officers: The president, secretary and chairman of trade interests, if such committee exists.

The Section on Commercial Interests in the American Pharmaceutical Association during this and next year will have communications that will be appreciated by them on trades-interest organization and other important matters connected with their present and prospective welfare.

A prompt reply to the above will be highly appreciated by George J. Seabury, chairman of Commercial Section, 59 Maiden Lane, New York.

The New Rebate Plan.

Philadelphia, Sept. 21.—Clayton F. Shoemaker, who is chairman of the district that comprises Pennsylvania and Delaware, has sent out notices to all the wholesale druggists and others who are interested in proprietary goods for a meeting on Sept. 23, to be held at the rooms of the Philadelphia Drug Exchange, to take action on the new plan for the handling and sale of proprietary articles, and to name a representative to represent this district. This call for a meeting was in response to the circular sent out by Secretary Bowers, of the Proprietary Committee of the N. W. D. A., to the leading druggists of the various sections. The United States is divided into 13 sections, as follows: The New England States as one section, New York and New Jersey another, Pennsylvania and Delaware as one, Ohio, Indiana and Kentucky as one, Maryland, Virginia, West Virginia and North Carolina as one, South Carolina, Georgia and Florida as one, Tennessee, Mississippi and Alabama as one, Illinois and Michigan as one, North Dakota, South Dakota, Minnesota and Wisconsin as one, Nebraska, Kansas, Missouri and Iowa as one, Texas, Oklahoma Territory, Indian Territory and Arkansas as one, Washington, Oregon, California, Nevada and Arizona as one, and Idaho, Montana, Wyoming, Utah, Colorado and New Mexico as one.

——Attachment suits were filed last week against Druggist Emil Eyssell, of Portland, Ore., aggregating about $3,000.

THOMAS TYRER,
President Society of Chemical Industry.

NEW YORK BRANCH - - - SOCIETY OF CHEMICAL INDUSTRY.

The first meeting of the Society of Chemical Industry for the season of 1895-96, which is looked forward to with much pleasure by all members of the local section, will take place on Oct. 7 instead of Oct. 14, as previously announced. The reason for the change is that Ludwig Mond, who was coming over from England with President Tyrer, has already sailed for New York, and his engagements are such that his stay in New York City will be rather limited. So the date of the first meeting of the section has been set ahead to enable Mr. Mond to meet the members and yet allow him to get away when business necessities require. He will arrive next Saturday. President Tyrer is expected on Oct. 5, the Saturday following, and on the following Monday the first meeting of the local section will take place.

Besides the meeting of Oct. 7, at which President Tyrer and Ludwig Mond, F. R. S., Honorary Foreign Secretary of the society, will be present, the local section will hold meetings on Nov. 4, Dec. 2, Jan. 6, Feb. 3, March 2 and April 6.

Thomas Tyrer was born in Staffordshire, England, in 1842. His father was a schoolmaster and a friend of Charles Dickens, Henry Vincent and Thomas Cooper. Young Tyrer became a student at the Royal School of Mines, then studied chemistry under Professor Hofmann, attending also the lectures of Tyndal and Huxley and those of Dr. Percy on metallurgy. He left the College of Chemistry in 1862 and took a situation as chemist. His first work was to prepare exhibits for the International Exhibition in London, 1862. After a few years he became manager of the concern, and upon the retirement of the senior partner Mr. Tyrer became one of the firm. He remained so for 14 years. At that time the partnership terminated and Mr. Tyrer started in business again under the name of Thomas Tyrer & Co.

He is a Fellow of the Institute of Chemistry, London, of the Chemical Society and of the Statistical Society. In the Society of Chemical Industry much of the work is done by committees, and Mr. Tyrer's great work has been done on the Publication Committee. The society is justly proud of its journal, and in its making Mr. Tyrer has always assisted with ever-ready practical and useful suggestions.

On Jan. 5, 1891, Mr. Tyrer was presented with a handsome testimonial from members of the Chemical Society, the Pharmaceutical Society, the Institute of Chemistry, the Society of Chemical Industry and the London Chamber of Commerce, "in recognition of services which have aided materially the progress of industrial chemistry." The president of the Society of Chemical Industry became interested in that organization at its conception. When Sir Henry Roscoe first suggested the idea of the society, or rather the idea of the nationalization of chemical science, and Mr. George Davis had planned the scheme, Mr. Tyrer was selected as the best possible man to assist in working it in London. The result has shown the wisdom of the choice. The president is a most thorough man in all his business dealings, and firmly believes in seeing for himself what the sections of the society outside of the home one are doing. To this idea is due his coming visit to the New York section, now only a year old, but already a prosperous and pushing organization. This is in no small measure due to the excellent officers of the section. Chairman Alfred H. Mason has worked indefatigably to make the section up to date in all particulars. Last year's lectures were especially interesting and instructive, the local press, even outside of the drug papers, paying particular attention to the later lectures. Chairman Mason is also a member of the American Chemical Society, a trustee of the New York College of Pharmacy, a member of the New York State Pharmaceutical Association and of the American Pharmaceutical Association. He is a pharmaceutical chemist. In 1871 he was elected Fellow of the Chemical Society of London, of the Berlin Chemical Society in 1875, and of the Royal Microscopical Society of London in 1885. He has filled the office of president in several learned societies in England and Canada, and is honorary member of the Chemical Associations of London and Liverpool, the Burnley Scientific Club, the Quebec Pharmaceutical Association, the Montreal College of Pharmacy, and the Ontario College of Pharmacy, and is the author of several scientific papers which have been published in this country.

The other arrangements for the entertainment of the distinguished visitors are not yet completed, but will be by the time President Tyrer arrives. At the office of Wing & Evans, agents for Brunner, Mond & Co., the visit of Mr. Mond is looked forward to with especial pleasure, as it is his first trip to this country. The accompanying picture of Mr. Mond is from a group photograph that occupies a conspicuous place in the office of Wing & Evans.

LUDWIG MOND,
Brunner, Mond & Co.

—The Torrey Botanical Club held its second fall field meeting Sept. 21. Owing to the intense heat but a few members put in an appearance. These were conducted by Dr. S. E. Jelliffe, of the New York College of Pharmacy, to Rockaway Park, where a number of specimens of the samphire, cassia, golden rod, bay berry, bindweed, geriadia, etc., were obtained.

—Rudolph S. Vitt, secretary of the St. Louis Drug Clerks' Society, and Ambrose Mueller, another member of the society, have decided to forsake the practice of pharmacy and will commence the study of medicine and surgery this fall. Both are determined to make their mark as M. Ds.

—North Dakota Board of Pharmacy will hold its semi-annual meeting at Fargo, Oct. 24.

—The Virginia Board of Pharmacy will hold its next meeting Oct. 22, instead of Oct. 8, as previously announced. Richmond will be the meeting place.

—The Connecticut Board of Pharmacy held a special meeting Sept. 11. Five candidates appeared, of whom two were successful, Thomas H. Young, of New Haven, and Jas. J. McLinden, of Waterbury. The following were granted licenses on diplomas of New York College: Robert J. Westermayr, Greenwich; Frank P. Bannon, Winchester; W. H. Madison, Bridgeport. Another special meeting will be held Oct. 9, 1895.

—The saloon-keepers' association at Milwaukee, Wis., is said to be preparing for an attack upon druggists who sell bottled beer.

—H. A. Antram, of the Randolph Box and Label Co., of Chicago, is one of the heirs to the estate of the late Lord Antram, in Ireland, valued at $75,000,000. The Antram heirs will have a meeting Oct. 8, 9 and 10. Mr. Antram has put his claim in the hands of his attorneys. He remarked with a smile that the prospect of a share in the estate had not induced him to give up his position yet. All Mr. Antram's friends are wishing him the best of success.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Little Rock, Nov. 13.
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Oct. 9.
Colorado (C. H. Wells, Pueblo)—Denver, Dec. 6.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Dec. 3.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Oct. 7.
Florida (Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Oct. 1.
Kansas (W. C. Johnston, Manhatton)—Junction City, Dec. 11.
Kentucky (Wiley Rogers, Louisville)—
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Oct. 9.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Oct. 8.
Massachusetts Freeman H. Butler, Lowell)—Boston, Oct. 1.
Michigan (F. W. R. Perry, Detroit)—Lansing, Nov. 5.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Oct. 15.
Mississippi (J. C. Means, Natchez)—Jackson, Oct. 1.
Missouri (F. W. Sennewald, St. Louis)—St. Louis Oct. 8.
Montana (G. W. Shoemaker, Billings)—Anaconda, Oct. 8.
Nebraska (M. E. Shultz, Beatrice—Lincoln, Nov. 13.
New Hampshire (George F. Underhill, Concord)—Manchester, Oct. 23.
New Jersey (Albert S. Elwell, Bridgeton)—.
New Mexico (W. C. Porterfield, Silver City)—Albuquerque, Sept. —.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburgh, Rochester, Syracuse and Yonkers, Nov. —.
North Carolina (Wm. Simpson, Raleigh)—
North Dakota (W. S. Parker, Lisbon)—Fargo, Aug. —.
Ohio (W. R Ogler, Columbus)—Cleveland, Oct. 15.
Oklahoma (C. P. Wickmiller, Kingfisher)—Perry, Oct. 1.
Oregon (Dan J. Fry, Salem)—Albany, Oct. 1.
Pennsylvania (Charles T. George Harrisburg)—.
Rhode Island (Wm. E. Cates, Providence)—Providence, Oct. 7.
South Carolina (H. W. Hummel, Charleston)—.
South Dakota (I. A. Keith, Lake Preston)—Aberdeen, Oct. 9.
Tennessee (J. O. Burge, Nashville)—Chattanooga, Oct. 16 and 17.
Vermont (J. G. Bellrose, Burlington)—.
Virginia (E. R. Beckwith, Petersburg)—Richmond, Oct. 22.
Washington (W. H. T. Barnes, Seattle)—.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville)
Prairie du Chien, Oct. 9.
Erie County, N. Y. (C. O. Rano, Buffalo)—Buffalo, Oct. 5.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn)—Brooklyn, Oct. 15.
New York City (Wm. Balser, M. D., 218 East 13th street)—College of Pharmacy building, Oct. 14.

——The Georgia Board of Pharmacy will meet in the Capitol, Atlanta, Nov. 4, to examine candidates for druggists', apothecaries' and pharmacists' licenses. Those expecting to come up for examination should notify the secretary, Dr. Henry R. Slack, La Grange, Ga.

——At the meeting of the Colorado Board of Pharmacy in Denver Sept. 7, of 22 that applied only 17 appeared, 8 of whom received certificates as registered pharmacists. The next meeting will be held in Denver Dec. 6 and 7. The board decided at the last meeting to hold two-day sessions hereafter, one day devoted to written examination and the other to the identification of drugs and manipulation.

——Sessions of the Massachusetts Board of Registration in Pharmacy were held Sept. 10, 11 and 12, at which 40 applicants were examined. Certificates were granted to Ambrose A. Keeley, of Fall River; Ernest S. Bisbee, of Boston; Austin A. Frye, of Lowell; Michael U. Robbins, of Boston; Joseph A. Hays, of New York; Pierre Brunelle, of Lowell; Alfred J. Giguere, of Holyoke; Ernest J. Alley, of Lowell. Next meeting, Oct. 1 and 2.

——The Kansas Pharmacy Board granted certificates to the following applicants, who passed at the examination held Sept. 11, at Wichita: Pharmacists—J. P. Ball, Hesston; R. B. Bird, Wichita; L. T. Brown, Prairie View; R. D. Elmore, Topeka; O. B. Engel, Manhattan; G. F. Gehring, Wichita; W. H. Gunther, Topeka; Wesley Hanzel, Belleville; B. A. Moore, Hutchinson; W. F. Jacobson, Morrill; Reiu Wohler, Sylvan Grove. Assistants—Miss Mary L. Carlile, Leon; E. W. Rollier, Topeka. By diploma—A. B. Clarke, Oskaloosa; Claih B. Harris, Kansas City; W. B. Kelling, Garnett; H. G. La Master, Kansas City; Carl Phillips, Lawrence; C. D. Reynolds, Savonberg; A. P. Rudiger, Topeka. The Board of Pharmacy will hold the regular quarterly meeting for examination of applicants for registration at Junction City Dec. 11. The meeting is for one day only and candidates for registration should file their applications with the secretary at least five days prior to the date of the meeting.

Unregistered Druggists in Cincinnati.

Cincinnati, Sept. 23.—The Ohio Board of Pharmacy has commenced operations against the non-registered pharmacists of this city. On last Tuesday Druggists Albert Ross, Ninth and Vine Streets, and Martin Stoll, Allison and Vine, were arrested on complaint of Albert Meininger, a member of the board, on the charge of compounding medicines without being registered. Stoll was arraigned in the police court on the following day and fined $25 and costs. Ross was granted a continuance.

The sudden activity of the State Board is the outcome of a special meeting held here last week, at which it was decided not to delay matters further. Mr. Meininger was instructed to proceed against violators at once and cause the arrest of any unregistered druggist or clerk filling prescriptions. Mr. Meininger states that he has prepared a list of all the non-registered pharmacists in Cincinnati and will file affidavits against them as soon as practicable.

The action of the State Board is favorably commented upon in drug circles, where a desire to conform to the requirements prevails.

COLLEGES AND SCHOOLS OF PHARMACY.

——So large a number of candidates for admission to the Massachusetts College of Pharmacy presented themselves at that institution on the day set for examinations that the doors had to be opened long before the time set. This is an indication of the popularity of the college, as well as of the interest taken in the study of pharmacy. There are the same instructors at the college as last year, with the exception of a few assistant professors.

——At the regular meeting of the Maryland College of Pharmacy on Sept. 19 the additions to the faculty made informally some time ago were confirmed. They are Daniel F. Base, Ph. D., professor of microscopy and associate professor in chemistry; Charles Schmidt, Ph. D., instructor in pharmacy; John P. Piquett, Ph. D., instructor in botany and pharmacognosy. The delegates to the meeting of the American Pharmaceutical Association in Denver, through their chairman, Prof. William Simon, made their report. Dr. John I. Gross and Edward J. McGraw were elected members of the college.

——Detroit College of Pharmacy will begin its next school year Oct. 2. The prospects for a larger attendance than ever are very good. All lectures are given in the evening. Many of the clerks in the city's large drug houses avail themselves of this course with a view to improving their condition, recognizing the fact that the better a man is equipped for any position the more sure he is of success. The faculty is the same as last year with one exception. J. L. Tegarden, Ph. C., is the new member, and he will be the instructor in pharmacy. Mr. L. H. Gardner, formerly professor of materia medica, has had to resign and go West in search of health. Mr. Gardner's position as secretary of the faculty will be filled by Prof. Franklin H. Frazee.

——The commencement exercises of the Northern Indiana Normal School, at Valparaiso, were held the evening of Aug. 15. The pharmacy class was composed of Maury D. Baker, May E. Bartlett, Bernard Bevelhymer, Francis E. Bishop, Ellan Brinkman, Philip W. Brown, L. F. Crain, Delmer L. Davis, Mary A. Eikenberry, Joel R. Everitt, Thomas J. Failor, Statella Fluesmieir, J. Delbert Foor, Martin L. Galbreath, Freeland J. Godman, Ernst F. Grahmann, John D. Greene, Emil H. Grubbe, George W. Harvey, Aimee J. Haskinson, Frank C. Howminski, A. F. Hunte, Charles Johnston, John L. Kendall, George E. King, Harry C. Kitchen, Frank B. Knudson, Amil P. Lenhart, Homer E. Lewis, Mattie McClune, Alpha R. Malcolm, Abram V. Mauck, Elkanah May, H. Willis Meade, Nina B. Nash, Thomas B. Nash, Thomas E. O'Connor, Dunham C. Parker, Eley. E. Perisho, John E. Purdie, Grant S. Richards, William Richmond, Valentine Simmons, Arsen H. Sissakian, Henry C. Stevenson, Charles M. Street, Fred L.

Sunderman, Frank G. Thatcher, Edward F. Tindal, Charles Topp, Benjamin D. Webber, Milton M. Wells and J. M. Wood.

——To give the juniors of the Philadelphia College of Pharmacy who flunked at the last examination a chance, the faculty has decided to give them another trial, and Sept. 27 has been set as the day for the extra examination. There were considerably over 100 that failed and up to the present time 104 have signified their willingness to make another attempt. It is thought that the full number that were turned down will not put in an appearance, as word to this effect in some cases has been received. The junior class of 1895-96 promises to be a very large one and equal to that of last year, which was the largest in the history of the college. Henry Trimble, professor of chemistry, has been honored by the committee of the Atlanta Exposition by appointing him one of the judges on tannins and forestry. Professor Trimble will leave for the Exposition on Oct. 14 and he expects to be able to finish his work within one week.

——The fall sessions at the Maryland College of Pharmacy will begin Oct. 2 and preparations to that end have been in progress for some time. Especially has the work been taken up with renewed vigor since the return of Professors Caspari and Simon from Denver, and when the college opens on the date mentioned it will have increased laboratory facilities, additional teachers and instructors, and will be in every way even better fitted to train students than during previous years. The chemical laboratory, which was formerly open for class instruction chiefly, will be so arranged as to give students an opportunity for individual work at any hour of the day under the guidance of Daniel F. Base, Ph. D., formerly of the Johns Hopkins University. The course has been extended from six to seven months, and it has been decided to establish a post-graduate course, commencing with the session of 1896-97. This course is open to all graduates in pharmacy, and will consist largely of advanced work in the pharmaceutical, chemical and microscopical laboratories, as also in a series of lectures on the different subjects pertaining to pharmacy. Those students who are successful and prepare an original thesis will receive the title of Doctor of Pharmacy. On Sept. 24 the examination of applicants for matriculation took place before a board at the college. Candidates were examined in the ordinary branches of an English education, or instead might furnish a certificate showing that they have passed an examination equivalent to that required for admission into the high schools of Baltimore. Those successful will then present themselves before Treasurer Sam'l Mansfield, who will be at the college for that purpose and receive their matriculation cards. Late comers will have another opportunity to be examined on Wednesday, Oct. 16. The fall examination for admission to the senior class will take place Sept. 26.

The Northwestern University School of Pharmacy.

More than usual interest has been manifested among the schools of pharmacy in Chicago, the N. W. U. School of Pharmacy being among the leaders in the line of attendance and general excellence. The regular term began about the first of the month and a large attendance is reported. There are about two hundred students enrolled for the Ph. G. degree, aside from those who will take the degree of pharmaceutical chemist, the work for which will begin Oct. 1. All the students except those intending to take the course prescribed for the latter degree are in attendance.

The Chicago College of Pharmacy.

At a meeting of the faculty of the Chicago College of Pharmacy on Sept. 20 the following quiz-masters for the ensuing term were appointed: A. D. Thorburn, Ph. G., chemistry; George E. Case, Ph. G., pharmacy; W. B. Day, Ph. G., materia medica and botany.

Mr. P. F. A. Rudnick, who has been quiz-master in pharmacy, leaves to study chemistry at the University of Illinois at Champaign. Mr. George E. Case, who succeeds him, has had a practical experience in pharmacy of over eight years and was graduated with honors from the Chicago College of Pharmacy in 1892.

All indications point to a large attendance. Fifty students are already enrolled, among them being two ladies.

St. Louis Alumni Association.

St. Louis, Sept. 21.—The Alumni Association of the St. Louis College of Pharmacy had a gala time to-night at the college building, 2108 Lucas Place. The occasion was the association's "china anniversary" as well as the opening of the twentieth annual course of scientific lectures. A large and select crowd was in attendance, and a particularly interesting and enjoyable time was had. Dr. Otto A. Wall delivered a highly entertaining lecture on the subject, "Why We See Things in Colors," which was beautifully illustrated with many lantern slides and experiments. This was followed by a banquet managed and prepared by the Ladies' Committee. Many toasts were appropriately responded to. The following committee had the matter in charge and were tendered a vote of thanks for its successful execution: Ambrose Mueller, chairman, Rudolph S. Vitt, secretary, Dr. J. C. Falk, Wm. D. Hoeffken, J. F. C. Hassebrock, Herman A. Kunz and O. F. Fischer.

——Druggist P. Q. Boyden, of Hudson, Wis., has recently refitted and renovated his store, putting in a large plate-glass front and indulging lavishly in frescoes and decorations, and now has one of the finest stores in the State.

——In a raid upon a drug store at Mystic, Conn., the officers found a keg of rum, a demijohn of gin and various bottles of port wine, Medford rum, sherry, Jamaica wine, whisky and peach brandy.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ER Box 1483, New York.

ALABAMA.

Selma.—Thomas Clopton, deceased.

CALIFORNIA.

Auburn.—Martin & Botto, now D. Botto.
San Francisco.—N. G. Greenberg, sold out.

CONNECTICUT.

Bridgeport.—Southport Pharmacy, sold to Lewis R. Sweitzer.
New Haven.—A. H. Barnes, now the A. H. Barnes Co.

DELAWARE.

Wilmington.—E. W. Jester, 1000 W. 7th St., sold to John C. Baker.
I. V. McWhorter, 9th and Orange, closed.

GEORGIA.

Ellaville.—H. S. Munro, sold out.
Rome.—Hill City Pharmacy, new store.

IDAHO.

Hailey.—J. S. Tracy, will reopen.

ILLINOIS.

Bellflower.—H. L. Harris & Co., sold to James Johnson.
Chicago.—Dr. Bidwell, Taylor and Morgan, new store.
C. F. Class, 227 Division, sold to E. E. Stolze.
G. A. Graves, 39th and Oakenwald, new store.
J. E. Kimball, deceased.
L. P. Larson, 12th and Kedzie, branch store.
Herman Schade, sold to Mr. Hansen.
E. A. Schroeder, Halsted St. and Evanston Ave., branch store.
Silver Pharmacy Co., sold out.
Decatur.—Chas. H. Tyler, sold to William W. Whitley.
Gibson.—Strehle & McDowell, sold to John Verland.
Libertyville.—Lovell's drug store, damaged by fire.
Ottawa.—Nicholas Zender, removed to Clay and Madison.
Virginia.—Wm. Barkley, sold his interest in the firm of J. W. Reynolds & Co. to John Decker.
West Point.—J. F. Hart, deceased.

INDIANA.

Huntington.—Bush & Lukens, now Lukens & Lehman.
Logansport.—B. F. Keesling, burned out.
New Castle.—Cooper Drug Store, reopened.
Owensville.—Byrd Drug Store, sold to Dory Fogas.
Pierceton.—Foster & Bros., damaged by fire.

IOWA.

Des Moines.—Walter Scott deceased.
Dubuque.—John E. Hedley & Co., 940 Main St., new store.
Galva.—John Redden & Co., sold to A. Schneider & Co.
Lake City.—McMackin Bros., sold to Martin Drug Co.
Quincy.—I. H. Walker, sold to D. E. Swain.

KANSAS.

Ottawa.—Stockton & Co., damaged by water.
Washington.—Stevens & Hughes, now T. C. Hughes.
Wichita.—Eureka Drug Store, damaged by fire.
R. B. Wallace, sold to F. Henrion.

KENTUCKY.

Carrollton.—M. A. Gier, damaged by fire.
Shelbyville.—C. C. Hall, assigned.

LOUISIANA.

Hammond.—Dr. McDaniel's drug store, damaged by fire.
H. E. McKay, damaged by fire.

MAINE.

Bangor.—D. A. Sargent, now D. A. Sargent & Co.
East Deering.—H. D. Stimson, reopened.

MASSACHUSETTS.

East Gloucester.—W. H. Strong & Co., sold to W. W. McMillen.
Fitchburg.—F. H. Rockwell, damaged by fire.

Gloucester.—Albert Center, Cleveland St., new store.
Dr. W. T. Fuller, sold to William H. Strong.
A. V. Keefe, sold to W. H. Strong.
Lawrence.—Otto Muller, Prospect and East Haverhill, new store.
Lenoxdale.—Lawton & Co., damaged by fire.
Littleton Common.—Stephenson & Co., sold to Conant & Co.
Marlboro.—P. D. Brewin, Main and Liberty Sts., new store.
Melrose.—G. E. Robbins, removed to Wyoming Ave. and Hurd St.
Springfield.—Colin D. Cameron, 340 Main St., new store.
Narcoti Chemical Co., assigned.
Stoughton.—Dr. W. E. C. Swan, new store.

MICHIGAN.

Bellevue.—Spaulding & Robinson, now T. E. Robinson.
Charlotte.—The Palace Drug Store, sold to O. P. Shuler, Jr.
Derby.—J. T. Hollis & Co., new store.
Harrison.—Witherspoon's drug store, removed to Clare.
Kenton.—Kenton Drug Co., new store.
Naubinway.—Londe & Leclerc, new store.
St. Joseph.—Howard & Pearl, now Howard & Pearl Drug Co.
Thompsonville.—Ives & Owen, removed to Cheboygan.

MINNESOTA.

Kasota.—F. W. Sanger, sold to H. L. Conger.
Minneapolis.—G. A. Bingenheimer, sold to F. M. Guiwits & Co.
St. Paul.—George Mitsch, deceased.

MISSISSIPPI.

Carthage.—Cadenhead & Jordan, now Cadenhead & Co.
Greenwood.—B. L. Wells, removed to Cleveland, O.

MISSOURI.

Diamond.—W. H. Smith, sold to Dr. Bradford.
Gallatin.—Wright & Heaston, now William A. Wright.
Hannibal.—De Garis Bros., now W. De Garis.
Mexico.—E. S. Frost, now Frost & Whitney.
St. Louis.—Atlanthus Mfg. Co., incorporated.

NEBRASKA.

Lincoln.—The H. F. Clarke Drug Co., failed.
Washington.—F. G. Ebener, sold to Coates & Co.

NEW HAMPSHIRE.

Penacook.—C. H. Fowler, sold to W. C. Spicer.

NEW YORK.

Buffalo.—A. J. Roderback, deceased.
Little Falls.—T. H. Wheeler, removed to Binghamton.
N. Y. City.—Pfarrer-Sebastian-Kneipp Med. Co., incorporated.
Sprague-Schuyler Co., incorporated.
Rochester.—Dr. Aaron Myers, deceased.

NORTH CAROLINA.

Chapel Hill.—Klutz & Yearby, now W. M. Yearby.
Statesville.—Wallace Bros., assigned.
Wilmington.—Wm. Niestlie, 7th and Red Cross, new store.

OHIO.

Akron.—Eureka Remedy Co., incorporated.
J. P. McCann, new store.
Canton.—Pope & Binkley, now L. C. Binkley.
Centerburg.—Hulse & Henry, now Hulse & Co.
Cleveland.—A. T. Hoffman, Scoville Ave., cor Hackman, sold to C. J. Brezina.
Honecker Bros., Pearl, cor. Trowbridge, new store.
W. B. Marvin, 1105 Detroit St., sold to A. Forrest.
Columbus.—L. W. Smith, 168 S. 3d St., assigned.
Columbus Grove.—W. L. Crawford, sold out.
Greenville.—Hall Bros., sold to Johnson & Fryer.
Lima.—C. W. Heister, new store.
Lorain.—Rhoads & Robinson, new store.
Mantua.—W. F. Ball, sold to H. E. Cover
Massillon.—Morganthaler & Heister, now P. Morganthaler.
Mt. Vernon.—L. E. Porter, removed to Fremont, O.
North Amherst.—M. G. Raymond, sold to F. C. Oehl.
Zanesville.—George H. Chapman, 59 West Main, new store.

PENNSYLVANIA.

Apollo.—W. G. Young & Co., new store.
Columbia.—W. L. Bucher, 6th and Walnut Sts., new store.
Erie.—Disbrow & Suerken, now B. F. Disbrow.
Great Bend.—Mrs. C. B. Woodward, sold to Frank E. Sands.
Hadley.—A. C. Leonard, sold out.
Pittsburg.—John Beck, damaged by fire.
Rockdale.—Mathues & Warren, now Nathan Warren.
Waterford.—E. W. Patten, sold to E. E. & P. G. Kendall.

SOUTH CAROLINA.

Beaufort.—E. W. Bailey, now Stuart & Bailey.
H. M. Stuart, now Stuart & Bailey.
Greenville.—D. T. Bacot & Co., sold to W. A. Davies & Co.

SOUTH DAKOTA.

Marion.—Van Buskirk Bros., now Monte Van Buskirk.

TENNESSEE.

Knoxville.—Yeager & Scruggs, now A. A. Yeager.
McMinnville.—Sanders & Ramsey, sold to Bostick Bros.
Union City.—W. W. Halles & Co., damaged by fire.

TEXAS.

Corsicana.—City Drug Store, incorporated.
Dallas.—J. W. Crowders, deceased.
Elgin.—S. H. Robertson, sold to Bennett Bros.
Moulton.—Barteck & Hempel, now C. N. Hempel.
Richmond.—A. Hirsch, now Baker & Hirsch.
Sherman.—Simmons & Hills, now R. B. Simmons.
Waco.—Merrick & Nelson, now Bell & Merrick.
Williamson Drug Co., deed of trust filed.

VERMONT.

Springfield.—N. C. Dodge, new store.

VIRGINIA.

Harrisonburg.—I. Paul Fletcher, new store.
Lynchburg.—S. J. Simmond, sold to F. C. Haile & Co.

WASHINGTON.

Castle Rock.—I. O. Day, deceased.

WEST VIRGINIA.

Huntingtou.—McAbry & Castor, now McAbry & Yates.
U. G. Wriston & Co., new store.
McDonald.—Dickinson Drug Co., sold out.

WISCONSIN.

Alma Center.—R. E. Zimmermau, removed to Mondovi.
Dodgeville.—Roberts & Joues, now Roberts & Prideaux.

NOVA SCOTIA.

Liverpool.—Hutching's drug store, damaged by fire.

ONTARIO.

Beeton.—W. C. Law & Co., new store.
Belleville.—B. Ostrom, damaged by fire.
Hamilton.—W. S. Chapman, deceased.

QUEBEC.

Montreal.—Alex. McMillan, Phillips Square and St. Catherine, new store.
Quebec.—P. Mathie, deceased.

Correspondence.

We accept no responsibility for the views and utterances of our correspondenta. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

WHAT DRUGGISTS MUST KNOW.

——Want 10 cents worth luside (insect) powder.
5 cents worth clothes line (chloride of lime).
(This is written) 10 cents worth gemerachgenger (Jamaica ginger).
(This is written) 5 cents worth alowives (aloes).
4 sents snuff sented pepment (scented peppermint). Butler & State, Portland, Me.

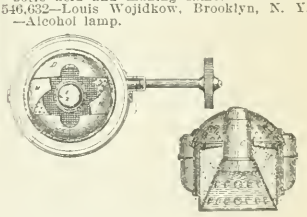
——10 cts. Oxsolatasett
10 cts. Tolbletts (?).
——10 cts. worth of Corrose of Suplement
——Please give this Boy one 50 C Botle of sairle compound and 25 C wirth of your best whisky for medson for Miss ——— and 5 cents hemp seed
10 C wirth peregorie
5 C wirth of Borix
——receipt for celery compound
two oz celery seed
2 of cammomile bloos
2 hadfulls of hops
simmer the herbs to gather in three quarts of water then strain ad 2 qts of cold water When cold ad 1 oz of essence of wintergreen
1 of sasafras esence
10 cts of alcohol
¼ lb of salts F. E. Cartwright, Rochester, N. Y.
——5c Oil of Chasia
or
5 cents of Oil Cinment
——Please give her som Plaster parries anoughf to fix a burner on a lamp
——1 bottle Sytric Magnesive fill the Preception bottle and troth brush
——5 cts sweet spirits of neighter
——Camfros Alcohol 10c
——Please send me 5c with the fine red paciffic to this child for rats. And oblige Mrs. ———
——worth of lint seed meal 1 lb
5 cts worth of gum camfor
——Dear Sir:—Please give the bearer of this note 5c worth of Red Precipitate to kill vermon in the head, and oblige, ———
——Please accommodate Mrs. G——— with garibolick to wash a soar
——Please give Me 5 cents carebolic asid
——5 cts worth of red pursited
J. M. Farnsworth & Co., 4259 Wentworth Avenue, Chicago, Ill.
——I want 10 c worth of something for to drive of the stomach a lady is got a pain in her stomach she eate to much
W. A. Ball, Carmi, Ill.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS

Issued September 17, 1895.

546,401—Chas. M. Higgins, Brooklyn, N. Y. —Adhesive paste.
546,596—Nathaniel P. Pratt, Atlanta, Ga.—Process of and apparatus for making sulfuric acid.
546,604—Johannes Thiele, Munich, assignor to Badische Anilin and Soda Fabrik, Ludwigshafen, Germany.—Amido-tetrazotic acid and making same.
546,632—Louis Wojidkow, Brooklyn, N. Y. —Alcohol lamp.



Claim.—An alcohol lamp constructed of a body proper, an outer plate or shell, secured to and surrounding said body, leaving an air space between them, and a perforated deflector fitting between said plate and body proper and extending above and over said body proper, for directing the air to the flame, substantially as described.

TRADE-MARKS

Registered September 17, 1895.

27,068.—Dandruff Cure. Cummins H. Folkner, Murray, Ia. The figure of a six-pointed star formed by the intersection of two equal-angled triangles, the letters "F. D. C.," and the picture of a bottle.
27,069.—Cough Drops. R. B. Stiles' Sons, Norristown, Pa. A figure representing a typical witch having the appearance of traveling through the air.

——Edgar D. Taylor, vice-president of the Powers-Taylor Drug Co., Richmond, Va., was married Sept. 10 to Mrs. Virginia McGruder.

——Joseph E. Kimball, at one time a well-known druggist of Chicago, died in that city last week at the age of fifty-three.

AMERICAN EXHIBITS - - - AT THE BRITISH MEDICAL MUSEUM.

American pharmaceutical houses which are striving for a share of Great Britain's patronage, and consequently maintain agencies in London, are by no means few, and, what is better, they are representative of what is best on our side in this branch of commercial industry. American goods are popular with the Briton, for one reason probably because of their excellence of finish, which makes them so attractive in appearance, one of the first requisites of ready salability, as we all know. Then the American business man has a way of pushing his interests which is hard to withstand. At any rate, whatever the reasons, American firms have won and are adding to success in pharmaceutical fields in the British Isles. A truly American house, which has become acclimatized but has not lost American characteristics, is that which we have often quoted as an example of most satisfactory attainments, the house of Burroughs, Wellcome & Co., which in a few years since its establishment in London has built up a most imposing and gratifying business.

A few weeks ago it was mentioned in these columns that one of our esteemed New York houses, Fairchild Bros. & Foster, were sending a special representative to London whose mission was to present personally to the physicians of Great Britain, upon the occasion of the annual meeting of the British Medical Association, the merits of this firm's medicinal specialties in the line of their digestive ferments and allied preparations. Messrs. Fairchild Bros. & Foster's interests are looked after in England by the firm above mentioned, Burroughs, Wellcome & Co., but on this occasion for this special mission they chose one of their leading traveling salesmen, Mr. A. E. Holden, to shout their praises and those of their wares. The Era published a brief account of the exhibit made before the doctors of England, mentioning the American houses represented; but it was anxious to learn from an eye-witness and participant just what were the features of the exhibit and what success it attained, and accordingly, after ascertaining that Mr. Holden was to return upon the Teutonic recently, it took early opportunity of interviewing the gentleman after his arrival.

Mr. Holden left New York on June 29, reaching London July 7 after a very uneventful voyage, with not even the usual concomitant of seasickness to disturb him, and at once repaired to Burroughs, Wellcome & Co.'s to make his headquarters with them. He did not seem inclined to say very much concerning his initiation into English ways, but expressed himself extremely pleased with the uniform courtesy and attentive treatment of which he was made the recipient. The interviewer asked, "Are the Fairchild preparations well known in England?"

"Yes, they are, but not so well as they are going to be. There has been a good demand for several years from that part of the world for scale pepsin, glycerinum pepticum, extractum pancreatis, peptonizing tubes and tablets, but the remainder of our line, peptogenic milk powder, essence of pepsin, panopepton and others, are not known to that market. The traveling force of Burroughs, Wellcome & Co. are not familiar with these preparations, which was the reason for my trip, as I went early to meet these gentlemen and explain to them the action and efficiency of the preparations in order that they should be better able to introduce them to the physicians expecting to visit the exhibition, and later on to the medical and pharmaceutical professions."

EXHIBIT OF FAIRCHILD BROS. & FOSTER.

"What of the exhibit, looked at through your American eyes?"

"Well, candidly, it was not as good as we do on this side. There were about 5,000 physicians in attendance upon the meetings of the Medical Association, but the number of those visiting the exhibition hall was not so great as attend similar exhibitions in this country. Still, those who did find their way thither evinced much interest, and exhibitors seemed satisfied with apparent results. There were about 100 exhibits, conveniently arranged and presenting a fine appearance."

"How about your own display?"

"It was easily second, for in justice, and courtesy as well, first place must be awarded to Burroughs, Wellcome & Co., for their exhibit was the finest I ever saw, and I want to describe it before speaking of our own. It occupied the center of the hall, was arranged in pyramidal form, draped in blue velvet, the lower portion consisting of six large glass cases filled with medicine chests, relics, etc. These chests were of various styles, leather, silver, gold, tortoise shell and ivory, ranging in price from $5 to $400. Dr. I. N. Love, of St. Louis, purchased one of the more expensive ones. Among the relics there were Dr. Livingstone's surgical case, which he carried through Africa; the Stanley "Congo" chest, which preserved the lives of the rear guard of the Emin Pasha relief expedition; the office chair of Dr. Jenner, the discoverer of vaccination, and Dr. George Harley's pancreatin, the first product of the pancreas ever offered the profession, which was in 1857. The shelves and tiers of the center were filled with show jars of pleasing variety of color and tone. On the side facing the main entrance was a bust of Æsculapius, and upon the apex of the pyramid a figure of Mercury extended nearly to the ceiling. The firm's "Tabloids" and the Kepler malt and cod liver oil preparations were the leading specialties exploited."

"Now your own."

"Ours was voted second place among the 100 exhibits, both by the journals and the exhibitors. We had a wall space 20 feet in extent and we made the best use of it. A feature of our display was the practical demonstration of the action of extractum pancreatis on milk and starch, that of peptogenic milk powder in making "humanized milk," and the production of junket with essence of pepsin. We also refreshed the doctors with panopepton, which we dished up to them on cracked ice. Taken all in all, I have every reason to feel that our exhibit was a success and my commission to London conceived in wise judgment."

"Did you have opportunity to judge of the English retail trade, and how did it impress you?"

"There are a few fine drug stores in London, but the majority are small and apparently do a limited business. Cutting afflicts the trade as it does here."

"I suppose you found time for social enjoyment?"

"Yes, I had a delightful time, and, as you published some time ago, I was specially complimented by a banquet tendered me by the representatives of Burroughs, Wellcome & Co. It was a perfect surprise to me, but I quickly recovered my equanimity and spent a lively

BURROUGHS, WELLCOME & CO'S. DISPLAY.

evening with as fine a lot of fellows as I ever met. The representatives of that house and its heads of departments made me, a perfect stranger, feel thoroughly at home, did all they could for me in a business way and gave me a good time. I had opportunity of spending a few days in Paris, which I enjoyed exceedingly, and also went to Scotland and Ireland, but I'm glad to get back home again and settle down to my old line of work."

GEOGRAPHICAL NAMES AS TRADE-MARKS. Two decisions relative to the use as trade-marks of names which may or may not be geographical were recently rendered by the Commissioner of Patents on appeal from the refusal of the Examiner of Trade-Marks to register them. One was upon the use of the word "Waverley" by the Indiana Bicycle Co., and the commissioner said: "It is undoubtedly true that 'Waverley' is in use to designate localities; but I do not think it is a 'merely geographical name' in the sense employed by the Supreme Court in Columbia Mill Co. vs. Alcorn. The word has a primary meaning or significance other than geographical—the name of a famous series of novels. It does not appear that the word was a clearly-recognized geographical name prior to the publication of the novels, and at any rate its romantic significance overshadows any other. I think, then, that the name may be held to form an exception to the general rule, and the decision of the examiner is overruled."

The other case arose from refusal to register the word "Cloverdale" as a trade-mark for canned fruits, etc. The commissioner said: "Geographical names may for convenience be divided into three classes: first, those that are well known and in common use, such as 'United States,' 'San Francisco,' etc. The law is settled that words coming under this class ought not to be registered. The second class includes words which in this primary significance are not geographical, even though they may appear in the 'Postal Guide' or similar publications. Such words as 'Trilby,' 'Creole,' 'Puritan' and 'Volunteer' are good examples of this class. These words, it seems to me, ought not to be refused registration on the ground that they are geographical, since it cannot be said that they are 'words in common use as designating locality or section of country.' The third class would logically occupy a position between the two classes mentioned, and it consists of words which primarily have a geographical meaning—for example, terms ending or compounded with such words as 'city,' 'town,' 'shire,' 'mount' or 'mont.' This class would include such words as 'Lake City,' 'Charlestown,' 'Hampshire' and 'Vermont.' Such words, I think, should not be registered, for the reason that they are clearly geographical in their primary significance, even if it cannot be said that they are widely enough known to come strictly under the first class. It seems to me that the word 'Cloverdale' clearly comes under the third class, and the decision of the examiner refusing registration is therefore affirmed."

ARTIFICIAL EYES.—The druggist is frequently asked for information and advice concerning the use and care of artificial eyes. He will therefore find something of value in a paper in the Aunales d'Oculistique by Dr. Pansier, in which he says: The orbit should be daily cleansed with a solution of some simple antiseptic, such as boric acid, zinc sulphate or common salt. Care must be exercised in selecting the artificial eye not to obtain one too large, as it would be certain to cause disturbance in the stump; and cases are not wanting in which sympathetic inflammation in the sound eye has been set up by this cause. On commencing the use of an artificial eye it should not be worn more than a few hours at a time, gradually becoming accustomed to it. The eye should be removed each night at bed time, thoroughly washed, and then polished by rubbing it with a dry linen cloth. Contrary to the practice of many, it should not be kept over night in water, but should be kept dry. This procedure will add to the life of the eye. When the eye becomes roughened from long use it is unfit for further wearing and should be replaced by a new eye.

CREMATION.—The British Institute of Public Health held a very successful congress at Hull recently, at which several important papers were read. Sir N. D. Littlejohn opened a discussion on cremation. He said the question was of the utmost importance, for it would be for the public good that the disposal of the dead should be under the control of urban authorities. The present method of burial was injurious, polluting as it did the soil and frequently contaminating the water supply. After considerable discussion it was unanimously resolved, first, that in the opinion of this congress it is essential, in the interest of the public health, that all municipal and local authorities should be empowered to provide crematories, and that a copy of this resolution be presented to Parliament, signed by the president on behalf of the congress, in support of the bill about to be presented to Parliament to confer power upon municipal authorities to provide cremation.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

The druggist who looks ahead for seasonable goods knows that a preparation for chapped hands and sore lips will soon be in demand. There is probably nothing better for these troubles than Witch Hazel Jelly, made by the Mayell-Hopp Co., Cleveland, O.

Schieffelin & Co., New York, make a specialty of three odors in sachet powders—violet, heliotrope and white rose. They are put up in 4-ounce glass-stoppered bottles, and their appearance, quality and price will attract the holiday buyer. Send for prices.

Duroy & Haines, Sandusky, O., want you to examine samples of Duroy wines before purchasing your fall and winter stock. They also have an advertising plan for aiding the sales of their wines through the retailer, particulars of which will be sent upon application.

Beef, Wine and Iron when made in large quantities can be produced at quite a reduction from usual quotations. Henry K. Wampole & Co., Philadelphia, quote $1.30 per gallon in barrel lots, or bottled at $40 per gross. Samples showing quality sent free upon application.

Now that the season for emulsions of cod liver oil, hypophosphites, etc., is approaching, it is well to remember that there is sure to be a demand for Scott's Emulsion. Also that the 50-cent size introduced last year showed a popularity which indicates a large sale this season.

If you have a gross of Dr. Williams' Pink Pills in stock everybody who enters the store will know it. The "Welcome Harp" hung upon the door, and making music every time it is opened, advertises the pills. If you want a harp write to the W. T. Hanson Co., Schenectady, N. Y., for particulars.

Gilpin, Langdon & Co., Baltimore, Md., say that the pharmacist can save from 25 to 50 per cent. by making his own tinctures, elixirs, syrups and fluid extracts. As they tell how it can be done, and are very willing to give up this information, you had better write to them about it.

On account of their immense soda business this season Place & Greene, Dover, N. H., have outgrown their present apparatus and have been obliged to purchase a new and larger fountain. The new fountain is from the well-known firm of J. W. Tufts, Boston, and is the handsomest in town.

Fosgate's Anodyne Cordial will after Sept. 3 be sold on the rebate plan. This well-known remedy, now in its ninety-fifth year, makes friends wherever known. It is an old reliable family medicine, speaking for itself. Retail trade, by obtaining supply of reliable wholesalers only, will avoid counterfeiters. Retail price, 35 cents; three bottles for $1. WILLIAM FOSGATE, Jr., sole proprietor and manufacturer, Auburn, N. Y.

If you have never seen Gedney's Sandal Pearls, each holding 5 minims of pure Mysore sandalwood oil and put up in bottles each holding 40 pearls, send for a free sample to the manufacturer, L. H. Gedney, 203 East Eighty-eighth Street, New York, and compare quality and price with other goods of this class.

"Ave Maria" is the name of a new perfume, made by Seely, the American Perfumer, Detroit, Mich. It is an elegant article, and is sold only in ½, 1, 2 and 4 ounce glass-stoppered and sprinkler-top bottles. As people always want the latest, a trial order of this new perfume is quite sure to meet the demands of the holiday season.

Upon application Runkel Bros., 445 West Thirtieth Street, New York, will send a sample of their Essence of Chocolate sufficient to make one pint of syrup. With this essence, syrup which will not sour or separate can be made at a cost of 50 cents per gallon, the essence itself costing 45 cents per pound in 5-pound tins.

People naturally think of bread as a nutriment, and the name "Liquid Bread" catches attention, especially when a person is ill or convalescing. This name has been applied to an extract of malt made by David Nicholson, of St. Louis, and it serves to start a demand which the peculiar excellence of the article has no trouble in maintaining.

When customers call for an efficient non-toxic antiseptic Listerine can be recommended. It serves as a perfect tooth and mouth wash, and is especially valuable in the treatment of catarrhal disorders. Literature describing its many uses will be furnished freely upon application to the Lambert Pharmacal Co., St. Louis, Mo.

All corkwood does not furnish a fine quality of corks, and every manufacturer has to work up his material into several grades. The Williamsburg Cork Works of Brooklyn, N. Y., make several grades, but their best is reserved for the pharmacist, who gets the cream, as he should. Samples of this grade will be sent upon request.

The large manufacturer will find the National Folding Box and Paper Co. of New Haven, Conn., able to take care of his largest order, and the small manufacturer will find prices which will allow him to grow and prosper. When anything is to be put in a folding box, let the N. F. B. and P. Co. figure on furnishing the box.

The demand for hot-water bottles is on the increase. They have been made so cheaply that everybody has been able to purchase one. With the demand thus established there comes a desire for better quality—goods that will last several seasons. The Tyer Rubber Co., Andover, Mass., have therefore made up one or two new styles of an extra fine grade of stock, and while they are a little higher in price, they will sell because they are extra serviceable. One is a cloth-inserted, slate-colored water bottle, and the other is all rubber of high grade. Prices will be quoted upon application.

The vaccine virus sold by Dr. Francis C. Martin, Roxbury Station, Boston, Mass., traces its origin back to the first introduction of animal vaccination in America by the late Dr. Henry A. Martin. It can be depended upon as a pure animal vaccine lymph, and every package bears the fac-simile signature of Henry A. Martin.

People do not want poor glycerin at a cheap price, but they want a pure article which is cheap. It is hard to satisfy this demand unless the pharmacist has Gordon's C. P. brand, which is guaranteed to be pure, and does not cost any more than the nondescript kinds which masquerade as "pure glycerin" without the manufacturer's name on the container.

The three things which a druggist wishes to know about trusses, viz., the profit in handling them, the prospect of selling them and skill necessary in fitting them, are fully answered in the new book on "The Mechanical Treatment of Hernia," issued by I. B. Seeley & Co., 25 South Eleventh Street, Philadelphia. For points on a profitable side line this is a good book to read.

Schering & Glatz, 55 Maiden Lane, New York, announce the following reductions in prices, to take effect Oct. 1: Aronson's Diphtheria Antitoxin-Schering to 80 cents per 5 ccm. vial, representing 500 antitoxic normal units, purity, strength and innocuousness guaranteed by the German Government. Formalin in 1-pound bottles to $1 per pound, and in 5-pound bottles to 95 cents per pound.

Gypsine, made by the Diamond Wall Finish Co., Grand Rapids, Mich., yields the dealer a handsome profit, and it is to his advantage to keep people interested in it. This can be done by distributing the "Gypsine Advocate," the name of which indicates its purpose. It is a readable little sheet, and the druggist's advertisement in its columns will be in first-class company. Send for a copy and see.

When a druggist buys shelf ware he argues with perfect propriety that his bottles will last a lifetime. But he knows that the labels are quite liable to be broken or chipped off. In such cases he should think of Lansing's Glasscine Labels, made of celluloid. A sample will be sent upon application, so that the lasting qualities may be judged. Address Dr. R. R. Lansing, Detroit, Mich.

There are many little pharmaceutical specialties upon which a great deal of care is expended to give them an attractive appearance, but much of this effort is wasted owing to the difficulties in the way of showing them to good advantage in the drug store. Much of this waste of effort can be obviated through the use of a wire display stand. A few cents expended in this manner will render effective the money previously spent on the container. The Philadelphia Ornamental Wire Co., Philadelphia, have many wire-stand designs to choose from, and will be pleased to quote prices.

The excellence of the encapsuled preparations of H. Planteu & Sou, New York, is a guarantee that their work on private formulas will be just as satisfactory. They solicit correspondence regarding the filling of capsules, either hard, elastic, improved French, pearls or globules, and making special capsules for oral, rectal, veterinary or mechanical uses.

Adeps Lanæ, "N. W. K.," costs 65 cents per pound, and the buyer gets a pure neutral product containing only about .8 per cent. of water. The user can afterward add water to the amount of 250 or 300 per cent. without destroying the salve-like consistency. This is one advantage claimed for Adeps Lanæ, "N. W. K"—the purchaser does not pay 65 cents per pound for water.

Mead & Co., of Detroit, Mich., have a way of selling drug mills which obviates the inconvenience of going to their factory to examine a mill before buying. The prospective buyer sends them samples of the articles to be ground; they grind the material and return it with statement of time consumed. The buyer, therefore, knows just what the machine will do before placing his order.

An extra supply of atomizers and hot-water bags will soon engage the druggist's attention, but before ordering it is a good plan to read up on prices and description. Nearly every druggist will find these and other things of interest mentioned in the catalogue of the Davol Rubber Co. of Providence, R. I., and its excellent typographical appearance will delight the eye.

Hunt's Paper Bottle Caps add a certain per cent. to the selling chances of a bottle of medicine—just how much, you can determine by sending for samples to McKesson & Robbins, New York, and trying them on a bottle yourself. Their cost is so slight compared with the result they produce that it need hardly be considered, at least not more than that of the string used in wrapping up a package.

The important point about a Seidlitz powder is the purity of its ingredients and their accurate weight. But the public looks at the package and chooses the most attractive container. In this respect Charles R. Doane, of Brooklyn, N. Y., claims an advantage. He can furnish a pure and reliable article about as cheaply as the druggist can procure it, and in addition he furnishes a handsome package.

Vennard's New Roman Violet has been put up in a new style bottle and extra fine box, so that customers will see it first as they approach the perfume case. It's a great thing to be first in the perfume business. Then quality has been put into the perfume, so that the customer uses it with appreciation the first time, tells everybody else about it and demands it the second time. It costs $8 per dozen bottles, two in a box, and a trial order is about as safe as any perfume order can be. Jobbers have it, and McKesson & Robbins, New York, are selling agents.

Most druggists have the ability and really like to make perfumes, tooth powders, tooth washes, face lotions, etc., but they can't make the bottles. They can buy the right kind of stoppers for them, however, of the Hero Fruit Jar Co., Gaul and Adams Streets, Philadelphia. They have a line of patented ornamental stoppers, just the kind to make a toilet article show itself to best advantage. Their prices and samples, which are free, are likely to give a pharmacist some ideas on the profit of manufacturing certain toilet articles.

Papoid, the so-called vegetable pepsin, and kola, the great tonic-stimulant, are two of the most interesting articles of materia medica now before the medical profession, and their combination is a procedure which promises great results. Johnson & Johnson, 92 William Street, New York, are agents for Carikola Tablets, which unite the tonic, stimulating and starch-converting properties of fresh kola with the digestive power of papoid. Literature describing both drugs and the uses of the new combination is furnished freely upon application.

Charles Lippincott & Co., the well-known manufacturers of soda-water apparatus, who have occupied their office and salesrooms at 925, 927 and 929 Filbert Street, Philadelphia, for the last thirty years, have found that notwithstanding the fact that they have from time to time removed one or the other of their tenants in their large factory, it has become necessary to remove their office and show rooms to a new building at 930 Arch Street, which they now occupy. This building has a frontage of 20 feet with a depth of 150 feet, and the four floors, together with the cellar and subcellar, are occupied by the firm for their office and sales rooms. It is gratifying to understand that in spite of the prohibitive financial conditions lately in effect, their business has so steadily grown and increased in such a satisfactory manner as to necessitate the great addition which they have made. The unusually large floor space which they have vacated in the factory building was immediately occupied by the several departments of the factory, so as to increase the capacity to a sufficient extent to meet the requirements of the trade for 1896. The usual show rooms throughout the country are retained.

"The Crack Train of the World."

A prominent New York merchant and importer of leather goods said in our hearing the other day: "I have traveled all over Europe and America, and I consider the train which leaves Chicago every day at 6:30 P. M. for St. Paul and Minneapolis, via the Chicago, Milwaukee & St. Paul Railway, the 'crack train of the world.'"

In which statement thousands of others heartily concur.

—During a recent thunderstorm in Fall River, Mass., damage of about $100 was caused by lightning at the drug store of J. A. Lemeroux & Co., South Main and Charles Streets, Globe Village.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Balsam Tolu, Cream Tartar, Tartaric Acid, Coca Leaves, Gum Chicle, Buchu Leaves, Angostura Tonka Beans, Opium, Rochelle Salts, Seidlitz Mixture, Oil Sweet Orange, Silver Nitrate.
Declined: Cascara Sagrada, Hyposulphite of Soda, Oil Myrbane.

New York, Sept. 24, 1895.

The general position of the market for drugs and medicinal chemicals is of the same encouraging character noted in this column for several weeks past. While speculative manipulators in the financial center have become more or less of a disturbing element in commercial circles, their operations have not yet had any unfavorable influence in this department; nor are they likely to have, unless the tendency to speculate in drugs should materially increase, which, from present indications, does not seem probable. The legitimate consuming demand has continued fairly active, and in addition to a liberal jobbing movement more disposition is shown to anticipate possible future requirements. The progress thus far made is right in line with the early predictions of conservative dealers, who seem to have had unusually keen foresight, and the outlook favors the development of additional evidence concerning the accuracy of their calculations. The market is certainly buoyant, with the majority of dealers apparently well satisfied with the situation. Values show decided steadiness, and most of the changes continue toward a higher basis. All the recent advances are firmly maintained, and the tartar preparations are again higher, owing to the continued upward movement in argols abroad. Opium has reacted from the easier tendency referred to last week and the decline then noted has been recovered. Camphor maintains its firm position, and the market for quinine is practically under control of manufacturers. Considerable interest is yet manifested in export articles and orders for round lots have been filled at satisfactory prices. Manufacturers of seasonable goods are all busy, large dealers have nothing to complain of, and jobbers report no cessation of the retail demand. Under such conditions the trade at large has good reason to report steady improvement.

OPIUM.—A better feeling has pervaded the market during the period under review, and the decline noted last week has been fully recovered. The demand from the consuming trade has improved and the volume of business is larger than for some time past. Many theories are advanced regarding the cause of the unexpected improvement, but the one most discussed is the probability of the current large crop coming under control of the speculative syndicate which has been so successful in its manipulation of the crude camphor market abroad. For the past six months the favorable outlook for an unusually large crop has been carefully considered and buying limited to

actual current necessities. The result is claimed to be a material depletion of stocks, and with consumers, jobbers and dealers all short the general position is thought to be encouraging to the operations of the syndicate, which is said to be very strong financially. There are some, however, who have little faith in the proposed "corner" and confidently look for lower prices.

MORPHINE. — The market is again steadier under the improved conditions in opium, and in addition to the regular deliveries to dealers having contracts with manufacturers, a fair jobbing trade is reported at unchanged prices.

QUININE.—A continued active market is reported, with a good demand from the South and Southwest, and prices are ruling firm at the old schedule rates of manufacturers. Second hands are no longer a factor in the market, and the few lots remaining in their possession are held at the full parity of manufacturers' quotations. The large stock in London is being steadily reduced, and when that is out of the way makers will have entire control of the situation.

ALCOHOL. — Continued competition between sellers of grain keeps the market unsettled and irregular, and while the old range of prices is generally quoted, a further concession of 1 cent per gallon has been granted in several instances.

ACID TARTARIC. — The continued upward tendency of argols in the primary markets has resulted in a further advance of 1 cent per lb in this acid, and both crystals and powdered are offered sparingly.

CREAM TARTAR—Is 2 cents per lb higher under the same influence, and the revised quotations of manufacturers are "without offer," which indicates that still higher prices are anticipated.

ROCHELLE SALTS. — Manufacturers' prices have been advanced 1 cent per lb, and only actual current wants of regular customers are being supplied.

SEIDLITZ MIXTURE. — The same remarks apply to this article, which is also 1 cent per lb higher.

BALSAMS.—Tolu has met with an improved export demand, and with the spot stock light and closely concentrated, values are firm and fully 2 cents per lb higher. Copaiba is jobbing freely at unchanged prices. Peru is quiet, while Canada fir is slightly easier owing to the slow demand and further arrivals of new crop from primary sources of supply.

BEANS.—Angostura tonka are in reduced supply and stronger in view of probable scarcity, and prices are 20 cents per lb higher than a week ago. Mexican vanilla are selling freely in jobbing quantities and for all desirable grades of both whole and cuts full prices are realized. The outlook for next season indicates a material shortage.

CAFFEINE—Is firm at the recent advance, and only small lots are available.

CASCARA SAGRADA — Has been arriving quite freely, and with the spot stock unusually heavy and the demand slow, the market is depressed, with round lots of new crop about ¼ cent per lb lower in price.

COCAINE.—No quotable change has yet occurred in values, but the market is decidedly stronger owing to higher prices for the crude article, and an early advance is expected.

CAMPHOR—Maintains its strong position in view of probable scarcity and high cost of the crude article in Europe, as well as in producing countries, but trading is only moderate, with recent transactions chiefly in Japanese.

COD LIVER OIL—Has met with a good demand and prices are firm at the full recent advance.

BUCHU LEAVES—Continue in active request, with values again 1@2 cents per lb higher, the principal advance being in the better grades.

COCA LEAVES. — All varieties are higher owing to reports from primary markets that supplies from producing districts are coming in very slowly.

CHICLE—Is firmer and about 2 cents per lb higher, several fair-sized parcels having been taken out of the market by manufacturing consumers.

JABORANDI LEAVES.—The market is said to be entirely bare of the genuine article.

SILVER NITRATE.—Manufacturers' quotations have been advanced 1 cent per ounce, making the jobbing price 46½ cents for less than 500 ounces.

ESSENTIAL OILS.—Sweet orange is tending upward in sympathy with foreign markets and some of the better brands have been advanced 25 cents per lb. Anise and cassia are both very firm at the recently improved prices and offerings are restricted to small lots only. Bulk peppermint is unchanged, but case oil is a shade easier. Myrbane shows a lower range of quotations.

HYPOSULPHITE OF SODA—Is in better supply, and prices from first hands have been reduced about 12½ cents per 100 lbs.

London Market Report.

London, Sept. 14, 1895.

On the whole we have had a quiet week, although several articles have improved in value.

ACID TARTARIC—Has been active and closes dearer at 12¼d. per lb.

BALSAM TOLU.—Good quality is scarce and firm at 1s. 7d. to 1s. 8d. per lb.

BUCHU LEAVES.—A good business has been done since the sales last week and there are orders in the market from New York at higher limits. Yellow rounds are worth 3½d., while good greens are very scarce and holders are waiting until values improve to 5d. to 6d. per lb. Stock is very small.

CAFFEINE — Continues quiet, but prompt delivery is difficult to get, and small lots in that position are held for 22s. to 23s. per lb.

CAMPHOR.—Crude is in a stronger position, and the demand from America has been active this week. Stocks both in China and Japan are reported by cable to be exhausted. Refined: English refiners have raised their quotations 4d. per lb, and while the Germans have not fully followed this rise they are not anxious sellers. A few cheap lots remain in second hands, and this keeps refiners from putting up their prices to a parity to those of crude. Many people well acquainted with the present position look for crude to touch 300s. per cwt. and refined 3s. to 3s. 3d. per lb.

CREAM OF TARTAR—Has been very active during the week and closes strong at 90s. per cwt. for crystals.

ERGOT OF RYE.—New crop Spanish is offering at 9d. per lb. New Russian can be had at 6d., although even lower prices are suggested to encourage bids.

IPECACUANHA.—Holders continue very firm and will not listen to bids below prices named in last drug sales.

MANNA.—New crop offers at 1s. 9d. to 2s. for bold flake, 11d. per lb for small flake and 8½d. for sorts.

MENTHOL.—During the week the position has changed. Spot price is now 13s. per lb, while for shipment 12s. 6d. to 12s. 9d. per lb c. i. f. terms is asked. The market is firm, it being reported that there is no stock in Japan, and that the new crop will be late.

OILS (Essential).—Bergamot very firm at 9s. per lb; cassia firmer at 7s. 6d. to 7s. 9d. per lb; lavender, Mitcham of fine quality dearer at 120s. per lb; lemon dearer at 3s. 6d. to 4s. 3d. per lb; orange, 4s. 9d. per lb; peppermint, firmer.

OPIUM.—A very firm market, but with only few transactions this week. Fine druggists', 8s. 3d. to 8s. 6d. per lb; seconds, 7s. 3d. to 7s. 9d. per lb.

ORRIS ROOT.—Very firm at slightly dearer rates with a good business doing in the article.

QUININE—Has been quite neglected; nominal quotation, 1s. 1⅛d. per ounce.

SAFFRON—Is firmer at 22s. 6d. per lb for fine Valencia.

SCAMMONY.—Resin is becoming very scarce and price is firm at 9s. per lb, with a few second-hand sellers of German sticks at 8s. to 8s. 6d. per lb. Virgin, market quite bare of stocks.

Sale of Professor Maisch's Library.

The time for the reception of bids for books has been extended to Nov. 1, 1895. Address all communications and requests for catalogues to Mrs. C. J. Maisch, 753 North Fortieth Street, Station B, Philadelphia, Pa.

Neutral Sulphite of Lime for preserving cider is now wanted in the country districts, and is wanted right away. Billings, Clapp & Co., of Boston, call attention to their product, which they introduced in 1857, and they will send one dozen by mail, postpaid, on receipt of $1.17. It is put up in packages, each containing enough for one barrel, which retail for 25 cents. There is over 150 per cent. profit in this offer, and the article is of easy sale, for people want it now.

Pamphlets, etc. Received.

Trade Price Lists: A. Sauabrah, New York; A. N. Kellogg Newspaper Co., New York; Larkin & Scheffer, St. Louis; Fritzsche Bros., New York.

Proceedings, etc.: North Carolina Pharmaceutical Association, 1895; Tennessee Druggists' Association, 1895; Report Ohio Dairy and Food Commissioner, 1895.

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FROM ERA READERS. Elixir Pepsin and Bismuth, He will Advertise, Soap Liniment 431

QUESTION BOX 431

GROUP PORTRAIT.

A. PH. A. OFFICERS.

We have just issued, and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the present.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address, The Pharmaceutical Era, New York.

STATISTICS OF THE RETAIL DRUG TRADE.

The following table of statistics is obtained from the new edition of the Era Druggists' Directory, just completed, and it is an interesting showing from which may be gleaned considerable information relative to the condition of the retail drug trade of the United States:

States.	Population.	No. of Drug Stores.	Ratio of Population to Drug Stores
Alabama	1,513,017	447	3.384
Alaska	.....	3	.....
Arizona	59 620	45	1,324
Arkansas	1,128,179	589	1,915
California	1,208,130	880	1,372
Colorado	412,198	354	1,164
Connecticut	746,258	446	1,673
Delaware	168,493	111	1,517
Dis. of Columbia	230,392	212	1,086
Florida	391,422	278	1 407
Georgia	1,837 353	616	2,982
Idaho	84 385	83	1,016
Illinois	3,826,351	2,899	1,319
Indiana	2,192,404	1,850	1,185
Indian Territory	.....	187	.....
Iowa	1 911,896	1,564	1,222
Kansas	1,427,096	1,115	1,279
Kentucky	1,858,635	916	2,028
Louisiana	1,118,587	374	2,990
Maine	661 086	383	1,726
Maryland	1,042,390	542	1,923
Massachusetts	2,238,943	1,580	1,417
Michigan	2 093,889	1,552	1,349
Minnesota	1,301,826	768	1,695
Mississippi	1,289,600	402	3,207
Missouri	2,679,184	2,207	1,213
Montana	132,159	103	1,283
Nebraska	1,058,910	738	1,434
Nevada	45,761	28	1,634
New Hampshire	376,530	224	1,681
New Jersey	1,444,933	814	1,775
New Mexico	153,593	51	3,011
New York	5,997,853	3,364	1,782
North Carolina	1,617,947	354	4,570
North Dakota	182,719	172	1,062
Ohio	3,672,316	2,116	1,735
Oklahoma	61,834	129	515
Oregon	313 767	271	1,157
Pennsylvania	5,258,014	2,894	1,816
Rhode Island	345,506	214	1,614
South Carolina	1,151,149	278	4,140
South Dakota	328 808	298	1 103
Tennessee	1,767,518	564	3,133
Texas	2,235,523	1,420	1,574
Utah	207,905	105	1,980
Vermont	332,422	196	1,696
Virginia	1,655,980	438	3,780
Washington	349,390	296	1,180
West Virginia	762,794	246	3,100
Wisconsin	1,686,880	796	2,119
Wyoming	60,705	39	1,556
	62,622,250	36,352	1,189

The population figures quoted are those of the United States Census of 1890, and, of course, are somewhat too low, but they serve acceptably for purposes of comparison. Perhaps the first point which impresses one is the remarkable uniformity of the ratio of drug stores to population. This ratio reaches or exceeds 1 to 2,000 in but a few instances, and in these instances it is easy to estimate the causes which have kept and are keeping the drug stores in these localities fewer than is the general rule. In the well-populated states, particularly those where the people are industrious, intelligent and thriving, as is the case throughout the North generally, it takes fewer people to support a drug store than, for instance, in Alabama, South Carolina, Mississippi, where a large proportion of the population is composed of negroes and ignorant whites, from whom the druggist can look for little patronage. In these states, too, another factor must be taken into consideration, and that is the general store. The general store is very numerous in the South. It caters to the wants of the class of people just mentioned, supplying them with boots, agricultural implements, dry goods, patent medicines, and the ordinary domestic drugs and remedies. Then, too, few large cities are found in these states, the population being distributed pretty generally through the rural districts, where the modern drug store cannot live, but must evolute into a general store, selling many other classes of merchandise besides drugs. We all know that it is the large city which best supports the druggist.

But beyond the few instances noted the ratio of drug stores to population varies within but small limits. Taking the country as a whole the ratio is one store to about 1,200 people. But it would be about one to 1,500 were the Southern States omitted. He who for any reason desires to engage in the retail drug business would, after inspection of this table, have some difficulty in deciding in what section of country his chances for success would be brightest. It is evident that throughout the whole United States we have plenty of drug stores to keep us supplied with all the medicines we need.

It is impossible to estimate at all closely the number of individuals engaged in the business. There are 36,352 stores, and in all probability 50,000 would be a fair estimate of the number of registered pharmacists, assistants, etc., employed in these stores; but it is not safe to make this a definite assertion. In some states, so far as can be estimated from the number of registered pharmacists reported by the boards of pharmacy, the average exceeds two registered men to each store, but in other states it is less than one, and it is surprising, too, to note in what states this deficiency occurs. For instance, the last report of the Ohio Board of Pharmacy stated that on May 1, 1894, there were registered in that state, pharmacists and assistants, a total of 1,892, and as there are more than 2,000 drug stores it is evident that some one is conducting

business contrary to law. This condition of affairs is true in some of the other states, too.

Another interesting computation is possible. It is seen that on the average 1,200 people must constitute the support of each store, and the question arises, what sum does each one of us, in the grand total of population, contribute to the support of the druggist? Suppose the original receipts of the ordinary drug store are $20 per day, on an average, and this, we are told, is a sufficiently high average; the druggist works 365 days in the year, his total income upon this basis would therefore be $7,300 per year, of which each individual of his 1,200 clientele contributes a trifle over $6. If any one is dissatisfied with this estimate it may be calculated from different factors to suit one's desires.

MORE PRACTICAL TRAINING.

An article elsewhere in this issue entitled "The Practical Side of Training in our Colleges of Pharmacy," read at the late meeting of the A. Ph. A., commends itself to our notice for several reasons. One is the somewhat defiant tone which distinguishes its introductory portion, and another is the considerable amount of "horse sense," well suggested but misapplied, which is displayed therein. The writer evidently expects the college professors to take exceptions to his pleas, for he has probably heard them talk during sessions of the Educational Section, and he bows his head in anticipation of the outpouring of the vials of their wrath. But he need have no fear of them. Their opportunity for retort (not the chemical kind) comes but once a year, and upon the next occasion, at Montreal, the timber composing the educational woodpile will simply be resawed into shorter lengths, and the new wood which Mr. Jacobs so generously offers will have to await a more propitious season.

There are other forces, however, with which the writer of the article must engage, and these are the pharmaceutical journals. They have watched with eager eyes and accelerated heart-beats the wobbling of the scales as they have been weighted with arguments pro and con experience before graduation, and they are the sources from which the rash advocate of a practical extension of the curriculum must look for a demonstration of *lex talionis*. But in this controversy which seems to be invited, a certain plan occurs to us, the chief feature of which is contained in the injunction to "agree with thine adversary quickly, lest, etc."

We are thus prepared to agree that colleges of pharmacy, to turn out graduates acceptable to the business druggist, must provide for instruction in the making of perfumes, sachet powders and other toilet articles; the taking of photographs; fitting of trusses and abdominal supporters; the writing of advertisements; the dressing of show windows; the pasting of labels, and the engineering of soda fountains. The writer allows full scope for the imaginative person by intimating that "many more instances might be mentioned where special lectures could be profitably given to a class—lectures pertaining to everyday happenings in a drug store." The accordance of this liberty for speculation is a temptation for the mind to wander far a-field, and the horizon immediately widens to include floor-sweeping and scrubbing with practical demonstrations, by masters of that art; the running of errands, which could be demonstrated by youthful employees of our great telegraph companies, and the teaching of deportment, in which the dancing master or the more distinguished members of the caste of Vere de Vere might find profitable employment.

But we forbear a further demonstration for fear that an accusation of dealing in persiflage may be brought against us, and will grasp another horn of the dilemma, that delicate question which would arise in giving proper titles to these new additions to the pharmaceutical faculty. The writer of advertising now revels in a confusion of titles, from "expert" to "ad. carpenter," and would gladly welcome a settlement of what he really is, should some college dub him "professor of advertising." Professor of perfumery or odors, ditto of photography, truss fitting, etc., would not sound bad, and we think there are precedents in this matter. One of the delegates to the International Pharmaceutical Congress at Chicago, 1893, M. Ramelot, of Belgium, intimated that the Germans have a fashion of conferring degrees upon industrial artistes, such as "Doctor of Confectionery," etc., but the fact that this delegate spoke the French language, and resides not far from Alsace-Lorraine, leads us to suspect some humor, and possibly "Revanche."

Seriously, Mr. Jacobs as a practical man knows what he wants, and just as seriously we say he ought to have it. The courses he suggests should be pursued during apprenticeship and after graduation, and we know of no better plan for studying such things than the constant and careful reading of those excellent text-books, the pharmaceutical journals. It is true they teach by precept rather than example, but their teaching includes all that is available on the subjects which Mr. Jacobs enumerates.

STUDY OF PHARMACY IN BOOK FORM.

At the inception of the idea of the series of papers now being conducted in the Era under the title "The Study of Pharmacy" we entertained no idea of ever gathering these essays within one cover in book form, nor have we as yet seriously contemplated such a step. But so many requests have been received and are flowing in with increasing rapidity that such a book be published upon completion of the series that we are led to give the question careful consideration. The publication of such a book would entail very large expense, and would not in any event be undertaken unless we could see our way clear to its production without loss. The expense of the series as published in the Era has been very large and could not be added to without hope of return. But as there appears to exist a desire for the book we would like to arrive at the extent of this feeling, and if the support promised were large enough we might be inclined to undertake the publication. Will all of our readers who are interested in this matter kindly signify whether the book would be appreciated, and if in their opinion we would be justified in undertaking its publication? Our decision will rest entirely upon the character and number of responses received.

STATISTICS AND DEPARTMENT STORES.

Much of the talk regarding the effect of department stores upon the ordinary retail trade has been of a speculative character, more concerned with the ultimate effect than the present. It has been difficult for the small retailer to contribute reliable statistics covering a number of years which could show the comparative effect of this competition. The small retailer is not a statistician, and even if he were, the natural downward tendency of prices, which seems to be admitted, would confuse him in reaching an exact conclusion in the matter.

The greatest opposition against department stores has been developed in Chicago, and from that city come some things of a statistical nature which seem to confirm all previous speculation. The condition was first detected by the tax assessor, who, in spite of the well-known vagaries of deputies in making low assessments, thought that something was wrong in the depreciation of personal property upon the West Side without corresponding decrease in real estate values. An investigation showed that the real estate was still there, but many buildings which formerly sheltered the modest shopkeeper were vacant. His stock and customers had been transferred to the big downtown stores. The streets in front of these places of business had been set aside for rapid-transit schemes to carry people more quickly to their great central shopping ground, and the tax collector was evidently worried. He knew that street-railway corporations are not prolific sources from which to draw taxes, and he knew, or ought to know, that large mercantile establishments somehow get excursion rates on the tax list. The small retailer, the goose which formerly laid the golden eggs of taxation, was vanishing.

A Chicago newspaper has recently investigated the matter and has come to the conclusion that the condition referred to has no tendency to diminish population, as there is an active demand for flats with a decrease in demand for stores. A real-estate dealer, questioned upon this matter of shifting trade, said:

"Why, it is easy enough for any one who has observed the matter at all. The big department stores are doing the work. They are simply driving the small dealers out of business, and that accounts for the large number of vacant stores. Why, it has got so now that the housekeepers watch for the bargains advertised by the department stores just as regularly as they watch for their ice-men. The small dealers in all lines of

business catch only the emergency trade."

The local druggist is an "emergency tradesman," but many of his patrons are now classifying emergencies by the rule of dollars and cents, and in his sundry department a profitable sale is to him in the nature of a surprise. This increase of a resident population in former small shop districts will have a tendency to maintain rentals, and there is no consolation in this for the small trader, who notes that the figures in his lease do not show a decrease to correspond with his waning patronage. But this increase of rent, due to increase of population, brings us to a phase of political economy jealousy guarded by the game-of-tag school of economists which deprecates with wry face any attempt to solve problems with ideas which have not been "touched" by precedent.

In a recent exchange of courtesies with a manufacturer of one of the best-known infant's foods, that important, from a journalistic standpoint, and truly American inquiry, "How's business?" was propounded with a confidence that the reply would but confirm the now prevalent opinion that everything is booming. To our surprise our informant, with a slight twinkle of the eye, stated that business was quite poor, and added: "The hard times of last year did not affect us, but they seem somehow to have affected the crop which we confidently expected this year to reach that degree of development which calls for a consumption of our particular product."

Here is a state of affairs, a sort of phenomenon, which does not have to be called to our attention twice to convince us that it deserves the dignity of being called a law, one which concisely indicates the bearing of hard times upon increases of population. As such it will be welcomed with avidity by the student of sociology, and the followers of Malthus and other depraved advocates of a pessimistic philosophy will undoubtedly greet the discovery with much crowing and flapping of wings.

Such is our confidence in the importance of this newly ascertained fact that we earnestly commend it to the careful attention of our census authorities when they commence their labors in the beginning of the next century, and we bespeak advance sheets of any statistics which may deal with a memorable condition which affected the growth of population during A. D. 1894.

The Southwark Pharmacy, Philadelphia, Pa.—There is something missing if the Era isn't about.

The Walter Pharmacy, C. M. Walter, Huntington, Ind.—The Era is always a welcome visitor and a money-maker for me.

Frank Schwerlfeger, Chicago, Ill.—If every druggist thinks as well as I do of the Era, it is certainly well thought of.

Joseph Argay, St. Paul, Minn.—You are entitled to the thanks of every druggist for the noble work you are doing in their behalf.

George C. Phillips & Son, Armada, Mich.—It seems to us that now you have struck the keynote. The merchant side of the drug store is the neglected side, and not every druggist is an advertising expert. Your hints, together with the cuts, fill the gap, help the weak side, and thus broaden your field of usefulness. Let the good work go on, and let us all push it along.

PRACTICAL HINTS.

——The question of neat packages is one that deserves in itself more attention than is generally paid to it.

——The occasional or frequent rearrangement of the contents of your show cases will be a relief to your customers and of profit to you. Try it.

——To sit and wonder why a neighbor is succeeding will not avail much; to get up and act will bring results. Don't seek for great things to accomplish; get at the little things and you will soon be up with the larger ones.

——How many are there on the alert to devise ways and means of making their stores in some way each day better in some department or line? There are so many ways to attract custom and impress the buyers that our store is run on a higher grade than the neighboring ones.

——Some one has said, in connection with other good advice, that a druggist should pay more attention in his advertising to the quality of his goods, their effectiveness and purity, than to the question of prices. It would seem advisable to have the chink of the dollars to some extent removed from his ads., at all events in such as refer to drugs and medication; the public in buying the druggist's wares are looking for some specific effect, and the treatment of prices must in all cases be conservative and introduced with the best judgment.

——It is a question whether the paper wrapper or bag as a container for retailing crude drugs and chemicals should not go, after the manner suggested for the Chinese. The average customer hardly ever buys such things in exact quantities for immediate requirements, and closets, shelves, drawers, etc., become the receptacles or storage places for a heterogeneous collection of materia medica. In such cases the paper package, with loosened strings, sifting its contents with every movement, becomes an unmitigated nuisance. The druggist who furnishes a proper container will undoubtedly find an increased patronage for his goods.

——A contemporary trade journal comments upon the fact that few stores are kept scrupulously clean. Is yours? Is the floor as bright as soft soap, water and elbow grease can make it? A clean floor adds to the tone of the entire store. It is the best-paying sort of an advertisement, an index to the stock and indicative of a high-class service. Have you noticed that heavy, damp, overpowering, musty odor that characterizes many stores when the door is first opened of a summer morning? The stock has been shut up with a dirty floor for ten or twelve hours; the warm temperature and lack of circulation has made the atmosphere heavy and disagreeable. A clean floor and a current of fresh air at night will avoid that trouble and keep the stock in perfect condition. It follows that the druggist who keeps his store bright also keeps scales, counters and fixtures as bright as a new dollar. Try scrupulous cleanliness as a trade-winner.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

The term "prescriptions carefully compounded," has done such service in the pharmacist's advertising, that it seems a pity to drop it. But its use under occasional circumstances which hardly justified its employment, and in many instances as a sort of postscript to the druggist's advertising, has brought it dangerously near the line of platitudes. The idea, however, is a good one, and it is really what the druggist desires to say and have the public believe. We think he should say it, too, and believe it will last for years to come with occasional changes in the wording. Our suggestion is that instead of a single line crowded into one corner of an advertisement like an afterthought, a certain space be occasionally devoted to this one idea, with perhaps a picture, presented as a marker which people will remember when the question of having a prescription filled comes up.

No. 33.

The best and purest drugs in the world (the kind we keep) are of no service, or are dangerous, if they are not handled carefully. This is a matter which is always uppermost in our minds—carefulness — the choosing of the right bottle, the measuring or weighing of the right dose. It is our constant aim to be the kind of druggists to whom people can go with confidence, when the lives of loved ones depend upon care and accuracy in filling prescriptions with medicines which are just as they should be.

KNIGHT & DAY. DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

John M. Corson, Fort Porter, N. Y.—I am very much interested in your Study of Pharmacy papers. I find them invaluable aids to study.

J. M. Colcord, Saratoga Springs, N. Y.—The copy of Group Portrait at hand, please accept my sincere acknowledgements of same. The souvenir is an admirable one and will be highly prized, not only an account of the satisfactory picture of Samuel M. Colcord, but also of other well known friends and acquaintances. You are certainly to be congratulated upon your success.

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[Continued from page 394, September 26.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXIV. BOTANY.

[*Continued.*]

By Henry H. Rusby, M. D.
Professor of Botany, Physiology and Materia Medica, New York College of Pharmacy.

THE MODIFICATIONS OF FLORAL STRUCTURE CLASSIFIED.

The typical flower, reference here being restricted to its highest forms, will obey certain well defined laws of structure, as regards the following characters: The relative number and position of the parts of different kinds or of different series; the separation of each part from all others of the same or of a different kind or series; a similarity in form and size of the parts composing any one series; the characteristic forms and functions of the parts of different kinds. For the identification of the parts of such a flower the illustrations and definitions already given will prove ample for the beginner. But, unfortunately, such flowers are very rare. The great majority of them deviate from the type in one or more directions to such a degree and in such variety as to very frequently create difficulty in identifying or circumscribing the several parts. To fit the student for properly meeting the difficulties which so arise, as well as for understanding botanical terminology, it is necessary to specify and explain the principal forms of variation and to establish such a classification of them as their varied nature will permit.

The several laws governing the typical flower here referred to may be presented as follows:

LAW 1.—*The parts of each kind or series are either of the same number or a multiple of that number.* In the case of the gynaecium it is the carpels which are counted as parts, whether developed each as a separate pistil or all united into one. The number of stamens is normally twice that of each of the other kinds—that is, they form two circles, whatever the explanation of their origin. A flower constructed in accordance with this law is said to be Symmetrical. Thus the flower of Hippurus (Fig. 29 and, in longitudinal section, Fig. 30) has an entire calyx, no corolla, one stamen and one carpel, and is, at least as to its present state, 1-merous or mono-merous. The symmetrical flower of the Bicuculla (Fig. 24) possesses 2 sepals (a), 4 petals (b), or possibly 4 sepals and 2 petals, 6 stamens (c) and a 2-carpelled pistil (d), and is said to be 2-merous or di-merous. That of the Veratrum (Fig. 25) is similarly based on the plan of 3, and is called 3-merous or trimerous. Oenothera (Fig. 26) is 4-merous or tetra-merous. The Geranium (Fig. 27) is 5-merous or penta-merous. Fig. 28 displays the plan of the Geranium flower, as seen in cross section, and admirably illustrates the law to be next considered. The term Isomerous is used to indicate that the same number of parts enter into the formation of the two or more circles to which the term is applied.

There are several forms of deviation from this law. Through Suppression

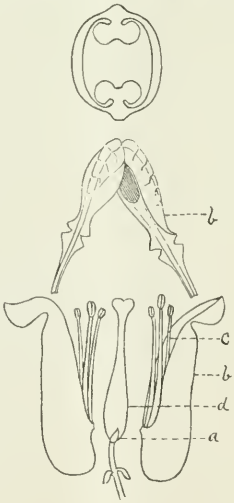


Fig. 24.

there may have come to be too few parts and through Duplication there may have come to be too many. Of each variation there are two forms. In the achlamydeous flower of Pulsatilla (Fig. 16) suppression of the entire petal-circle has occurred. In the staminate and pistillate flowers of the willow all except a single circle are suppressed. In the Claytonia (Fig. 40) one complete stamen circle is

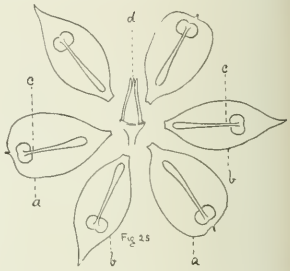


Fig. 25

wanting. Such forms constitute Regular Suppression. Irregular Suppression is displayed in the calyx of the Claytonia (Fig. 40), with three of its five sepals wanting, the androecium of the 4 or 5 merous flower of Horse-chestnut, which usually lacks 1 to 3 of the requisite number of stamens, and the gynaecium of the saxifrage, which has but 2 carpels. In the flower of the common olive both forms appear to have occurred, for only 2 of its 8 stamens remain. To irregular suppression the term Abortion has been applied, while by others this is restricted to suppression in which a vestige of the lost organ remains.

Regular duplication is seen in the 5-merous flower of the strawberry (Fig. 31), with its 10 sepals; the 3-merous flowers of Magnolia (Fig. 32), with 6 to 9 petals, and of Menispermum, with 12 to 24 stamens, and in the 5-merous flower of Malva, which frequently has 10 or more carpels. Irregular Duplication is exhibited in the androecium of the Mustard (Fig. 33), where the multiplication of 2 of the stamens into 4 has occurred. This result has occurred by the dividing up of each into two. The division of an organ into two or more is called Chorisis. We assume that the mass of tissue forming the part should have developed entire, but that at certain points upon its margin separated points have protruded. If growth within each of these points shall not continue, the growth being restricted to the unseparated mass below, then at the maturity of the organ they will still preserve the appearance of more or less small lobes, teeth or protuberances. But if, on the contrary, the growth below

shall cease, and that within the separated parts shall continue, they must become larger and larger, until at maturity the organ shall be seen to consist of a number of more or less completely separate parts. The process is a form of branching, and is usually indicated by the cohesion at the base of the organs thus newly formed, and the location of the bunch in the position normally occupied by one. This is well shown in the flower of Tilia (Fig. 34) and in that of the Hypericum (Fig. 36) in which vestiges of the lost stamens still remain, as small gland-like

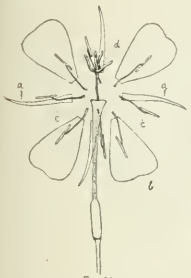


Fig 26.

Fig 27.

Fig. 27 A

bodies (a). Chorisis is well displayed in the calyx of a floret of the Dandelion (Fig. 37), whose sepals have become divided into numerous bristle-like portions (a), and in the corolla of the Stellaria (Fig. 38), each of whose petals (Fig. 39) has become divided into two.

Chorisis sometimes produces an organ of a different kind from the original, as in the case of the stamen of the Tilia, where each of the 3 stamens left after suppression has divided into about 7, and has at the same time yielded one or more little petals (Fig. 35 a) standing in front of the group. Chorisis is thus seen to be Median (in the case of the last mentioned petals) or Lateral (in the case of the stamens), according to whether the line of separation passes tangentially or radially. Chorisis may result in regular duplication (Stellaria) or irregular (Tilia). Regular duplication usually results from metamorphosis, to be considered under law 5.

When the number of organs of one kind, as of petals, as in the rose (Fig. 47) or of stamens (Fig. 46) exceeds twenty, it is commonly spoken of as Indefinite, indicated by the symbol ∞ although in most cases it falls within certain definite upper and lower limits which are of diagnostic value.

The numerical plan and deviations therefrom are indicated pictorially by diagrams like that shown in Fig. 27, and also by formulae, for an explanation of which the student should consult text-books.

LAW 2.—*The parts of each circle alternate in position with those of the circle next outside and of that next inside.* In other words, each part of the flower stands opposite a sinus of the adjacent outer and inner circles. It is clear that the parts of the two last mentioned circles must stand opposite each other or in the same radial line (Fig. 28), and this will be true of the parts of all alternating circles. This law is also very prettily illustrated by the two stamen-circles in Fig. 28 a. It is also clear that if two circles shall be brought into juxtaposition by the suppression of an intervening circle, their parts will naturally stand opposed and thus appear to invalidate our second law, as in the case of the stamens and petals of Claytonia (Fig. 40). Cases are even known in which such a condition is supplemented by the addition of an inner circle, whose stamens then stand opposite the carpels. Note should also be taken of the fact already pointed out, that the cluster of organs produced by chorisis corresponds in position with the single part from which it was produced.

The treatment of the subject of position here presented is necessarily superficial and incomplete, owing to our failure to have considered already the subject of leaf arrangement. There is a direct corelation between the arrangement of foliage leaves and the parts of the flower. As the arrangement of the former is sometimes by circles or whorls and sometimes by spirals, it follows that some flowers may be arranged on the former plan (Fig. 19), some (at least in part) upon the latter, and such we actually find to be the case. There is no one of the floral series but what at times exhibits in its parts (in most cases when they are numerous) a well marked spiral arrangement. In spite of these important facts the above presentation has been made in view of its great practical utility in pharmacognostical examinations.

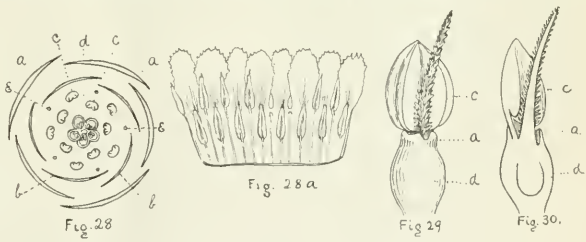
The student should appreciate the necessity of examining the actual point of insertion in order to determine the position of an organ, as the deviation in position of its upper portion may easily lead to error.

LAW 3.—*The parts composing one circle are not of the same form and equal size.* A flower all of whose circles obey this law is Regular. An illustration is found in the flower of Veratrum (Fig. 25). Irregularity may result from abortion (Fig. 127), appendaging (Fig. 52), or mere variation in form (Fig. 91), or size (Fig. 27 a). Sometimes, as in the last case, the variation is so slight that the student will be in doubt as to its existence, while at other times an accidental variation in an individual plant may suggest irregularity where it is not a characteristic. In cases of doubt the relationship of the plant to others whose flowers are regular or irregular may aid to a decision.

LAW 4.—*Each part of a circle develops separate and disconnected from all others in that and in other circles.*

As the mass of tissue forming each of the floral parts becomes isolated and projected from the torus its margins and faces are completely separate from those of all adjacent parts. The law assumes that growth shall continue in the isolated portions, by which process they must continue separate. But this form of growth of the parts does not always occur. Very commonly the point of growth changes or becomes restricted to the basal portion, where the development has not yet separated them from one another. The projection of this undivided or unseparated portion from the torus, and its subsequent growth, must clearly result in the development of a portion of the flower consisting of more than one floral part in union. The component parts are usually indicated by more or less of a separation at the apex of the resulting body.

There is no other direction in which deviation from the type represented in Fig. 41 is so frequent and variable as this, nor in which the results are so far-reaching or call for so extensive a classification and terminology. The deviations are of two classes. When a part is united laterally with another part of the same circle the condition is called Connation, Cohesion, Coalescence or Syngenesis. When connation does not exist the parts are said to be Distinct or Eleutherous. Connation will be discussed in our detailed consideration of the several floral parts. Sometimes the parts stand close together, appearing as though coherent or agglutinate, but are neither. They are then said to be Connivent.



In the second form, called Adnation or Adhesion, one circle is united with another. Strictly speaking, the two last terms are not exactly equivalent, as adhesion includes agglutination, while adnation does not. Agglutination is a state which may be mistaken for adhesion, or more especially for cohesion. It is a clinging together of parts by virtue of some interposed substance, rather than true adnation of tissues

Adhesion may affect any two or more circles of the flower, and it may affect an entire circle or only one or more of its parts.

Thus Fig. 42 illustrates a petal of the

Vanilla, adnate to the gynaecium, while the other petals are free. It is plain that when the calyx and the gynaecium are adnate all the intervening circles must be included in the condition, as in the case of the colocynth (Fig. 43). In this case, as in all cases where one or more circles are adnate to the gynaecium, the free or ununited ends of the parts must lose the appearance of emanating from the torus and must appear to emanate from the gynaecium. They are, therefore, said to be Epigynous. At this point the student should not fail to impress himself with an understanding of the fact that in all such cases the epigynous organs really originate at the torus, and that in a cross-section through the adherent portions the microscope will often demonstrate the tissues of such a part adnate to those of the part from which it appears to emanate. In descriptive phraseology the term "Calyx adherent" always means "adherent to the ovary," or epigynous, even though the words "to the ovary" are omitted. Another mode of stating the same condition is to say "Ovary inferior" or "Calyx superior." It frequently happens that the condition is only partial, when the terms "Half inferior" and "Partly inferior" are employed. There are cases where proper application of any of these terms is doubtful and some perplexity is created.

The insertion of a corolla or an androecium which is adherent to a free calyx (as in the cherry, Fig. 44), or of an androecium adherent to a free corolla, as in the Phlox (Fig. 45), is denominated Perigynous. Organs which are not in any way adherent are denominated Free, and because their insertion is manifestly upon the torus, underneath the gynaecium, they are said to be Hypogynous.

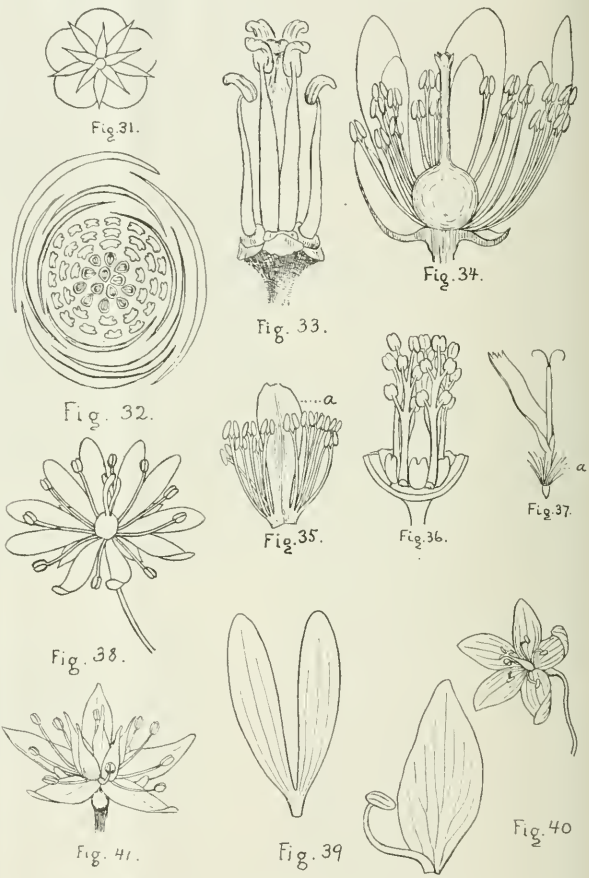
With the stamens adnate to the pistil the flower is said to be Gynandrous (Fig. 42). The body thus formed of the united androecium and gynaecium is technically known as the Column. (See also "Stamen-column.").

Two cases arise in which the student may be led to erroneously assume true epigyny. The first is where the disk enlarges upward, surrounding the gynaecium and adhering to it; the other where the end of the branch is hollowed and the gynaecium sunken into and adnate to it, the other organs being thus elevated above and apparently, but not really, upon the ovary (Figs. 46 and 47).

LAW 5.—*Each part preserves its own function and a characteristic form.*

The forms referred to correspond in general with those which have been indicated above. Deviations from this law are caused by Metamorphosis, Enation, resulting in the true appendaging of an organ, the very similar process of exaggeration in the growth of a part, retardation in its growth, or its suppression or abortion. With the exception of the first the results of these processes will be discussed under the details of the respective parts.

Metamorphosis is the simulation in form or function, or both, of one organ by another. The rose, which normally has but five petals (Fig. 46), is seen under cultivation to consist of a dense mass of them in many circles, becoming a so-called "double" flower. An examination of the inner petals of such a flower (Fig. 47) discloses that they are successively smaller and more stamen-like as they stand nearer the stamens, indicating their origin through the metamorphosis of the latter, which are fewer in proportion as the petals are more numerous. In another form of the rose, the "Green Rose," the petals in turn appear transformed into leaves or leaf-like bodies. Such accidental or artificial deviations from the normal type are called Monstrosities. The sepals also frequently present a leafy appearance as an abnormality, or in most species habitually. Even the stamens and carpels frequently display the latter abnormality. In all of these cases the change is from a more complex organ, or one of higher rank, to one of a lower, and is called Retrograde Metamorphosis, or Reversion of Type. Progressive Metamorphosis also occurs. It is seen in the gradual transformation of bracts, themselves transformed leaves, into sepals in the Barberry (Fig. 48), and of sepals into petals and petals into stamens (Fig. 49) in the Water Lily. Even stamens may become metamorphosed into carpels and carpels into stamens, one instance being the flowers of the willow, where organs have been seen intermediate in appearance between the two. Cases of abnormal retrograde metamorphosis are very common, and have given rise to a separate department of study known as Teratology.



Enation and the effects produced by it are well illustrated in one of their forms by the petals of certain genera of the Ranunculaceae. The retention of a drop of nectar at the base of the petal of some species of buttercup is effected by the presence there of a minute scale (Fig. 50), covering over a slight depression. The nectar is partly lodged in this pit, partly held between the petal and the scale. In the Coptis (Fig. 51), a closely related

plant, the depression is deepened into a more obvious cavity and the scale is dispensed with, while in the Delphinium (Fig. 52) the former becomes a long tube.

Although the detailed consideration of appendages will be taken up in connection with the several organs to which they appertain, we shall here consider a special class of them, called Glands, not only of great importance in diagnosis and classification, but of such physiological importance that they constitute a distinct organ of the flower from that point of view. The peculiarities of structure and secretory function of glandular tissue will be considered in the part relating to histology. Here we note that although glands are sometimes distributed through the other tissues in such a way as to be imperceptible on superficial examination, their tissue is at other times collected into more or less conspicuous bodies of definite form and position. The term "Gland" is frequently applied also to bodies which resemble glands in location and form, but which are not glandular in function. Glands may be stalked (Fig. 53, a), sessile (Fig. 54) or depressed (Fig. 55, see Nectary), and they may develop upon various parts of the flower. Those upon the outside of the calyx are extensively utilized in classification in the natural order Malpighiaceae, while those upon the inside are so used in the order Apocynaceae (Fig. 56) and Gesneriaceae.

Fig. 55 is an illustration of glands located upon the corolla, while Fig. 57 illustrates them connected with the stamens, as seen in Sassafras.

Glands upon filament-like stalks, suitably located, may easily be mistaken for stamens. Glands may themselves be appendaged.

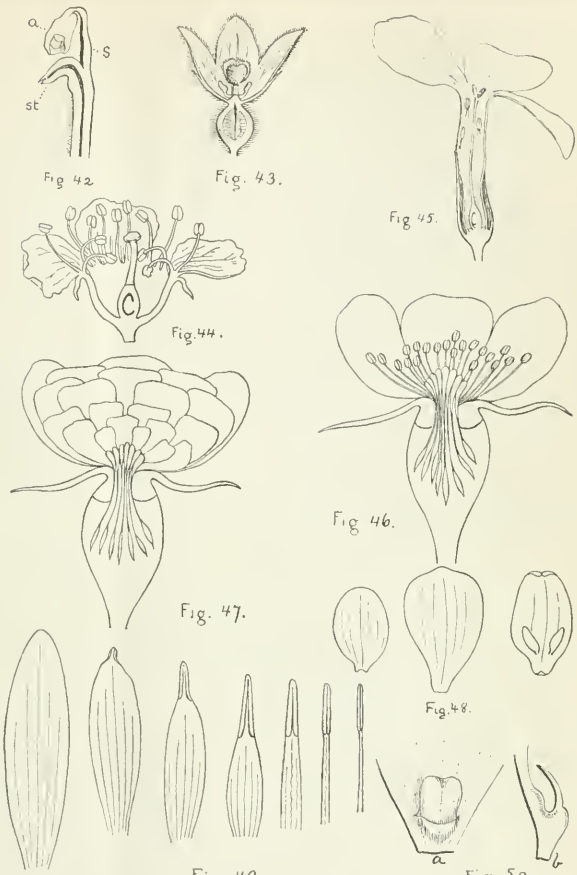
The misleading effects of suppression have been observed in the Hepatica (Fig. 22) in the absence of the corolla, the metamorphosis of the calyx toward corolla and of the epicalyx toward calyx. Those of abortion are seen in the Pulsatilla (Fig. 16), where the petals b and c are reduced to simulate sterile filaments.

Exaggeration of growth is well displayed in the torus of the strawberry and the placentae of the watermelon, which respectively contribute the massive edible portions of those fruits.

The principles of anthology having thus been followed into and through the typical flower, and the general nature of the deviations therefrom having been outlined, we shall proceed to a consideration of the several parts of the flower, with the object of preparing us to interpret the multiform appearances which those organs present in the extensive flora from which our drugs are derived

Fig. 51.

That division will not, however, close our consideration of flower structure, as some important modifications will remain to be discussed in our chapter on pollination and fertilization.



THE PERIGONE.

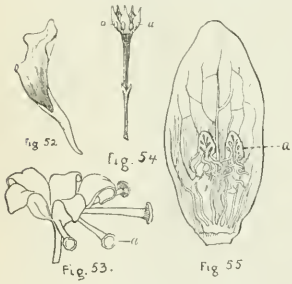
The perigone is to be studied as to the number of its circles, their color, texture and surface, the number of parts forming each, their adhesion or cohesion, the form and divisions, if any, of each and of its parts, appendages, secretions, metamorphosis or other variations, arrangement of the parts in the bud, movements or other noteworthy habits and duration. The normal condition of two circles, and its modifications through abortion, suppression, duplication and metamorphosis, and their agreement with the numerical plan of the flower and its modification through the same influences, need no further discussion. The typical idea of a calyx more or less herbaceous and a corolla thin, delicate and brightly colored, is not always realized. In the Crocus and most related flowers the parts of both circles are similarly petaloid. The petals of Garcinia are thick and fleshy, in Caopia they are leathery and in Alzatea hard and almost wood-like, at least when dried. The surfaces of the sepals, particularly the outer, are not commonly glabrous, while those of the petals are; but even the latter are often glandular, pubescent, densely woolly, or even prickly (some species of Solanum). No shade of color is denied to the perigone, nor is the color necessarily uniform among the parts of the circle or even over the surface of any one part. The shade and markings are very liable to vary in different individuals of the same species (varietal or formal variation), so that color is not always a good character on which to base a determination. In general the color deepens as the altitude of the habitat increases. The number of parts entering into either perigone circle, whether these exist in a distinct or a coherent state, is indicated by the appropriate numeral preceding the suffix "phyllous"—thus, Monophyllous, Diphyllous, Triphyllous, and so on.

The parts of the calyx commonly pre-

sent themselves to us in the form of a circle, though sometimes as two (Mustard).

The strictly typical state calls for a general resemblance between the form of the perigone parts and that of the foliage leaves of the plant which bears them. They sometimes display a keel corresponding to the mid-rib of the leaf, and, as in the leaf, this may be continued into a terminal point.

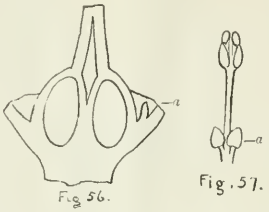
They may be concave, as in Theobroma (Fig 93); the margin may be toothed and the apex toothed or fimbriated, as in Silene (Fig. 18). The toothing of the margin may extend into a pinnatifid condition, as in the calyx lobe of Rosa canina (Fig. 60), and that of a toothed or fimbriate apex into the cleft or divided state of chorisis. The peculiarly divided calyx illustrated in Fig. 64 is denominated a Pappus, and this term has been extended to all forms of the calyx (61 to 68) existing in that family (the Compositae) and in some others. Fig. 68 illustrates the action of median, as well as of lateral, chorisis, in the development of a double pappus. The several forms of perigone parts corresponding to those of leaves (see leaf-forms) and numerous intermediate ones not illustrated should be carefully considered by the student, as they



have a most important bearing upon the forms of the corolla produced by cohesion, which we shall shortly consider.

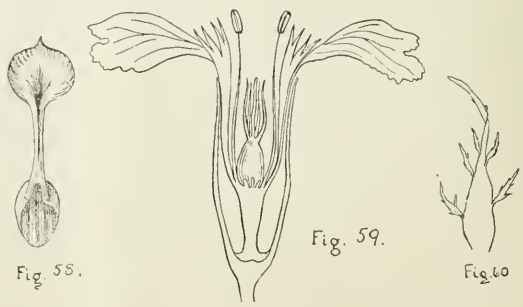
Both adhesion and cohesion are exceedingly common in the case of the perigone. The former has already been pretty fully considered. Very rarely is it so complete that there is not at least a portion of the parts remaining free. Since the adherent parts are alternating, adhesion necessarily involves the effect of cohesion. In the case of cohesion extended very high, peculiar effects, often puzzling to the beginner, are produced, as in the case of the petals and stamens emanating from the summit of the long calyx-tube in Fig. 26.

Cohesion, like adhesion, may be partial or complete. In its slightest forms, with a mere band of union at the base, it may escape observation, as in the case of the corolla of Styrax (Fig. 71). In such cases a decision is best reached by carefully pulling away the corolla in a lateral direction. If there is union, however slight, the corolla may thus be removed as one body. Upon the other hand, the petals will occasionally be found held together at the base by agglutination, in which case they can be readily separated without the tearing of any tissue. A peculiar and extreme form of cohesion is that in which the sepals refuse to separate even at the apex when the flower



expands, and the calyx is torn loose from its basal attachment, falling entire as a Calyptra, as in the corolla of Eucalyptus (Fig. 69). A modification of it permits the remainder of the flower to escape through a rent in the side, as sometimes in the case of the Oenothera (Fig. 70). When the petals are distinct the corolla is said to be Eleutheropetalous or Choripetalous. The older but less desirable term is Polypetalous. When they are coherent the corolla is said to be Gamopetalous or Synpetalous, the older and less desirable term being Monopetalous. Corresponding terms for the calyx are Eleutherosepalous, Chorisepalous, or Polysepalous and Gamosepalous, Synsepalous or Monosepalous. In the gamopetalous and gamosepalous state the parts cease to be designated petals and sepals and are known respectively as Corolla-Lobes and Calyx-Lobes.

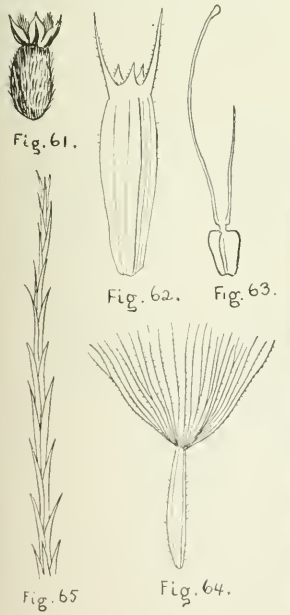
The relative altitude to which the cohesion is carried is indicated by special terms. When existing at the base only the circle is said to be Parted (Fig. 71); when extending about half way up, as in Solanum, Cleft (Fig. 72); when still further, but yet leaving a considerable portion un-united, as in Gelsemium, Lobed (Fig. 73), and when having only traces of the parts un-united, as in Symphytum (Comfrey), Toothed. A peculiar form is that in which the position of the parts is indicated by a mere waving irregularity of the margin, as in the flower of Ipomoea



(Fig. 74), which is then said to be Sinuate or Undulate. The student must not fail to discriminate between the entirely different senses in which these terms are here used, in reference to the entire calyx and corolla, and as used previously in reference to single parts thereof.

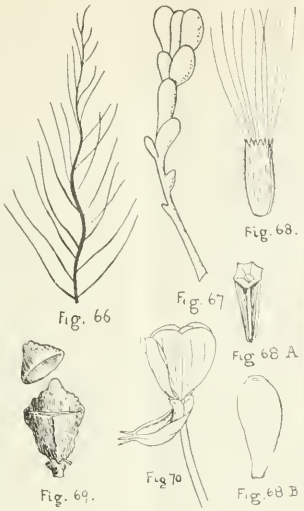
We must next consider certain specific forms of the calyx and corolla as wholes, which are of very great diagnostic value. Although such characteristic forms are most numerous among the coherent forms, they are not wanting among those in which cohesion does not exist. Sometimes a non-coherent corolla will necessarily assume such a form through the restraint exercised by coherent sepals. At other times the form is entirely independent of such restraint. Although non-coherent sepals and petals are ordinarily free to assume any position, without regard to their own forms, it is clear that such is not the case when cohesion exists. The coalescence of such petals as that shown in Fig. 18 would necessarily create a long cylindrical tube, without regard to an enveloping calyx, just as has actually taken place in the calyx of that flower (Fig. 214) and in that of Fig. 26. At the same time the union of the broad lobes of either of those corollas would result in a funnel shaped or broader upper portion, as is seen in Fig. 76. In such corollas these two parts are respectively denominated the Tube (a) and the Limb (c). When the change from the narrow to the broad portions of the formative divisions is not abrupt there will be an intermediate portion, as displayed at *b* in Fig. 76, called the Throat. Less frequently this term is applied also to the delimiting circle between the limb and the tube when these meet abruptly. The terminal boundary-line, including all its extensions and intrusions, is called the Margin. The margin may intrude partly or quite to the tube, so that the cohesion may include none or the whole or any part of the throat, or of the limb. Some of the terms applicable to the forms of the gamopetalous corolla (and, of course, to the gamosepalous calyx) refer to its entire body, while others refer to its several parts. The former class will be first considered. The terms regular and irregular apply to lobes precisely as though they were distinct sepals or petals and to the united portions as well as to the lobes. The regular forms will be first considered. The term Cylindrical is self-explanatory. If nearly cylindrical it

is called Cylindraceous. Such shapes are shown in Figs. 26 and 75. If such a one is manifestly angled, as in Mimulus (Fig. 76, calyx), it is Prismatic, and the same is true of other tubular forms. If the entire body flares regularly (Fig. 77), or if there is such a flaring portion upon a cylindrical tube, it is called Infundibular or Funnel-shaped. The less broadened infundibular forms are called Trumpet-shaped, as in the honeysuckle. If the flaring portion or limb is flat, or nearly so, upon a cylindrical or cylindraceous tube, it is called Hypocraterimorphous or Salver-form, as in the flower of the coffee (Fig. 78). A corolla which is bell-shaped is called Campanulate (Fig. 79). Of this there are two sub-forms, the Open and Contracted (Fig. 80). The term Globular or Globose is self-explanatory. It may be specified however, that the mouth must be small and with no conspicuous limb, or with the limb turned back flat against the body. Approaches to the globular form are called Sub-globular or Globoidal. Other related forms are the Ovoid or egg-shaped and Oblong. A somewhat globoidal form, with conspicuous recurved margin, is Urceolate or Urn-shaped (Fig. 81). Of the broader or more widely expanded forms, the campanulate develops outward into the Hemispherical and the Craterifform or Saucer-shaped, as in the Kalmia (Fig. 82). When still more flattened out



it becomes Rotate or Wheel-shaped, as in the Solanum (Fig. 72).

A gamopetalous corolla frequently has a fissure on one side extending nearly or entirely to the base, as in the Lobelia (Fig. 83). When in addition the corolla or the split portion of it then loses its tubular form, becoming flattened out, it is called Ligulate or Strap-shaped, as in



the Dandelion (Fig. 84).

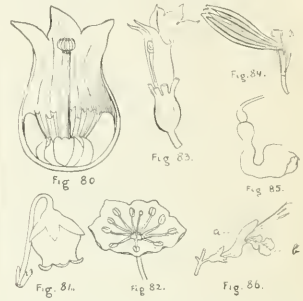
The applicability to the tube and limb separately of many of the terms here applied to the entire corolla is apparent. It should be noted, however, that very detailed descriptions of these respective parts, as well as of the throat, with specification of any irregularities and marks, are often imperatively demanded. This is especially true in cases of the florets of the Compositae, where such characters, although very slight, frequently serve for specific distinction.

Special terms for forms resulting from the possession of appendages will be considered later.

Terms proceeding from irregularity will next be considered, commencing with those applicable to the entire body.

Either the base or the mouth is Oblique when a plane passing through it is not at

right angles to the floral axis. The body is declined (Fig. 87) when, either with or without any manifest curve, its axis is turned from the perpendicular, so that it rests more or less against one side of the calyx. It may be Straight or Curved, and the curvature may be Simple or Compound, as in the calyx of Aristolochia (Fig. 85). When dilated upon one side only it is Ventricose, as in some species of Salvia (Fig. 86), or, if the swelling is small and prominent, Gibbous (Fig. 87a). When the swelling is carried downward, so as to form a sac, as in Cypripedium (Fig. 88a) it is called Saccate. When the

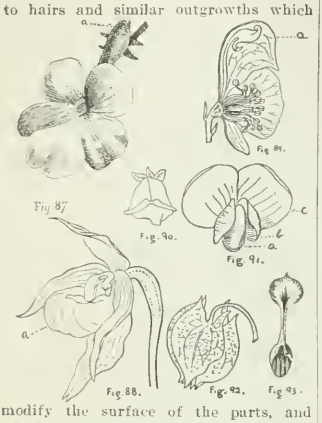


dilation is directed upward, so as to form a hood, as in Aconite (Fig. 89), it is called Cucullate or Galeate, and when the hood is compressed laterally and much enlarged proportionally to the size of the body it is called Cristate. Most of these terms are also applicable to a single lip of the form next to be considered. When one or more of the lobes of a corolla are separated from the others by a deeper sinus than those of the others it is called Labiate or Lipped. If the fissure proceeds entirely across the corolla, cutting off the lower portion, it becomes One-lipped. Otherwise it is Bilabiate or Two-lipped (Fig. 86). The two lips are denominated respectively the Upper or Inner (a); that which is nearer the stem of the plant when the flower and its stem are standing erect and without any twisting, and the Lower or Outer (b). It is always of importance to note the number of lobes included in each lip, in doing which the student may be misled either by chorisis, one or more extra lobes making their appearance, or by cohesion, two lobes coalescing into one so as to simulate suppression. Two forms of the bilabiate corolla are commonly recognized—the Ringent, in which the lips stand widely apart (Fig. 86), and the Personate, in which the mouth is occluded (Fig. 90).

Several distinctive titles are applied to flower-forms which are characteristic of large and important orders or sub-orders, the Labiate being one. Another is the Papilionaceous, in reference to its simulation of the form of a butterfly (Papilio), as in the common Pea (Fig. 91). The five petals are as follows: Two (a) are more or less coherent by their lower edges to form the Body or Keel; two others (b) are denominated the Wings; the fifth (c) is large, broad and commonly reflexed so as to appear erect, and is called the Vexillum or Standard.

Appendages to the perigone, while less numerous and varied than in the case of

the other organs, call for our careful attention, as they sometimes occasion false interpretations. In the sense in which the term is here employed we do not refer to hairs and similar outgrowths which



modify the surface of the parts, and which pertain equally to other parts of the plant, but to developments which pertain distinctly to the flower, modifying its structure or functions, or commonly both, in some important way. In Nicandra (Fig. 92) we observe a slight appendage at the base of the calyx-lobe on either side and directed downward. Such an appendage, because of its resemblance to the lobe of the ear, is called an Auricle. A similar appendage is sometimes directed upward, and by its union with the contiguous one forms an organ exactly resembling an intermediate or false sepal, as in the Strawberry (Fig. 31). Such appendages, which undergo considerable variation in form and consistency, may or may not be stipular in their nature. Marginal teeth or filaments extended into conspicuous appendages have already been referred to. Sometimes the apex is similarly greatly prolonged into a Cauda or Tail, an extremely exaggerated form of which is sometimes seen. An apex extended into an acute, stiff point is an Arista or Awn (Fig. 63). An awn sometimes emanates from the producing organ at the back, instead of at the apex, and is then called a Dorsal Awn. An awn-like body which is hollow is a Cornu or Horn (Fig. 126, a). A horn-like appendage extending downward is called a Calcar or Spur (Fig. 52). All of the appendages noticed above may be found upon either calyx or corolla.

Sacs to the corolla are sometimes intruded, as in Mertensia (Figs. 94 and 95), instead of extruded. The corolla is then said to be Fornicate. Instead of sacs there may be longitudinal folds. When a single large sac occludes the mouth of a bilabiate corolla it is called a Palate (Fig. 76, d). Many appendages such as we have noticed are secretory in function and they may even be glandular in form. Doubtless the various secretions are characteristic, and might, in pharmacy, in exceptional cases be utilized for diagnostic purposes, but the attempt has never yet been made.

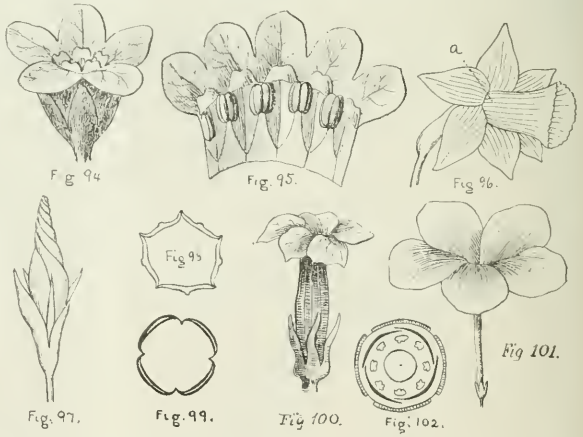
Lastly, we note what is perhaps the most important, as it certainly is the most striking and interesting, of the corolla appendages—namely, the Crown. The crown is an outgrowth, more or less membranaceous, from the face of the corolla. Its morphological nature is not understood or agreed upon. It may be a mere abnormal product of median chorisis, or it may be the homologue of the ligule of certain leaves, hereafter to be considered, the latter being regarded as a normal and morphologically distinct part. When it develops from a petal with a distinct narrowed basal portion, which may be assumed to correspond to the petiole of the formative leaf, it usually develops from the point where this is joined to the broader portion, or near it (Fig. 96, a). The crown becomes very important in classification in such families as Passifloraceae and Amaryllidaceae. A ring of intruded folds at the throat is often, perhaps incorrectly, called a crown.

The arrangement of the parts of the perigone in the bud yields some of our most important diagnostic characters as distinguishing orders, sub-orders and genera, and has been the subject of elaborate classification. The demands of pharmacognosy, however, call for attention to only the principal types of Praefloration or Aestivation. The three principal types depend upon the fact that the combined breadth of all the parts of a perigone circle must, (1) be insufficient to enclose the bud, in which case open spaces must be left between their margins (Reseda) or the summit must be left uncovered (Fig. 97), the form in either case being called Open; (2) it must be exactly sufficient to enclose it, the edges then meeting exactly, with nothing to spare, and the form being called Valvate (Fig. 102, the calyx); or (3) it must be excessive, in which the excess may be disposed of in one of several ways. In one, the parts after meeting squarely are uniformly turned straight outward (Fig. 98), the form being called Valvate Reduplicate. In another they are turned straight inward, the Valvate Induplicate form (Fig. 99). They may even be rolled inward, the Involute form; when lapping the one over the other they are Imbricate (Fig. 102, the corolla). Here it is important to note whether the overlapping is from right to left, Dextrorse (Fig. 100), or the reverse, Sinistrorse (Fig. 101).

Other details as to the precise mode of overlapping are frequently worthy of note.

In determining the form of praefloration, care must be taken to select a well formed bud. The praefloration may be mixed, as in Oenothera, where the parts are valvate at the base and slightly imbricate or reduplicate at the immature apex (Fig. 102). At the best, intermediate and perplexing forms will be encountered. Petals, sepals or stamens are occasionally rolled vertically downwards from the apex, this form being called Circinate. Occasionally we find the petals folded and doubled in an irregular manner, the Crumpled or Corrugated form of praefloration. A number of terms are called for by the peculiar conditions of the gamopetalous form. Economy of space is here commonly secured by a longitudinal folding, the Plaited form. Vertical shortening is often secured by twisting, the Convolute form.

The duration of the perianth, especially of the calyx, is frequently of considerable importance from the standpoint of pharmacognosy, although in general not so. When a part falls away at, or very shortly after, expansion, it is Caducous. When lasting about a day, and then either falling or perishing upon the flower, it is Fugacious. When lasting longer than a day, but falling soon after fertilization, it is Deciduous. When remaining and retaining more or less of its normal appearance for some time after fertilization, it is Persistent. When so remaining, but in a withered condition, it is Marcescent. These definitions assume that fertilization takes place normally. If this be artificially prevented or deferred, the fresh-



ness of a corolla is often very greatly prolonged. (See Fertilization.) Important facts relating to the Accrescent calyx of the fruit will be presented when the latter is discussed.

Some very interesting facts concerning characteristic movements of the corolla, its sleeping and awaking and other habits, should be sought in general works on botany.

(To be Continued.)

THE PRACTICAL SIDE OF TRAINING IN OUR COLLEGES OF PHARMACY.*

By Joseph Jacobs, Atlanta, Ga.

For purposes of special study and special work, our body has been divided into convenient and different sections. This well-made classification enables us to bring to bear the best skilled forces upon particular fortifications of error and to mass them for the destruction of such strongholds.

I will be pardoned, nevertheless, for choosing a subject connected with the educational section and thus overstepping the jurisdiction of my own—the mercantile section—if I shall invoke the philosophy teaching that it is well sometimes to "see ourselves as others see us;" and, surely, I will not forfeit your "love and friending" when I promise that should my friends, the professors, resort to the lex talionis, I will take my share of such medicine as they may administer, bitter and all, whether they be uncoated pills of advice, rank fluid of criticism, or even downright gall of admonition.

While the teachers of pharmacy are wrangling about the proper designation to give graduates of their schools—whether they should be known as graduates of pharmacy, pharmaceutical chemists, or doctors of pharmacy—may it not be well for us as merchants to turn our attention to a practical phase of the educational question, not troubling so much as to what the graduates of the schools may be called, but trying to devise means to real improvement in the merits of the men we are asked to receive as clerks and assistants?

Within the last few months I have taken pains to inquire somewhat at length as to the opinions held by employers with regard to the relative efficiency of graduates in pharmacy compared with young men not graduates, but who have received good practical experience in stores. I have been surprised to find that where the business consists largely in the sale of proprietary articles, goods of home manufacture, toilet articles and domestic remedies, the latter class were so frequently preferred. In many instances proprietors of such stores spoke in favor of graduates, but very often I received an expression of preference for men who have acquired their training outside of colleges. This association would be astonished to find, on investigation, such a strong and growing feeling among some of our most successful druggists adverse to graduates.

It has been recently stated in pharmaceutical journals that there is a sentiment fast gaining force in favor of abolishing "experience" requirement, and those holding this opinion attempt to fortify their position by the statement that this requirement is really no test of the graduate's ability and attainments, but is often much abused and inadequately applied. It is also argued that while store experience is essential to the pharmacist's equipment, this requirement is entirely beyond the province of the college to measure, and should be left entirely to the boards of pharmacy for valuation; that the duty of the college is to teach and examine its students, and to ascertain whether they profit from this teaching; that it has no opportunity and is unable to judge the value of the training received outside of its doors; that it makes no difference how long it has taken a man to get his training if he only has enough.

For my part I maintain that this sentiment is radically wrong. The colleges should not only demand that their graduates shall have four years' practical experience, but they should also ascertain that it is the right kind of experience by every approved method of testing knowledge; and, in addition, supplement this experience with such examples and instructions as will fix and increase practical efficiency; not enough stress is laid upon practical experience, and too much given to theoretical matters, which in some instances could be modified as to extent and often profitably curtailed or even dispensed with.

Whatever may be the fate of the cut-rate method, whether it shall survive and continue to occupy a distinct place in the pharmacy field of the future, or go down in the contests that may be waged against it (and disavowing any desire to raise any such discussion here), we cannot close our eyes to the fact that the few who began this business in 1884 have grown to a large number, and a practical knowledge of the various matters pertaining to this style of business possessed by our graduates, would go far to settle the vexed question, bringing out its preserving methods or displaying its evils.

Far be it from me to underestimate or decry the great service done to the drug business in the United States by the colleges of pharmacy. I offer in an humble way several suggestions that if adopted (even greatly modified) would, in my opinion, enhance the efficiency of graduates of pharmacy in these times of close competition. If it should come to pass, as predicted by some, that the drug business in our country will soon be divided into several grades, one of which will be only for the compounding of prescriptions and the sale of physicians' requirements, and another, for instance, where the functions of the bacteriologist and analyst will be fulfilled, then the method of instruction as it now exists in the colleges will be all that is necessary, but, until that happens, all the practical information that can be possibly imparted to the student should be given him.

A large number of graduates of colleges never become proprietors, but act as clerks and assistants to others. It is apparent that it should be the business of a college so to fit these men that they shall be as valuable as possible to their employers and themselves. In very few instances does one of these graduates so employed ever make use of his knowledge of many of the theoretical branches. Such knowledge is often forgotten by him in a short time. Hence, may it not be well contended that the teaching of such strictly theoretical branches should be brought down to a minimum?

On the other hand, special lectures could be given to the students by experts on a number of things which would be found useful in an every-day life. For instance, the graduate in pharmacy who is familiar with the successful manufacture of perfumes, who knows how to wash pomades, how to blend oils and essences, who can make a good cologne or extract, or compound a good toilet powder, or make smelling salts, sachet powder, and the hundreds of toilet requisites in the sale of which the profit largely goes to make up for the loss in selling patent medicines at close margins, would certainly be of much more value to an employer than one who is ignorant of these matters, and yet who might have gained distinction in his class in the theoretic and purely scientific branches of study. In every city where a college of pharmacy is located some perfumer could doubtless be found who would give practical lectures showing the main points to be observed in making these goods successfully, giving formulas where formulas were required, and outlining the work in detail.

In the past few years many druggists have found the sale of photographic material and supplies quite profitable. A clerk who could intelligently explain their uses to the increasing number of amateur "button pushers" would have a fair chance for an increased salary. In any of our large cities dealers or manufacturers of these supplies would gladly explain the uses of the materials from a business point of view and give such data as may be required to exhibit and sell their goods to advantage.

I know of nothing handled in the drug store that affords more profit than the sale of trusses, elastic stockings, abdominal supporters and articles of a similar character, yet comparatively few of these appliances are sold in drug stores. Specialists who charge exorbitant prices fit by far the most of them. Any manufacturer of these appliances would gladly give the desired instructions as to the proper adjustment of them and how to repair occurring slight defects.

The clerk who is able to manage the advertising department of a store will certainly receive a larger salary than one who is unable to do this, and it would be an easy matter in the large cities where colleges are situated to have one or more special lectures during the session from such advertising experts as Bates, Fowler, Powers, or one of a dozen others who are known over all the country as expert writers of advertisements. In such lectures not only

* Read before the American Pharmaceutical Association.

the method of writing advertisements could be entered into, but also that important little matter of proof-reading could be taught.

Again, the clerk who is able to present an attractive show window, changing it weekly or semi-weekly, as the occasion may require, would certainly be of more benefit to his employer than one who has no knowledge or taste in that direction. In every city where there is a college of pharmacy you will be able to find one or more men engaged by the larger general stores at salaries that few graduates in pharmacy receive, who would doubtless take pleasure in practically demonstrating before the class how windows or show cases could be dressed to the best advantage.

Many more instances might be mentioned where special lectures could be profitably given to a class—lectures pertaining to every-day happenings in a drug store, to matters that unfortunately so many druggists and drug clerks overlook. For instance, manufacturers of labels, boxes and cartoons would vie with each other for the privilege of lecturing before the young men on how labels and circulars are devised, or should be devised, and on the differences, not only in quality, but in the style of boxes, labels, etc., pertaining to the drug business. The same might be said of manufacturers of shop furniture or fixtures, and the same applies to the manufacturers of soda water apparatus and supplies.

Instead of agreeing with the sentiment mentioned of abolishing the experience requirement, I trust some day to see a college of pharmacy located in one of the larger cities of the United States where a practical store will be in operation, where the young men will be taught how to put up prescriptions behind the prescription counter, where catch prescriptions will be written and practical observation taken by some graduate in charge who is a practical man, where the dressing of windows and of show cases and the manufacture of toilet articles will be taught, and instructions given how to prepare neat and salable forms of domestic and household remedies. When this is done good work will solve many of the problems of "hard times." Thus let the opportunity be afforded to every graduate turned out from our school, either to make a success of his own business, or to be of sufficient value to his employer to command a salary far above that which is paid to the average graduate at the present time.

I wish to be fully understood as in no way depreciating the value of true and accurate pharmaceutical knowledge and skill. This field of labor is one full of goodly fruit for beneficence to its possessor and to humanity, but I would strongly inveigh against our colleges sending out mere theorists without the ability for practical work in the real domains of their future labor, the drug stores of our land.

We want men who are capable of ascertaining and supplying all of the myriad medicinal needs of a sick and suffering humanity with dispatch and intelligent accuracy and with profit to themselves and their employers, and not merely men with heads full only of the technical terms and the theoretical part of our science, men who, while blessing their community, may acquire a competency or a fortune, and not such as may call forth and justify the satire of the poet when he sang:

"Poor human bodies are such fools
For all their colleges and schools."

REQUIREMENTS FOR GRADUATION.*

By S. A. D. Sheppard, of Boston, Mass.

So much has been written on this subject that I would, first of all, apologize for saying anything about it; second, I would state exactly where I stand. My position is that the degree of Graduate in Pharmacy should be given only to those who have had at least three years' store experience, exclusive of the time at college.

A change in methods of pharmaceutical education is now going on. Schools of pharmacy have grown more numerous; the curriculum is more thorough and more extended; students are many and more earnest in their work than ever before. These changes are in the line of progress, and we are all glad because of them.

But we now come to a new factor that has entered into the problem of the technical education of the pharmacist—one that formerly had no place in it whatever—a factor of great importance in its own place; and for that very reason we should be careful not to get it out of its own place. This factor is the board of pharmacy. Pharmacy laws have now become almost universal through the States of the Union, and are doing a splendid work in educating the people—the great public at large—to the fact that the pharmacist should be something more than a merchant. They are also improving the general character of the profession by requiring all who would practice pharmacy to pass a reasonably severe examination. But the board of pharmacy has no connection with the teaching college, and cannot act for it, or even appear to be its agent in the most indirect way. This would be suicidal. They are separate and ought to be separate. Nevertheless, some of the most prominent educators in our country are leaning strongly toward a new departure; in fact, we may say that they are already intrenched there; namely, that the board of pharmacy alone should take note of practical store experience, thus allowing the teaching college to drop that phase of its work. Every one, without exception, admits that store experience is an absolute necessity in the training of the pharmacist. This is one of the points which are so self-evident that there can be no difference of opinion about them. Now, has not the teaching college as good an opportunity to learn what practical store experience is worth, as has the board of pharmacy? I claim that it has just as good, and even a better, opportunity to determine this fact than has the board. And right here is one of the points that I wish to make in this paper. While the teaching college has the opportunity to do this, I do not think that, as a rule, it has in the past improved its opportunity; and I think that this is a phase of the work of the teaching college to which it should give far more attention than it has. In other words, what may be called the trustees' examination should be as rigid in testing the proficiency of the student as a practical pharmacist, as is the examination conducted by the board of pharmacy. If this were so, we should hear very few such statements as we now do in regard to graduates failing when they come before the board. It would also be a heavy blow at the best point of the argument on the other side, viz.: that colleges know very little as to the practical experience their students have had.

Can the student do as good work in college before he has had any store experience, as after? And will not his store experience be a decided benefit to him in giving him a more clear and perfect understanding of the facts brought to his attention by the professors in the college?

Here is the real question to be answered. This is one of the disputed points in the controversy now going on; and it would seem that there is a certain amount of prejudice on both sides, though many are honestly striving for a correct answer to the query. Let all of us who are specially interested in the problem strive, when we are discussing it, to divest ourselves of the prejudice which the force of long years of habit has given us, and also of the prejudice engendered by the desire for large financial returns in college work; and let us strive to look at the question from the student's standpoint, which is the only right one here. Perhaps I may be as prejudiced as is the most positive person on the other side, but I can truly say that I have striven earnestly during the last two years to look at this subject from the student's standpoint only; and I am more and more settled in my conviction that the student can get more real benefit from his course in college after he has had a considerable store experience than he possibly can without it; and the thought has been emphasized with me by the fact that, during this period, I have had in my employ one who took his college work before going into a store.

There is another way to look at this question, which is not at all new, but which is so important that it deserves to be considered most carefully and emphasized at every turn. It is this; the degree of Graduate in Pharmacy has always represented a course of college training plus store experience. Now, I claim that this degree is old enough and good enough to have acquired a lasting place in the history of pharmacy. Leave this particular degree untouched, let it stand just as it has stood, representing just what it has represented these many years past. If there is to be a general new departure, and education by the

* Paper read at the Denver meeting of the American Pharmaceutical Association.

college irrespective of store experience, do as the University of Michigan has always done, give a special degree therefor, Ph. C., or such other title as shall be deemed best; but do not disturb the ancient landmarks which the fathers have set up. Custom, long usage alone, has some rights; the many hundreds of men who hold these degrees have rights and their diplomas should not be converted into waste paper. The work which colleges of pharmacy have been doing the last 40 years is good work; it has been tested; time has shown its value; and one of its main branches cannot be lopped off hastily without danger of doing great damage.

Supposing, for the sake of argument, that every one of the points made by the men on the other side is good, still there remains this long-established usage, and the many good schools that are sure to follow out the old plan; and the question at once comes up under any circumstance: Why not leave this particular degree of Graduate in Pharmacy untouched? The fact that the movement for a pharmaceutical training, irrespective of store experience, has gained such headway, is an evidence that there is value in the idea. But that fact should not antagonize in any way the present good work of our colleges. If the innovation must come, let it be in addition to the long-established scheme, not a substitute for it.

PHARMACY.

THE METRIC SYSTEM IN GREAT BRITAIN.— The metric system of weights and measures will be adopted in the next issue of the British Pharmacopœia.

CHLOROFORM INFLAMMABLE! —The editor of Med. & Surg. Reporter, in a leading article in a recent issue, says: "Ether vapor is lighter than air and rises. Chloroform vapor is heavier and sinks. Both are inflammable and liable to explode upon contact with an exposed flame." Will he kindly relate some well authenticated instance of the inflammability of chloroform?

FUTURE OF CALCIUM CARBID. —"Whether the calcium carbid, which has been so much discussed and seems such a valuable material for the production of acetylene, will at once take and hold the high position assigned to it by its inventors is still an open question," says Professor McMurtrie in his vice-presidential address before the chemical section of the American Association. "But whether it shall find extended application in the industries or not; whether it will prove too expensive to compete with benzin as an enricher of an illuminating gas, or as a raw material for the synthesis of alcohol or other substances in a commercial way, it will serve as a convenient and sufficiently inexpensive source of acetylene for experimental purposes, and it will therefore without doubt still become the starting-point for many valuable investigations."

VERATROL, $C_8H_{10}O_2$, is described as a colorless oil, of an agreeable, aromatic odor; specific gravity, 1.086; boiling point, 205° C. (401° F.). It is made by acting upon veratric acid by baryta and heat. It is soluble in alcohol, ether and oils. From researches which have been carried out on synthetic veratrol, it appears that this drug possesses antiseptic properties in respect to certain pathogenic microbes.

MUDDY WATER is made clear in the following manner: Dip a filtering paper in a solution of chloride of iron and another paper in a solution of carbonate of soda, and dry both. Place a piece of the chloride of iron paper in the muddy water, and then a piece of carbonate of soda paper; a precipitate of carbonate of iron is formed which clarifies the water. The water thus treated can be filtered through a funnel, the neck being filled with pieces of sponge. It will be as clear as crystal and can be used as drinking water. (Ex.)

COAGULATION OF BLOOD.—"It is a well-known fact," says La Nature, (Lit. Digest.), "that blood coagulates naturally. But if we introduce into the circulation of an animal certain substances such as peptone, the extract of leeches or the extract of crabs' muscles, and the animal is then bled, the blood that is drawn is incoagulable, though these substances cannot prevent the coagulation of blood unless the animal has been inoculated with them previous to being bled. Messrs. Gley and Pachon have sought to determine the cause of this phenomenon. The result of their experiment is the discovery that the liver plays an active part in it. This organ elaborates, according to the opinion of these authors, a special substance that they have not been able to isolate, but whose existence they have sought to place beyond doubt by appropriate experiments, either by tying the bile duct or by preventing communication between the lymphatics and the blood."

THE ESTIMATION OF HYDRASTINE.—Linde (Ap. Ztg., Br & Col. Dr.) has published the following method for the estimation of hydrastine in the fluid extract of hydrastis canadensis. Ten grams are evaporated in a porcelain dish on the water bath to 5 cc., and transferred into a separator with the aid of a little water and brought up to 10 cc. To this are added 10 cc. of petroleum ether, 50 cc. of ether and 5 cc. of 10 per cent. ammonia. The mixture is well shaken for a few minutes and allowed to separate; 50 cc. of the ethereal layer are transferred to another cylinder and shaken with 10 cc. of 5 per cent. hydrochloric acid. The ether is removed on separation, and the acid solution is washed with ether to remove traces of fat. When this is done 5 cc. of ammonia is again added, and the liberated alkaloid extracted with 50 cc. of ether; 40 cc. are separated, and the ether evaporated, and the base is weighed. The amount multiplied by 1.5 is the quantity in 10 gms. of the extract. The author also proposes a method for the estimation of the berberine.

COD LIVER OIL EMULSION.—Professor Gay, in Rep. de Pharm., prefers to the ordinary combinations, a creamy emulsion, of which the following are types: (1) In a mortar mix 6 ounces icing sugar, 80 grains powdered acacia and 1½ drams powdered tragacanth. Shake together 16 ounces cod liver oil and 7 ounces cold coffee infusion, and pour as much of this into the mortar as will make the powder into a plastic, semi-liquid paste on stirring. Then add alternately in portions 4 ounces rum and the remainder of the oil mixture, until the emulsion is complete. By replacing the tragacanth by an equal quantity of acacia a liquid emulsion is obtained. Any essential oil instead of the coffee infusion may be used, putting it in an aromatic water. (2) Mix 16 ounces cod liver oil and 20 drops each of oils of bitter almonds and wintergreen. Then, proceeding as in the first formula, employ 6 ounces icing sugar, 4 scruples each of powdered acacia and tragacanth, 8 ounces distilled water, 2½ drams hypophosphite of lime and 75 grains hypophosphite of soda.

EFFECTS of TOBACCO.—Here is a portion of an address delivered by the late Professor Huxley to a society of anti-tobacconists: "For 40 years of my life," he said, "tobacco has been a deadly poison to me. (Loud cheers from the anti-tobacconists.) In my youth, as a student, I tried to smoke. In vain! At every fresh attempt my insidious foe stretched me prostrate on the floor. (Repeated cheers.) I entered the navy. Again I tried to smoke, and again met with defeat. I hated tobacco. I could almost have lent my support to any institution that had for its object the putting of tobacco smokers to death. (Vociferous cheering.) A few years ago I was in Brittany with some friends. We went to an inn. They began to smoke. They looked very happy and outside it was very wet and dismal. I thought I would try a cigar. (Murmurs.) I did so. (Great expectations.) I smoked that cigar—it was delicious. (Groans.) From that moment I was a changed man, and I now feel that smoking in moderation is a comfortable and laudable practice, and is productive of good. (Dismay and confusion of the anti-tobacconists. Roars of laughter from the smokers.) There is no more harm in a pipe than there is in a cup of tea. You may poison yourself by drinking too much green tea or kill yourself by eating too much beefsteak. For my own part, I consider that tobacco, in moderation, is a sweetner and equalizer of the temper."

LEGITIMATE PHARMACY.—A physician, Dr. Wm. F. Barclay, at the recent meeting of the Mississippi Valley Medical Association, at Detroit, gave his ideas upon this subject, and what he said represents fairly well, we believe, the attitude of the better class of physicians generally. He defined legitimate pharmacy as that which met the necessities and demands of the regular medical profession and the people. The medical profession was entirely separate and distinct from that of pharmacy. Medicines were divided into four classes—patented,

proprietary, non-proprietary and secret. There were a large number of cures, mixtures and tonics bearing the names of their originators and deserving of consideration as proprietary preparations. Pharmacists and physicians were interdependent and should work together. Legitimate pharmacy had called into service educated and able men, but the incompetent and dishonest had got in, too, and that could not be too severely condemned. Pharmacists made errors, but physicians were careless, too, in writing prescriptions. Physicians should not favor any particular pharmacist, and should not receive pay from one. On the other hand, it was unworthy and unprofessional for pharmacists to prescribe drugs or medicines. Legitimate pharmacy should protect the people from the nostrum makers. Physicians had a right to require the highest skill and competency upon the part of the pharmacist, both for their own interests and for the good of their patients.

TECHNICAL SYNTHESIS OF ACETYLENE.—A paper by O. N. Witt (in Chem. Ind.) (Jour. Soc. Chem. Ind.) speaks of the universal interest that has been excited with regard to the process of T. L. Wilson for the preparation on a manufacturing scale of nearly pure acetylene. The method is an extension of Wöhler's observation, in 1862, that calcium carbide, CaC_2, is decomposed by water into calcium hydroxide and acetylene. An intimate mixture of the two substances, lime and anthracite, is subjected to the action of the electric arc in a Cowle's furnace. At the high temperature the carbide fuses, sinks to the bottom of the furnace and can be drawn off into molds. It is generally cast into rods, which have a blackish-gray color and are crystalline. They are not easily affected by the atmosphere, but are very rapidly decomposed by water, giving off acetylene of 98 per cent. purity. For laboratory purposes this is most conveniently done in a Kipp's apparatus. A similar method is employed on a manufacturing scale, a suitable cast iron vessel provided with manholes for charging and draw-off cocks for the lime sludge being used. The gas, which is colorless, has a specific gravity compared with air of 0.91, and smells of garlic. It can be condensed at 0° C. and 21.5 atmospheres to a colorless mobile liquid, which, like liquid carbonic acid, when allowed to expand quickly, solidifies, owing to absorption of heat. The acetylene snow so formed is inflammable and burns without melting or leaving any residue. The gas is easily soluble in various liquids; water at the ordinary temperature and pressure dissolves 1.1 times its volume, alcohol dissolves large quantities of the gas and petroleum dissolves 2.6 times its volume, while brine only dissolves 0.05 volume. Mixtures of air and acetylene are explosive when in the proportion of 1 : 25 : 1, the most explosive mixture being one expressed by the ratio of 12 : 1, while the mixture is no longer explosive when the volume of the air is more than twenty times that of the acetylene. As regards other properties of the dry calcium carbide, it can be heated in the air without change, but burns in oxygen to calcium carbonate. Chlorine at 250° C. attacks it, yielding carbon and calcium chloride, while sulphur reacts with the formation of calcium sulphide and carbon bisulphide. It also forms compounds with arsenic and antimony. Up to the present the principal use proposed for acetylene has been for illuminating purposes, and when burnt from a large aperture it gives a strongly luminous but smoky flame. By the use of suitable burners, however, it is possible to obtain thin flames which without smoking emit a light of very high luminosity, in addition to which the flame does not flicker and possesses scarcely any non-luminous zone. To obtain the best results it requires, however, to be burnt at a pressure of about 60 mm. of water. Smoking can also be prevented by mixing the gas with two-thirds its volume of air and burning it from an ordinary fish-tail burner. With regard to the consumption of the gas compared with ordinary coal gas, about 0.6 liter of acetylene is required per candle-hour as against 11.5 liters in an ordinary burner, 10 liters in an Argand, 3.7 liters in a new Siemens lamp, No. 00, and 2.7 liters per candle-hour in a Welsbach burner for ordinary gas. The heat given out by an acetylene flame is also considerably less, and for equal illuminating effects only about half as much carbonic acid and water are given off as in the case of coal gas. The importance of acetylene as an enricher is alluded to by the author, who is also of opinion that it renders possible the construction of an absolute photometric standard. The disadvantages attending the use of acetylene as an illuminating agent are its poisonous qualities and its property of forming explosive compounds with cupric oxide. Owing to its powerful smell, however, it is unlikely that any large quantities of the gas could escape without detection, and experiments have shown that only copper and silver acetylene are explosive, while iron, lead and tin, the metals most commonly used for the necessary apparatus, do not form explosive compounds. The author quotes figures given by Dr. Frank in a lecture in Berlin, showing the relative cost of illuminating by coal-gas and acetylene, from which it would appear that in Berlin, roughly, 10 tons of coal, giving 2,800 cub. m. of 16 candle-power gas, cost 135 marks, while considerably more than this amount of illuminating effect can be obtained by decomposing 1 ton of calcium carbide, which, allowing for the lime produced, would cost about 68 marks. The technical production of acetylene is, however, not only of importance in the gas industry, but a much larger field is open in other branches of chemistry, reference being made to Berthelot's benzene synthesis and also to syntheses in the fatty series by reducing acetylene to ethylene, from which, by the addition of water, there results ethyl alcohol. Figures are also given comparing the cost of producing alcohol synthetically as against the potato starch method. A good potato harvest produces 16,000 kilos of potatoes per hectare, containing 18 per cent. of starch, or 2,880 kilos. One kilo of starch gives, theoretically, 0.5679 kilo of alcohol, but the best distilleries only obtain an 85 per cent. yield, which is equal to 1391.6 kilos of spirit. Assuming theoretical yields, 1 ton (1,000 kilos) of calcium carbide converted into ethylene, ethyl sulphuric acid and alcohol would give 718.1 kilos of absolute alcohol, or more than 8 tons of very good potatoes. With a bad harvest only producing three-fourths of the above amount of potatoes containing 12 per cent. of starch, the yield of alcohol would be only 695.8 kilos, or less than the theoretical amount from 1 ton of calcium carbide. The possibility of other syntheses, such as those of oxalic and acetic acids and aromatic compounds, is also mentioned, as well as the preparation of hydrocyanic acid, according to the equation, $C_2H_2 + N_2 = 2HCN$. It is also stated that calcium carbide itself, without previous conversion into acetylene, may be employed in various chemical reactions, of which the author suggests the carburation of cast iron and other metallurgical operations.

Table of Drops to the Gram of Liquid.

F. Eschbaum, in Deutsch. Med. Wochensch. (Nat. Dr.), using a burette of external diameter of ¼ inch, has obtained the following results:

Acetum	13
Acid, carbolic liq	18
Acid, hydrochloric	11
Acid, hydrochloric dil	10
Acid, phosphoric	10
Acid, sulphuric aromatic	25
Acid, sulphuric dilute	10
Amylene, hydrate	31
Amyl, nitrate	33
Bromine	17
Creosote	19
Chloroform	26
Ether	41
Ether, acetic	30
Ether, bromic	29
Extracts, narcotic, dissolved, according to the solvent, which see	17-20
Formaldehyde, solution	16
Glycerin	13
Liquor, ammonia aromatic	27
Liquor, ammonia caustic	11
Liquor, ferri subacetat	12
Liquor, ferri sesquichlor	9
Liquor, potass. arsenit	15
Oil of almonds	20
Oil of anise	20
Oil of caraway	21
Oil of clove	20
Oil of cinnamon	21
Oil, croton	21
Oil of lemon	26
Oil of peppermint	24
Oil, olive	21
Oil, mustard	22
Oil of turpentine, rect	27
Oil, paraffin	23
Paraldehyde	27
Syrup of iodide of iron	10
Spirit (alcohol)	29
Spirit of ether	31
Spirit of nitrous ether	29
Spirits camphor	26
Spirit, dilut (alcohol dilute)	27
Tinctures prepared with alcohol	29
Tinctures prepared with dilute alcohol	27
Tincture, ethereal acetate of iron	26
Tincture, ethereal chloride of iron	30
Tincture of malate of iron	14
Tincture of iodine	29
Tincture of musk	21
Tincture of opium (G. P.)	26
Tincture of rhubarb, aqueous	14
Tincture of rhubarb, vinosus	17
Tincture of strophanthus	26
Tincture nux vomica	26
Tincture of valerian	26
Tincture of valerian, etheric	30
Water of bitter almond	19
Water, chlorine	10
Water, distilled	10
Wine of camphor, colchicum, ipecac, etc	17

FROM ERA READERS.

Elixir Pepsin and Bismuth.

H. A. Pearce, Providence, R. I.—"I have tried the formula for elixir pepsin and bismuth recommended by A. E. Hiss, Ph. G., in the Era of Aug. 8, with unsatisfactory results. I followed directions closely, and upon mixing the sodio-tartrate of bismuth solution with the pepsin solution got a heavy white precipitate, which now, after standing two weeks, one-third fills the bottle. Can you inform me through the columns of the Era where I made my slip? My simple elixir is made by formula No. 2, Era Formulary."

The above letter was referred to the author of the formula, who writes: "In reply to your letter and Mr. Pearce's I would state that I do not understand why this gentleman experienced any difficulty with the formula for elixir pepsin and bismuth. I certainly experienced none. I would, therefore, suggest that he give the formula another trial, following directions absolutely. I do not suppose the kind of simple elixir or the brand of pepsin would effect results. If Mr. Pearce has any more trouble, he might communicate with me directly, giving all details. I would also advise that he use the very best of materials, such as C. P. sodium bicarbonate, distilled water and C. P. concentrated acid."

He Will Advertise.

Otto Boberg, Eau Claire, Wis.—Your splendid paper is getting to be so full of interesting reading matter that a fellow almost is looking for the words, "To be continued." I think a great deal of your column of Practical Hints, and especially of your column for samples of advertising for retail druggists. It is, I think, rather difficult for the average retail druggist to get up an attractive and interesting ad. for his local paper, and your assisting effort in this line certainly ought to be appreciated by the druggists. I for one am going to take the full benefit of your "hints."

Soap Liniment.

S. E. Padfield, St. Clair, Mich.—In view of the fact that there has been so much trouble among my brother pharmacists in making soap liniment according to the new formula, and as I have succeeded in making an elegant article, I would like you to tell them all how it was done. I used pure Yaritu Castile soap, shaved off the block and powdered in a mortar (and, of course, distilled water), and followed the mode of procedure as laid down in the Pharmacopœia, and must say I met with grand success. I used a 1,500 cc. bottle to make 1,000 cc. of liniment in, so as to give room for a good shake. The liniment has been made some time now, and suffered several changes of temperature without congealing or showing any change. Try it. I hope it may be of use to some one.

Goetze Bros., Lockland, O.—The news and information your journal gives under the headings of Practical Hints and Advertising for Retail Druggists, if read and followed by the reader, are worth many times the subscription price. Keep it up.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(Subscriber, Fayetteville, Ark.) Anonymous queries are not answered in this department. See rules.

Formula Wanted.

(T. & G.) "Bugine."

Silver Nitrate and Hydrocyanic Acid.

(E. E. B.) asks, Can the following be compounded so as to give a clear solution?

Silver nitrate .....1½ grains
Dilute hydracyanic acid. 12 minims
Distilled water .....1½ ounces

No. Silver nitrate is incompatible with hydrocyanic acid, insoluble silver cyanide being formed thus:

$$AgNO_3 + HCN = AgCN + HNO_3$$

Silver cyanide is official and its principal use is for the preparation of hydrocyanic acid.

Benzine Cleansing Cream.

(J. R. N.)

1.) Castile soap, white.. 60 grams
Cocoa soap ..... 60 grams
Hot water ..... 180 grams
Dissolve and add:
Ammonia ..... 30 grams
Benzine ..... 250 grams
Water enough to make .....1,000 grams

2.) Hard soap, white.... 12 grams
Boiling water ..... 20 grams
Dissolve, and when somewhat cooled down add:
Stronger ammonia... 3 grams
Stir and add, little by little, deodorized benzine ..... 100 grams

See also Era of Oct. 15, 1894, p. 352.

Tartar Emetic and Tannin.

(Drug Clerk.) The following prescription

Ammonium muriate...1½ ounces
Morphine sulphate,
Tartar emetic, of each.. 8 grains
Tincture sanguinaria.. 1 ounce
Glycerin ..... 3 ounces
Syrup wild cherry, enough to make..... 1 pint

may be satisfactorily compounded by first dissolving the ammonium muriate and morphine sulphate in about 10 oz. of syrup of wild cherry. Dissolve the tartar emetic in 2 oz. of glycerin. Add the remainder of the glycerin to the tincture of sanguinaria. Now add to the syrup containing the ammonium muriate and morphine sulphate the solution of tartar emetic and glycerin, mix well, and add the tincture of sanguinaria and glycerin and enough of the syrup to complete the mixture. By this procedure the glycerin is made to act in the capacity of a protective agent which quite effectively retards the chemical changes likely to take place.

Pyrophosphate of Iron, Tincture of Digitalis and Ergotine.

(J. S.) asks if a clear mixture can be made from the following:

Pyrophosphate or iron,
Zinc bromide, of each.108 grains
Tincture of digitalis.. 1 ounce
Ergotine (Bonjean).... 6 drams
Syrup orange peel.....1½ ounces
Distilled water .....3½ ounces

No. Pyrophosphate of iron is decomposed by tincture of digitalis and ergotine, a copious dark brown precipitate resulting. Zinc bromide is also incompatible with these substances. Some zinc phosphate is probably formed, although the chemical changes are of a rather indeterminate character. The prescription is an incompatible one and should not be dispensed.

Slow Burning Flash Light.

(S. H. G.) You do not tell us for what purpose you intend to use such a light. For photographic purposes it is generally customary to burn magnesium wire in the flame of an alcohol lamp when a light of almost any duration may be obtained. Aluminum ribbon or wire may be used similarly. However, if you simply want a white light for tableaux and not for photographic purposes you may construct one after the art of the pyrotechnist. Here are several formulas:

1.) Saltpetre .....18 parts
Sulphur .....10 parts
Black sulphide of antimony ..... 3 parts
Quicklime powdered .... 4 parts

2.) Potassium nitrate .....23 parts
Zinc filings ..... 9 parts
Gunpowder ..... 6 parts
Sodium bicarbonate ....12 parts

3.) Potassium nitrate .....76 parts
Charcoal ..... 2 parts
Sodium bicarbonate ....22 parts

4.) Potassium chlorate .....12 parts
Potassium nitrate ..... 4 parts
Stearine ..... 1 part
Sugar of milk ..... 4 parts
Barium carbonate ..... 1 part

Dry Yeast.

(T. P. A. K.) The following process is taken from a technical work: The raw yeast is carefully washed with cold water, afterward the greater part of the water is removed by pressure; a further proportion is got rid of by means of a centrifugal apparatus. But as the yeast cannot be got perfectly dry in this way, it is afterward placed for that purpose in an apparatus in which a vacuum, or rarefaction of the air nearly approaching a vacuum, can be obtained. In this chamber the moisture, still combined with the yeast, evaporates at a very low degree of heat, and the vapor formed is immediately absorbed by hygroscopic substances introduced for the purpose, as, for example, chloride of lime. The yeast is finally exposed to a current of air in its ordinary state or dried, or of carbonic acid gas, according to the prevailing temperature and other circumstances. Through these manipulations a perfectly dry powder is finally obtained, which, being hermetically sealed in glass or tin cases, will keep perfectly well for several months. When required to be

used, the powder is mixed with water to the consistency of a thin paste, which acts in the same way as fresh yeast.

Bluing Gun Barrels.

(C. A. McA.) (1) For bluing by staining: Dissolve 4½ oz. hyposulphite of sodium and 1¼ oz. lead acetate each in 1 qt. of water. Mix the two solutions and bring to a boil in a porcelain dish or stone pot. Clean the gun barrel free from grease, oil or varnish, and, after warming, smear it with the hot solution, using for the purpose a piece of sponge tied to a stick. When the color develops wash the barrel and wipe dry, then finish with boiled linseed oil.

(2) The bluing may be effected by heating in a muffle until the desired blue color is raised, the barrel being first made clean and bright with emery cloth, leaving no marks of grease or dirt upon the metal when the bluing takes place, and then allow to cool in the air. It requires considerable experience to obtain an even, clear blue.

(3) Bluing steel: Scour with a strong aqueous solution of soda, rinse in water, warm, and brush over with a solution of ¼ oz. chloride of iron dissolved in 5 oz. of water, and let dry; then apply in the same manner a solution of $^1/_5$ oz. pyrogallic acid in 1 oz. of water, dry, and brush. This application does not wear well without lacquering. The blue oxide is sometimes imitated by using a thin alcoholic shellac varnish, colored with aniline blue or Prussian blue.

Menthol, Menthone, Camphor, Borneol.

(J. P.) wants an explanation of the statement in the United States Dispensary, p. 868, "that chromic acid oxidizes menthol $C_{10}H_{19}O$ to dextro and lævo-menthol $C_{10}H_{18}O$, which sustain the same relation to menthol that ordinary camphor bears to borneol." He finds two formulas for borneol, first, $C_{10}H_{16}O$, which would make it isomeric with camphor $C_{10}H_{16}O$, and second, the formula, $C_{10}H_{19}O$. He does not quite understand it.

This query was referred to Dr. F. B. Power, who says: The difficulty encountered is perhaps caused entirely by a slight error in the text above quoted. The statement "chromic acid oxidizes menthol to dextro and lævo menthol $C_{10}H_{18}O$" should read . . . . . "to dextro and lævo menthone $C_{10}H_{18}O$." Otherwise the statement is perfectly correct. Menthol is chemically a secondary alcohol, and by oxidation is converted into the corresponding ketone known as menthone $C_{10}H_{18}O$. Borneol, or borneo camphor, is likewise a secondary alcohol, and by oxidation becomes converted into a ketone which is ordinary camphor $C_{10}H_{16}O$. These changes may be expressed in chemical formulas as follows:

$$\underset{\text{Menthol}}{C_{10}H_{19}—OH} + O = \underset{\text{Menthone}}{C_{10}H_{18}O} + H_2O$$

$$\underset{\text{Borneol}}{C_{10}H_{17}—OH} + O = \underset{\text{Common camphor.}}{C_{10}H_{16}O} + H_2O$$

As to the two formulas for borneol mentioned above, viz., $C_{10}H_{16}O$ and $C_{10}H_{18}O$, only the latter is, of course, correct.

Dry Cell Battery.

(H. O.) See Era Aug. 1, 1894, p. 112.

(1) Gassner's, a patent dry battery, is described in Hopkins' "Experimental Science" as being much the same in principle as the Leclanche, but the exciting fluid is contained in a paste, and the zinc element forms the containing vessel. In this battery the carbon rod or plate occupies about one-half of the space in the cell, and the space between the carbon and the cell is filled with the following mixture: Oxide of zinc, 1 part; sal-ammoniac, 1 part; plaster, 3 parts; chloride of zinc, 1 part, and water, 2 parts (all by weight). The oxide of zinc in this composition loosens and makes it porous, and the greater porosity thus obtained facilitates the interchange of the gases and diminishes the tendency to the polarization of the electrodes.

(2) Filling for dry batteries: Charcoal, 3 parts; mineral carbon or graphite, 1 part; peroxide of manganese, 3 parts; lime hydrate, 1 part; white arsenic, 1 part, and a mixture of glucose and starch, 1 part. These substances are intimately mixed dry and then worked into a paste of proper consistency with a solution composed of equal parts of a saturated solution of chloride of ammonium and chloride of sodium in water, to which is added $^1/_{10}$ volume of a solution of bichloride mercury and an equal volume of hydrochloric acid. The solution is added gradually and the mass well worked up.

Barber's Wax.

(G. W. M.) We cannot give you the formula for the proprietary article. The following, which may be considered a typical formula for this class of preparations, is translated from the Siefenfabrikant:

Spermaceti	5 parts
Wax	20 parts
Water	50 parts
Gum arabic	15 parts
Soap	10 parts
Glycerin	5 parts

The soap, finely shaved, and the gum arabic are stirred up with 20 parts of water to a homeogeneous paste. The spermaceti and wax are heated with the remainder of the water on a water bath and stirred carefully into the gum and soap paste. The glycerin is then added drop by drop. Perfumery may be added as desired. If a brown color is wanted umber is mixed with the glycerin. For black, use lampblack.

The Era Formulary gives this formula for "Pomade Hongroise:"

Wax	4 troy ounces
Oil-soap	2 troy ounces
Oil bergamot	½ fluid ounce
Powdered gum arabic	2 troy ounces
Water	4 fluid ounces

Dissolve the gum in the water; melt the wax and soap together in a water bath, stir in the solution of gum, and lastly, just before cooling, add the oil of bergamot. Color, as required, with burnt umber or lampblack rubbed to perfect smoothness on a slab with a little of the melted wax. Put up in small porcelain jars.

Spirit Nitrous Ether and Potassium Acetate and Citrate.

(R.) wants to know what caused the effervescence when the following prescription was compounded:

Potassium citrate,	
Potassium acetate, of each	1 dram
Spirit nitrous ether	4 drams
Water, enough to make	2 ounces

Our correspondent says both of the potassium salts were free from potassium carbonate, but we are inclined to think that some of it was present in one or both of the salts, and, at the same time, the spirit of nitrous ether was acid, which, reacting with the potassium carbonate, caused the liberation of carbonic acid gas. Potassium acetate and citrate are very rarely neutral, in fact, they are not infrequently alkaline. The appearance of the latter salt is a pretty good indication as to its reaction, for when alkaline it has a damp appearance and is "lumpy." When acid it seems dry and pulverulent. Spirit of nitrous ether, when kept for some time, becomes acid and nitric oxide is given off, the evolution of the gas often causing the bottle to burst. If the salts of potassium in the prescription were acid this reaction would be considerably accelerated. If the ingredients were strictly neutral no effervescence should take place.

THE SYNTHESIS OF CASTOR OIL.—Dr. Juillard, in a paper published in the Annales de la Soc. Chim. de Paris, (Br. & Col. Dr.), claims to have effected the synthesis of castor oil from its components. His method is as follows: Into a glass flask 200 gms. of ricinoleic acid and 42 gms. of perfectly dry glycerin are introduced, and heated to 120°C. The flask is then transferred to an oil-bath, and brought to a temperature of 230°, with constant shaking, so as to effect a very intimate mixture of the oil and the glycerin. After six hours the flask is removed from the oil-bath and allowed to cool. The product of the reaction is then washed with water to remove unaltered glycerin, and with petroleum ether to remove unaltered acid. The residue, dried at 100°, is a yellowish brown oil, soluble in acetic acid and alcohol, but insoluble in petroleum ether. An analysis gave results which agreed with the body, being a mixture of two molecules of triricinolein and one of diricinolein. The fatty acids, on saponification of the oil, have the characteristics of ricinoleic acid. It is impossible to judge of the value of this paper without some further details as to what the author really means. It is not clear whether he intends to affirm that he used pure ricinoleic acid or whether he means the total fatty acids of castor oil. Whichever he used, the result only agrees with the formation of glycerides, for a mixture of the two ricinoleins cannot be called "castor oil" in its proper sense, as it is not even definitely known to what the purgative action of the oil is due.

W. E. Mattern, Chicago, Ill.—Cannot possibly do business without the Era.

Geo. H. Graydon, Edmonton, Alta, N. W. T.—Your sample ads. and articles on advertising are a great boon.

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ALCOHOL REBATES.

POINTS IN THE TEST CASE OF INTEREST TO ALL USERS OF ALCOHOL IN THE ARTS AND MEDICINAL COMPOUNDS.—THE STRICTNESS OF EXAMINATION.—AN ARGUMENT ON SECRETARY CARLISLE'S ACTION.

Two very interesting documents to all users of alcohol in the arts or in medicinal compounds have come from the printer's hands. They are the "copy of testimony" in the test case of R. Dunlap, the hatter, against the United States in which the petitioner seeks before the Court of Claims to have $7,244 returned to him under Section 61 of the Tariff law of 1894, and the brief in the case. They are interesting because they show to all druggists just what has been done to present this extremely important case to the court—a case on which hinges all the hopes of alcohol users in the prescribed manufactures throughout the country.

The case is technically called R. Dunlap & Co., vs. The United States, No. 18,788, and the testimony began with witness W. E. Kline, a clerk for the attorneys for the claimant. He swore to the tender to the collector of Internal Revenue at Brooklyn of stamps representing taxes paid and a demand for the return of the money. The letter containing the demand was kept by the collector but the stamps were not. The papers which the witness had served were submitted and marked "Claimant's Exhibits 1 and 2." To these the Government's counsel made objection on the ground that they were "immaterial, incompetent and inadmissible." All through the testimony the objections are frequent and are couched in the same words save in several instances where only one or two of the three words are used. The cross-examination of the witness was a rigid one, he being obliged to detail every little fact that concerned his service of the notice, his business, how the papers in the case came from him and to whom they went.

The second witness, a clerk in charge of the alcohol department of the claimant's attorneys, also swore to the tender to the collector of alcohol stamps in this particular case. The collector had said that he would not accept the stamps as he had no authority from the department to do so. To the Government's counsel this witness detailed how the papers in this case were kept, how he knew the stamps were the right ones, how the certificate of delivery of stamps was made up and checked, and to whom the stamps finally went.

At the factory of the claimant, when the next examination was held, the last witness was called upon to identify the papers and stamps kept there and to tell how he knew they were the ones he had previously kept at the attorney's office.

One of the most interesting features of the examination came when the superintendent of the Dunlap factory was on the stand. After telling how long he had worked for the firm and from whom all the alcohol was bought, and what its use is in making hats, i. e., as an agent to convey shellac into the body of a hat, the witness was asked why grain alcohol was used in preference to wood alcohol. He said that if there was any difference in the solvent powers of the two alcohols it was in favor of the wood product. "The creosote oils in the wood alcohol, however, going up the men's noses affect their eyes and with the large quantities we use make them blind," said the witness. Wood alcohol could be used more advantageously in summer, when the windows were open. If a rebate for the tax on alcohol is given, the witness said it would assist the firm very much in competition with England, where they are paying 30 cents, while here $2.35 is paid. The superintendent did not think that alcohol used in making hats could afterward be separated and used as a beverage. This point was afterward dwelt upon by the Government counsel.

Counsel took a long time to have the witness trace the alcohol from the time it was received at the factory to its final evaporation after being put on to the body of the hat. The men whose hands it passed through, what they did with it, how it was drawn, the possibility of any being lost by leakage or by theft, whether barrels were short in quantity, whether the receptacles in which it was kept at various times were air-tight or not, if the barrels of alcohol were used in the order of their serial numbers, how long one barrel and ten usually lasted; all these points were gone into minutely by the attorneys. The witness had to explain what was done with the alcohol when night came, to whom the key of the room was given, what he did when he found too much alcohol in a mixture with shellac, how long the alcohol remained mixed with the shellac, whether if the rebate was granted the price of Dunlap hats would go down (to the latter the answer was in the negative, with the addition that the quality would be improved), and that the English hat makers could undersell the Americans, even at a 30 per cent. duty on hats.

The workman who mixes the shellac, makes the stiffening for the hats and has other like duties was next called upon. Asked if he could tell whether a barrel was short or not, he said that if it was full the alcohol would bubble over when he tapped it. He draws off 9½ gallons to every 70 pounds of shellac, and after mixing the two turns the result over to the stiffeners. There was no opportunity for anybody else to draw off any alcohol, he thought. Since last September he had seen no sign that any alcohol had been drawn other than that he drew himself.

To the Government attorney the witness said that about three or four years ago, when the firm secured its alcohol from another firm, he had found some barrels that were short in quantity, but never since that time. He did not believe any could drink the alcohol used by the firm. He had never seen any of the men drink it. There is a barrel of alcohol used for general purposes, on which there is a locked faucet, and none of that alcohol is taken without an order from the "boss." He explained how the key of the faucet was used and thought that about 2 quarts a day were drawn out of the "general-purposes" barrel. He made his return solely on the alcohol used in making hats.

This point about the barrel used for general purposes emphasizes the Era's instructions to retail dealers to keep a separate package for counter sales. The testimony in regard to it was most strict. The witness said that barrel was not in this present claim.

One of the claimant's attorneys was here called upon to show that the barrel with the locked faucet was not included in the present claim. He has the stamp for that barrel.

One of the men who are called stiffeners next took the stand. He detailed how he received alcohol when it was needed. He never knew anybody to carry off any of the alcohol or to drink it. There were two boys who had access to the can of alcohol, and once in a while he would send a boy after a can of alcohol. Asked if the boy might not take a tomato can, fill it with alcohol and carry it away at night when he went home, the witness did not think the boy would. He might, perhaps, without witness knowing it. He would not know if the boy did fill a can, nor would he know if the men filled pails with alcohol and took them home. There is a rule about packages being taken away at night, and if the watchman suspected anybody of carrying out what did not belong to them he supposed the watchman would investigate. A hat could not be taken out save by an order.

The rest of the testimony, which covers ninety-seven solid pages of printed matter, dealt with the identification of stamps and other papers, an agreement between counsel that certain exhibits should be compared with detailed inspection certificates at the office of the alcohol manufacturer, and the question, before discussed, of leakage. To many of the answers the objection of irrelevant and immaterial was made. All the witnesses signed the testimony, which was then certified by a notary.

The brief in the case is a document of forty-six pages, and is entitled, "Brief on the test case of R. Dunlap & Co. vs. the United States, involving the right of recovery in the Court of Claims of the rebate of internal revenue tax on alcohol used by manufacturers in the arts, or medicinal or other like compounds, since Aug. 28, 1894." It describes the manufacture, place of business, etc., of the petitioner, the process of manufacture, the quantity of alcohol used, the notice of the use of alcohol served on the collector, the exhibition and delivery of stamps, the action of the Secretary of the Treasury calling upon the Commissioner of Internal Revenue to take no further action in the matter of rebates, how foreign manufacturers are exempted from tax on alcohol used in arts or manufactures, and gives a statement of the claimants' case as shown in the testimony. The rest of the brief is devoted to the subject, "the purpose of Congress in providing free alcohol," "the legal construction of the language employed in section 61," and "the manner and necessity of use." Under the "legal construction" heading is an argument on "the action of the Secretary without effect on claimant's rights," which reads in part:

"The law having thus granted an absolute right 'to receive from the Treasury of the United States' a rebate of the internal revenue tax—a right which regulations may be prescribed to carry out, but not to defeat—the party is entitled to come into court, after having done everything in his power to entitle himself to the benefits of the act, and to claim judgment, notwithstanding the refusal of the officers of the Government to perform their part. To admit the contrary would be to substitute the arbitrary will of the Secretary of the Treasury for an impartial execution of the plain meaning of Congress."

St. Louis Wholesalers Sue and Make Up.

St. Louis, Sept. 30, (Telegram).—Two of the leading wholesale drug houses of this city indulged in a little legal sparring last week, which wound up in a love feast. On last Saturday the Daugherty-Crouch Drug Co. filed suit against the Meyer Bros. Drug Co. for $1,100 damages "for the sale of mortgaged property levied upon by the sheriff." Several hours later the Meyer Bros. Drug Co. filed a counter suit for $2,-942.93 on "merchandise accounts." Knowing pharmacists expected a lively tilt. On Monday, however, both suits were withdrawn, but no explanation offered. R. A. Parker, who attends to the legal affairs of Meyer Bros. Drug Co., when seen, said: "See Mr. Graham, of the Daugherty-Crouch Drug Co. He brought the first suit and he must know what he sued us for. I'm sure I don't, however; the thing has been amicably settled." Mr. Graham, when seen, said: "It was all a mistake. We filed the first suit on a misunderstanding. As soon as I found out that a mistake had been made I had the suits withdrawn, and peace and harmony again reign supreme."

Hurlbut, Ward & Co. Fail.

Des Moines, Ia., Sept. 25.—The wholesale drug firm of Hurlbut, Ward & Co. was closed on attachment by parties in New York, from whom the company had within ninety days borrowed $40,000. The money became due a few days ago, and a draft for $25,000 forwarded here for collection was honored by Hurlbut, Ward & Co. A draft to-day for the balance forced the failure. The Citizens' National bank filed a chattel mortgage for $38,000, and several small claimants attached. J. R. Hurlbut, president of the company, was named by the court as receiver, and will continue the business. Mr. Hurlbut said the house could have pulled through without much effort, and certainly without any jeopardy to the New York creditors, had the latter not drawn at sight for the payment of the remaining $15,000. This draft the company was not able to take care of, and, as it did not desire to make further loans of the local banks, it was considered best to close the business until other arangements could be made to meet the payment of the amount due the parties in New York. Claims amounting to $37,000 were filed against the firm this afternoon. Mr. Hurlbut stated that the assets of the company are reasonably worth $250,000, while the obligations outstanding are not in excess of $120,000. Mr. Hurlbut also stated that the company expected within the next few days to make arrangements for taking care of the debt it owes.

War is Threatened at Grand Rapids.

Grand Rapids, Mich., Sept. 25.—A meeting of Grand Rapids druggists will be held to-night, which will either result in the disruption of the pharmaceutical association or precipitate a red-hot cut-rate war, or perhaps both. Certain dry goods and department stores sell, or propose to sell, wines, patent medicines, etc., at prices lower than the druggists. To meet this, some of the big drug houses propose to cut the scale. This is contrary to the rule of the combine. One house did so, and a vote of censure was offered at a recent meeting, but voted down. Thereupon a big dealer, who wanted to be in a position to meet the dry goods men, resigned. The resignation was held up. Probably to-night a cut-rate war will be declared, and it is believed it will extend all over western Michigan.

Dr. William L. Wilcox.

Dr. William L. Wilcox, a registered pharmacist and practicing physician of Irving Park, Ill., was thrown from his buggy, receiving injuries from which he died in a few moments. Dr. Wilcox enjoyed an extensive practice in Irving Park and other Chicago suburbs along the line of the Northwestern Road, and, although still a young man, was one of Irving Park's foremost citizens. His death is universally deplored. He leaves a wife and four children to mourn his loss. Dr. Wilcox was a Mason in high standing and a member of several other societies.

John A. Milburn.

Mr. John A. Milburn, who was for many years one of the best-known druggists of Washington, D. C., died Sept. 22, at his residence 1122 Thirteenth Street. He was in his sixty-fifth year, and for the larger part of his long and busy career he was actively identified with the business interests of Washington. Mr. Milburn was born Dec. 20, 1830, in Alexandria, Va. At the age of seventeen he first entered the drug business with Henry Cook, and later with Z. D. Gilman, of Washington. In 1851 he engaged in business on his own account at the corner of King and Washington Streets, Alexandria, and five years later his brother, J. Parker Milburn, opened a drug store under Willard's Hotel, in which he was a partner. In 1860 Mr. Milburn disposed of his business in Alexandria and moved permanently to Washington and became actively engaged with his brother in the avenue pharmacy. During the war the Milburn brothers moved to Fifteenth Street, and later on they leased the ground and erected the building Nos. 1429 Pennsylvania Avenue, where he continued until 1887. During part of this time, in partnership with F. M. Criswell, he carried on a drug store at the corner of Eleventh and F Streets. About 1887 he retired from active business. He was one of the founders of the National College of Pharmacy in 1872, and was its president from 1877 to 1879. For fifteen years he was the treasurer of the college, and to him was largely due its financial success. Mr. Milburn was interested in many of the enterprises which tended to promote the city's growth and prosperity. He was a director of the Arlington Fire Insurance Co., and was also one of the incorporators of the Children's Hospital. For thirty-seven years he was a member of the American Pharmaceutical Association. He was the recipient of the honorary degree of Doctor of Pharmacy conferred by the National College of Pharmacy as an acknowledgment of his lifelong service to the cause of pharmacy. Mr. Milburn was a prominent Mason, being one of the oldest past masters of Washington Lodge, No. 22, of Alexandria. He was also a member of Potomac R. A. Chapter of this city. He was a man of kindly disposition, and his charities were many and generous. A wife, son and daughter survive him.

An Old Philadelphia Druggist Gone.

Philadelphia, Sept. 29.—Early this morning Dr. J. R. Angney, one of the best-known and respected druggists of this city, died at his residence, 1324 Jefferson Street. For many years Dr. Angney conducted the drug store on the corner of Fifth and Spruce Streets, and as he had been there so long he was identified with the neighborhood. Recently his health has not been good, and he sold out his store so that he could enjoy a well-earned rest. Dr. Angney was born at Carlisle, Pa., in 1819, was educated at Dickinson College and subsequently studied medicine at the old Pennsylvania College, at the corner of Fifth and Adelphia Streets, this city.

During the Civil War he was active in collecting money in aid of the Union cause, and succeeded in raising a large sum. Dr. Angney came to this city when quite a young man, about the same time George W. Childs came here from Baltimore. The two young men formed a friendship which continued up to the death of Mr. Childs. For a number of years he was a member from the fifth section of the Board of School Controllers, and was also for a long time a member of the local board of the same section. For a few days prior to his death he had been suffering from the many ills incident to old age and the end was not unexpected. Dr. Angney leaves two sons and two unmarried daughters. One of the sons, Dr. William M. Angney, is Assistant Medical Inspector in the Bureau of Health. The funeral services will be held on Wednesday.

A Philadelphian Abroad.

Philadelphia, Sept. 30.—H. B. Morse, of Seventeenth and South Streets, has just returned from abroad. He is looking well, and is highly pleased with his travels. In speaking of his trip, he said: "Four Americans in five weeks, on bicycles, saw enough in the four countries of Great Britain to fill quite a volume. Two of them being pharmacists, the drug shops of each district were naturally carefully inspected. I was one of the two, and briefly will state what may be of interest to your readers. First, prominent locations are not considered essential, possibly a corner rent was considered out of reach. Be this as it may, the shop was generally in the middle of the block, smaller, more poorly furnished and lighted than American pharmacies. The stock consists of drugs, sundries and perfumes. Such side lines as paints, stationery, confectionery, cutlery, etc., we did not observe anywhere, even in small towns. The hours of work are enviable. Generally from 8 A. M. to 6 or 7 P. M.; closed all day Sunday, with a few exceptions in large cities. No 'open-all-night' stores were seen. The prevalent prices vary. Prescriptions, drugs and perfumes are higher than in the ordinary American store. One little shop in London charged me eight cents for three ounces of benzine. In many stores a penny trade is solicited. In Wales a proprietor pointed with pride to a large jar full of his corn cure, price one penny. A prominent American plaster house made it for him. This was the only attempt we noticed where the proprietor had a substitute for a patent medicine. In many windows were penny cakes of soap, boxes of healing salve, court plaster, etc. Very few patents were advertised, and none exposed to view; their prices were cut to cost. You are generally given what you ask for quietly and without any effort to induce you 'to try our own.' In general, our conclusions were that the American pharmacist is far ahead of his English brother. He works harder but is more ambitious and progressive professionally and in business than any we saw. One of the benefits derived from such a trip is the contentment that comes to one who knows that his lot is by no means a miserable one. We are glad we are in America."

Medicine for Massachusetts Militiamen.

Boston, Sept. 30.—It is interesting, when one has time for such an investigation, to peruse parts of the annual reports of the adjutant general of the Massachusetts militia and see what a large quantity of drug-store supplies is needed to meet the wants, or possible wants, of the soldiers of this state. Before giving any statistics of this sort, however, it should be stated that the number of officers and men on the rolls is about 6,000. With this as a starter, then, druggists may like to know that there is issued to each of the organizations composing the militia a pouch containing half a dozen assorted bandages, a package of antiseptic gauze, a package of sterilized surgical cotton, a rubber tourniquet, a pus basin of hard rubber, two quarter-pound cans of ether, one ounce carbolized petroleum ointment, one elastic catheter, one pair scissors, one paper assorted pins, one paper safety pins, eight ounces brandy, one ounce flexible collodion, one bottle drainage quills, one bottle sterilized silk, package surgeon's needles, one spool adhesive plaster, and a medicine vial case containing carbonate ammonia, antiseptic tablets, acetanilid, sulphate quinine, camphor and opium, bromide potassium, digitalis and strophanthus; as well as a hypodermic case filled with apomorphia, strychnine, morphine, morphine and atropia, cocaine and pilocarpine, the aim being to put in the fewest number of articles that will suffice, and to have everything in as condensed form as possible, without duplicating any of them.

In what is known as the official supply table there appear more than fifty articles. First in this long list one finds anti-febrin tablets, four grains, the number estimated to be needed being 500. Phenacetine, so much in favor now as a headache remedy, is provided in five-grain tablets, the allowance being 200. A box of mustard plasters is seen in the list, suggesting a great deal of squirming by the unfortunate soldiers who may have occasion to wear them. Eight ounces of pure carbolic acid is considered to be sufficient, and two ounces of petroleum ointment. Of alcohol and brandy sixteen ounces are allowed. Cocaine is used in the form of one-sixth grain tablets, the number furnished being 100. The nitro-glycerine tablets used are of the 1-100 grain sort, and the allowance is 100. Dover's powders and diarrhœa tablets are among the other remedies supplied. It may interest the curious to know that the exact number of tablets mentioned in the table is 9,300. As these drugs "are purchased by or upon orders of the surgeon general in open market," it is evident that the State of Massachusetts is a good customer for some druggist or druggists.

The surgeon general, who appears to take a deep interest in having the outfit of the best character, has had the old medicine chests bound and strengthened with brass and refitted with bottles to hold drugs and medicines in the compressed form. It was necessary not only to have the bottles made to order, but also to have the molds for the bottles made. All this property is stored in a drug store in Boston, except when a regiment or brigade may be on duty.

One peculiar circumstance in connection with this elaborate preparation for all kinds of sickness among soldiers in camp is this; there is almost no sickness whatever.

The Bowling Tournament.

There is every indication that this year's tournament of the Wholesale Drug Trade Bowling Association is to be even livelier than the two previous ones, for fifteen teams will probably take part. Each team may have fifteen men to draw the fives from instead of ten, the rule last year, and the game is to be a two-ball one instead of three. At the recent meeting of the association ten houses were represented. C. G. Bacon & Co. and the India Rubber Comb Co. dropped out of the association, and Max Zeller, Lazell, Dalley & Co. and Tarrant & Co. were admitted. It is hoped that Schieffelin & Co. and Sharp & Dohme will enter. Then the teams will be: Parke, Davis & Co., Dodge & Olcott, Seabury & Johnson, Whitall, Tatum & Co., Lanman & Kemp, Colgate & Co., Merck & Co., Bruen, Ritchey & Co., Powers & Weightman, R. W. Robinson & Son, Max Zeller, Lazell, Dalley & Co., Tarrant & Co., Schieffelin & Co. and Sharp & Dohme. McKesson & Robbins would have been glad to enter the association again if they could see the possibility of getting five good bowlers to attend every game the team might be scheduled for, but, anticipating the old trouble of a short team, the bowlers of that house concluded not to enter.

The schedule committee, Messrs. Lawrence, of Powers & Weightman, Scully, of Merck & Co., and Fox, of Lazell, Dalley & Co., will make a schedule, so that the teams will meet each other twice, six games to be played each Saturday afternoon, beginning Oct. 12. If fifteen teams compete nine games may be played each Saturday in order to bring the end of the tournament before the close of June. Reid's alleys have again been selected, and as they have been fixed up they will probably prove even more satisfactory than last season.

The officers of the association this year are: President, W. R. Ritchey; treasurer, L. W. DeZeller; secretary, H. O. Barnes, of Colgate & Co. The association will hold its next meeting on Oct. 7, when the schedule will be adopted.

Drug Clerk Dolan's Case.

James Dolan, the drug clerk employed by C. H. Bolster, druggist of Roxbury, Mass., who is charged with putting up a prescription without a license, which thereby caused the death of Mrs. Mary Tansy's infant, was before Judge Bolster in the Roxbury Municipal Court Sept. 21. Dolan was ready for trial, but once more the police refused to go on with the case. So it was continued till Oct. 16 at 9 o'clock.

PASTEUR DEAD.

Louis Pasteur, the celebrated chemist and biologist, died at Villeneuve, France, on Saturday, Sept. 28, 1895.

There is a depth of significance in this brief announcement which far exceeds that which usually attaches to reports of the decease of those who honor or are honored by their fellowmen. The death of a ruling sovereign or a great political personage may affect the material destinies of nations, making existence easier or more difficult, but in the death of this man who has said, "It is in the power of man to cause all parasitic maladies to disappear from the world," mankind recognizes an universal bereavement. The great ones of earth have left heritages of temples, pyramids, works of art and intellectual achievements, but the legacy of this man is greater than them all. He has bequeathed a knowledge which will tend to make all other gifts available.

The life of Pasteur has been so filled with notable accomplishments that a review of it, now that death allows a final summing up, presents an overwhelming mass of achievements which is almost bewildering in its brilliancy and importance.

The life of Pasteur, aside from its scientific aspect, has been a very simple one. It has been undisturbed by conscious effort to achieve fame and popularity, and its pleasures have been those of domesticity and devotion to science. He was born at Dale, Department of Jura, France, Dec. 27, 1822, his father having been a soldier under the first Napoleon. Two years after his birth his parents removed to Arbois, having purchased a tannery in that town. Louis attended the local school and then the College of Besancon preparatory to entering the Ecole Normale at Paris. At this latter school and subsequently at the Sorbonne his passionate love of mathematics and chemistry enabled him to perfect a knowledge of the latter, which in later years has been of inestimable benefit to mankind. His scholastic life has been one of continued progression. He entered the university in 1840 and took the degree of Sc. D. in 1847. In 1848 he was appointed professor of physics at the Faculty of Sciences Strasburg. In 1854 he became dean of the Faculty of Sciences at Lille; in 1857, scientific director of the Ecole Normale, Paris; in 1863, professor of geology, physics and chemistry in the Ecole des Beaux Arts, Paris; in 1867, professor of chemistry at the Sorbonne. The distinctive honors conferred upon him, aside from that homage which all delighted to pay to his genius, are many. Researches in molecular chemistry won for him the Jecker prize in 1861. In 1872 the Austrian Ministry of Agriculture awarded him a prize of 10,000 florins, and in the following year the Societé d'Encouragement awarded him 12,000 francs. In 1874 the French nation, through its national assembly, showed its appreciation of its foremost scientist by voting him a life pension of 12,000 francs, and in 1875 an additional pension was added upon his retirement from his professorship. He was decorated with the Cross of the Legion of Honor in 1853; was chosen member of the Institute in 1862; officer of the Legion of Honor in 1863; commander in 1868, and grand officer in 1878. In addition he was the recipient of many medals from scientific societies, and many of these were proud to include his name upon their roll of honorary members. The recent discussion over the proposition to confer upon him a much-coveted German decoration is a striking instance of the regard for scientific attainments which will overstep the bounds where political and national feeling has set up barriers.

A review of Pasteur's scientific work would fill volumes. The first subject of research was taken up by Pasteur at the early age of twenty-five. His mathematical and chemical training led him to be fascinated with the wonderful geometrical forms which are assumed by solids in the crystalline state, particularly the existence of two tartaric acids apparently identical in chemical composition and properties and in crystalline form, excepting that the solution of one had no effect on polarized light while the solution of the other turned the plane of polarization to the right. Pasteur found that there were some minute faces on the crystals of the active tartrate which were absent on the crystals of the inactive tartrate, and he recognized that their presence relegated the substance, possessing them to an entirely different class from that to which belonged the substance not possessing them. His speculation, subsequently developed, led to the foundation of that most fascinating field of chemical science now known as stereo-chemistry, and prepared the way for some of the greatest achievements of modern chemistry, such as the artificial production of the natural sugars.

His studies in bacteriology led him to recognize as a fermentation process the transformation known as nitrification, consisting in the conversion of ammonia into salts of nitric acid, which takes place on such an extensive scale in all the fertile soils of the earth. This process, from being regarded as a case of simple chemical oxidation, is now recognized as dependent upon the action of bacterial life; and the particular bacteria responsible for this action, after long eluding the search of the investigator, have during the last few lears been isolated and described. In the course of these researches the astounding fact has been brought to light that in these nitritizing bacteria we have living cells which are capable of flourishing and multiplying in the entire absence of organic matter.

He studied the cause of certain diseases of the vine and provided an effectual preventive. He investigated the cause of the disease of the silk worm, which at one time threatened ruin to a most important French industry, and was able to furnish a remedy.

His researches in fermentation and the identification of the lower organisms naturally paved the way for his discoveries of the action of micro-organisms upon the animal body. These researches are of such recent date that their details are quite familiar. In all the steps of bacteriological examinations, such as the cultivation of bacteria in artificial media, alternation of virus, inoculation, etc., the opinions of Pasteur and the results emanating from his laboratory were considered as authoritative by the leading scientific investigators of the world.

Retailers Co-operative Plan.

George Leis, president of the George Leis Drug Co., of Lawrence, Kan., has given out the following outline of a plan whereby retailers may, by co-operation, circumvent the stores which sell calico and ribbons as a business and run a drug store in connection therewith. The prospectus is as follows:

"To the Retail Druggists and Pharmacists: The unfortunate condition of the retail drug trade of to-day, by which a large portion of their business has gone into the department stores, and cutting of prices, has made it impossible for the present number of pharmacists to exist, or even to make a profit that is commensurate with the skill, responsibility and the requirements of the law that are imposed upon the profession of pharmacy, losing the sales of perfumery, brushes, soaps, toilet articles, etc., which 'for fifty years' have been recognized as a part of every drug store; and, lastly, the absorbing of proprietary, staple medicines and domestic remedies, making them leaders at cost prices for the department houses which abound in all large cities. It was supposed by druggists to be a temporary breeze that would soon blow over, but it has become a 'cyclone to pharmacists.' Besides this loss, is the professional standing of the pharmacists, who have spent hundreds of dollars and years of hard study to become competent and qualified in their profession, while under the present state of affairs a graduate of pharmacy cannot get the salary of an ordinary day laborer, and is looked upon as a mere clerk or merchant, without any standing whatsoever as a professional man; his business does not leave him sufficient profit, after paying his help and rents, for a decent living, let alone interest on his capital invested. If this state of affairs

continues much longer there will be few professional pharmacists, as they must seek other avenues for their support.

"How to Remedy.—To remedy this calamity has been under thoughtful consideration by many bright and competent pharmacists in all parts of the country, and the most successful plan which is now under way to counteract and 'secure professional recognition' and a living profit, is the establishing of a factory on a co-operative plan, by which all druggists and pharmacists become members, who shall hold an interest (small, if necessary) and manufacture a better quality and higher grade of family medicines, the formulas to be approved by the members of the organization, with formulas printed upon the labels or wrappers of packages; and to manufacture all preparations of the National Formulary and other unofficial preparations, supplying the members of the company with their many products at prices which will enable them to sell to the public at a good living profit.

"This accomplished, the present proprietary or patent medicines will soon be a thing of the past, and go into the hands of dry goods and grocery dealers throughout the land, where they fitly belong, as they will soon be known as quack nostrums, and the public advised that a professional and competent pharmacist will spurn the handling of secret preparations, as their formulas are only known to their manufacturers, and that the majority of such medicines are injurious and oftentimes dangerous to health.

"No goods of the co-operative company shall be sold to department houses or cutters. To accomplish this will require the entire efforts and hearty co-operation of all retail druggists in our district, and under their direction the preparations will be manufactured and placed upon the market. It has been fully demonstrated that pharmacists who get up their own proprietary preparations and medicines cannot do it successfully in small lots, owing to increased cost; besides, his competitor druggist will oppose the sale of his preparation. To succeed there must be harmony and concert of action, and to manufacture all preparations upon a large scale, which affords them cheaper, more accurate and reliable and better in every way, leaving them a reasonable profit for the factory and stockholders, with a ready demand for all goods manufactured, with an exceptionally large profit for the retail druggist, as well as advertising his business for reliable goods.

"Now is the opportune time for every druggist and pharmacist to rescue himself from the rut he is now in. No other profession in the land has its own business in its own hands, as the apothecary of to-day, and if he does not avail himself of the golden opportunity now before him, he has but himself to blame. Stand shoulder to shoulder by each other and form a union never to be severed, as therein lies your strength; you become absolute masters of your business and profession, and once more be recognized as having a profession which will be both lucrative and sought after.

"The Establishment of a Factory.—It is proposed by many reputable pharmacists in Missouri and Kansas to form such an organization, under the name of the Western Pharmaceutical Mfg. Co., to be located at Kansas City, Mo., with a capital of $100,000, of 1,000 shares of $100 each, fully paid and non-assessable, with a force of helpers from the pharmacists of both States, and conducted on the plan of mutual interest, to manufacture non-secret medicines superior to those now in use, and to supply the public with domestic remedies and toilet articles of value and merit, with a uniform label (copyrighted), with every druggist's individual name and place upon the wrapper. This makes the drug business a mutual affair, and each and every druggist helps the other, as all handle and talk the same remedies, and are daily introducing the same, while at the same time building up their own establishment for pure and reliable goods, and elevating the profession. They are at the same time building up their own laboratory, in which every druggist holds stock, and from which he derives a dividend in addition to his large profits from the sale of goods manufactured at this laboratory. Besides this, he has the satisfaction of being one of its promoters, and of having helped to protect the public in the manufacture of pure and reliable medicines, scientifically compounded."

A plan, in all its details similar to that projected by Mr. Leis, is on tapis in Chicago. The company has been incorporated since May last, and it is expected that active operations will begin by Jan. 1, 1896. It is proposed to issue 5,000 shares at $10 per share, to manufacture the goods of the best materials and sell them to retailers at 10 per cent. above cost. The success or non-success of the venture is, of course, a matter of conjecture, as a trial has not yet been made.

M. N. Kline at Home.

Philadelphia, Sept. 28.—Mahlon N. Kline, of Smith, Kline & French Co., has returned from Europe, where he has been for the past several weeks. Mr. Kline met part of his family in Europe and brought them home with him. During his journey he did nothing in the way of business. Mr. Kline looked hearty, brown and in the best of health. In talking about his trip he said: "We had a good trip and it was thoroughly enjoyable, but I am glad to get back home, as I am tired of living in trunks. We had delightful weather and while we were in France the climate was similar to what you have been having here. While away I did not look into the drug business, except that when I was in London I attended a drug sale. While I have been thousands of miles away, I have been kept posted as to what was going on in the drug trade, as I received regularly a copy of the Era. Of course, I had occasion to go into a drug store, but I noticed that they charged pretty well for their wares. We spent about one month in Switzerland, and only a short time in Italy, as it was too warm there. We went to Germany, visited Munich, Dresden and Berlin, took a trip up the Rhine to Cologne, paid our respects to Amsterdam, Hague, Belgium and Brussels. We then went to Paris, and last to London, where we soon left to take our steamer for home."

The employees of Smith, Kline & French Co. had a pleasant surprise arranged for Mr. Kline. His office was to be handsomely decorated, and that he might not get there too early he was requested to defer his appearance until 9 o'clock. In speaking of this he laughed and seemed pleased with the marked respect that was being paid him.

NEW YORK AND VICINITY.

——William R. Warner and Peter R. Lance were in town last week.

——F. P. Hinkston, Lehn & Fink's New York traveler, is in town for a few days.

——F. W. Braun, a druggist of Los Angeles, has been in New York for a few days.

——One of the down town drug stores sold 6,000 glasses of soda on one of the recent hot days.

——Mr. Frisbie, of Talcott, Frisbie & Co., Hartford, Conn., has been visiting friends in town.

——R. W. Robinson resigned his position with T. W. Linton, 216 Fourth Avenue, on Oct. 1.

——Frederick Zeller has accepted a position as clerk at Max Gebauer's, on Twenty-fourth Street.

——John McKesson, Jr., met with another bereavement on Sept. 21 in the death of a near relative, Hugh N. Camp.

——The antitoxine of Dr. Gibier's make will hereafter come from Suffern, N. J., where he has established a biological laboratory.

——Samuel Colgate has entirely recovered from his recent indisposition and is at the office again. S. M. Colgate is slightly under the weather.

——F. W. Koch, for many years with Lehn & Fink, left his position there on Oct. 1 and is now at C. F. Boehringer & Soehne's New York office.

——J. P. Lavalaye left Hermon W. Atwood's store at 846 Broadway on Oct. 1 to accept a position with J. K. Brater at Seventy-sixth Street and Park Avenue.

——F. W. Kinsman, who has stores on Fourth and Sixth Avenues, in this city, has bought the pharmacy of Charles Sautter on Grand Street, Williamsburgh.

——Deputy Sheriff Lipsky has levied on the office of the Vichefizz Chemical Co. at 133 Greenwich Street on an attachment for $418 in favor of Verlie Fritz for services.

——Manager Emil Utard, of the New York importation office of Ed. Pinaud, returned last week from France with his bride. They have been enjoying a month's wedding trip in Europe.

——Dr. H. S. Kinmonth, of Asbury Park, besides being a druggist is the owner of a magazine. He bought at auction recently one of the Penfield Bros.' publications for a small sum.

——Frank N. Pond, who has been with Wheeler's pharmacy in Litchfield, Conn., for the past year, has left his place and expects to take a clerkship in this city. He is a N. Y. C. P. '94 man.

——Mr. Wright, formerly manager of the Crescent Drug Co., in Newark, has been placed in charge of Dung's pharmacy at 61 Bowery, which was recently bought by W. R. Scudder, of Newark.

——The Charles E. Hires Co.'s store at 100 William Street, has been cleaned out and the doors locked. A card on the door directs all communications to be sent to the Philadelphia office of the company.

——Among the recent incorporations is the Sanador Medical Co. of New York, to manufacture and sell soap. The di-

rectors are Edward H. Schmidt and Jos. A. Toy, of New York, and Roswell D. Vanderoef, of Brooklyn.

——Joseph Saile, who has been manager of Post's pharmacy at Passaic, N. J., for the past year, has resigned to enter the Veterinary College in New York City. Mr. Saile was graduated from the New York College of Pharmacy in 1884.

——Walter Curtis, for the past two years with Albert Hamilton, of Auburn, N. Y., has taken a position with G. B. Brandt, of Grand and Fifth Streets, Hoboken. He will be one of the students at the New York College of Pharmacy this session.

——B. F. Warren, Seventy-ninth Street and Amsterdam Avenue, is in poor health at present and is staying in Albany. J. W. Beckwith, of the class of '88, Philadelphia College of Pharmacy, is in charge of the store during Mr. Warren's absence.

——S. Coblentz, of G. & S. Coblentz, of Springfield, O., was in town last week. He is fitting up a new store in that city and procured all his goods here. Among others a handsome Low Art tile fountain, of the tile top style, from Manager Sangston, of the New York office.

——James A. Branigan, a graduate of the New York College of Pharmacy, class of '82, had the misfortune to have his store at Sixty-seventh Street and Amsterdam Avenue completely burned out on Sept. 21. He had more than $6,000 invested in the store, while the insurance will foot up only $3,000. He had been doing an excellent business.

——The Drug Trade Club elects its officers for 1895-96 to-day. The slate as posted by the nominating committee has J. H. Stallman for president, Thomas P. Cook for vice-president, F. R. McDermott, of the Nichols Chemical Co., for treasurer, and Hugh Peters for secretary. For the board of directors Edward H. Hammer, of Keasbey & Mattison, C. G. Euler, of Dodge & Olcott, and David E. Green, Jr., are slated.

——It is understood that the present embarrassment of Kirby & Burket, manufacturers of licorice and grinders of drugs, with offices at 24 Liberty Street, is only a temporary one produced by causes outside of business. The firm has plenty of orders, and is in excellent shape. On Monday a meeting of creditors and the firm was held, and it is believed the assignee, Herman Cantor, will be relieved in a few days.

——Alfred Fredericks, the drug clerk employed by Simon & Co., Fifth Avenue, near 135th Street, made an attempt at suicide last Monday by taking poison. Fredericks is the clerk who was arrested recently for violating the excise law, and who took an overdose of poison at that time, but was saved by the physicians at the Harlem Hospital. It is believed the young man worried himself insane over his case, which was to come up for trial this week. His condition is said to be precarious.

——Ludwig Mond arrived in this city last Saturday on the steamship New York and registered at the Waldorf. On Sunday he went into the country as the guest of members of the firm of Wing & Evans, agents in this country for Brunner, Mond & Co. On Tuesday Mr. Mond went up the Hudson to Albany, then to the works at Syracuse. His programme for the rest of his stay in this country has not yet been made, but he desires to go to Detroit if other engagements do not prevent.

——Albert Gray, at one time a prominent Brooklyn club man, and who while in the iron business in this city supplied much of the iron that was used in building Brooklyn Bridge, has been arrested charged with swindling several druggists, among them Lithgow T. Perkins, of 19 Greene Avenue, Brooklyn. He also tried to pass checks purporting to bear the signature of the Hegeman Co., of lower Broadway, New York. Gray's scheme was to get small checks cashed by buying articles of little value. Druggist Perkins lost $3.87.

——M. J. Breitenbach returned from Europe a little too late to enjoy the reception which was tendered to R. W. Phair. Nine congenial spirits assembled in an agreeable place on Dutch Street the other day and, with Mr. Phair as guest, sat down to an elaborate spread, with lots of wine and good things. There were many toasts, all informal, and in place of bouquets the guest was presented with a monster plum pie of exquisite taste. The beneficiary responded nicely. Mr. Breitenbach is due to go through the same ordeal, but whether his present will be a plum pie or not nobody seems to know.

——Michael Bingham, a druggist of 9 Fulton Street, Astoria, has been arrested on the charge of embezzlement preferred by G. F. Swift, of G. F. & A. C. Swift Beef Co., of 143d Street and Third Avenue. The alleged embezzlement was of $95 and occurred nearly a year ago. At that time Bingham was acting as a collector for the Swift Co. and was trusted with large sums of money. He went out one morning with a number of bills and nothing was heard of him for three weeks. Then a warrant was procured for his arrest, but he eluded the police until last week. Bingham said he had been robbed of the money. Both the magistrate and Mr. Swift said they believed the story, but Bingham was held in $1,000 for trial.

——There is no excuse for a druggist within 1,000 miles of New York if he is swindled by George Bronson, the fellow who for almost two years has made his way around the country by borrowing money from druggists. Bronson claims to be a representative of "McKesson, Robbins & Co.," which ought to be enough to show him a fraud before he goes any further. Then for eighteen months the Era has been notifying druggists all over the country of the acts of this swindler, even printing his signature. Now, a druggist in Vermont sends word that some four or five weeks ago a man walked into his store and, representing himself from "McKesson, Robbins & Co.," claimed that he had missed his mail and, being short of funds, would like to borrow a dollar to get to Albany. The druggist doesn't read the Era, for he gave Bronson the cash. After Bronson had gone the druggist began to think and concluded to write to McKesson & Robbins. He enclosed the signature of the swindler, which is identical with the one printed in the Era. Bronson is probably making for Maine.

——A party of seven which went to the Rockies after the N. W. D. A. convention returned home a few days ago after a delightful trip. There were in the party Mr. and Mrs. Henry B. Platt, Mr. Rogers, of Rogers & Pyatt, with Mrs. and Miss Rogers, and Mr. and Mrs. Arthur Stillwell. They went from Denver to Salt Lake City, where they spent two days as the guests of prominent Mormons. Theodore Meyer, of the Meyer Bros. Drug Co., of St. Louis, was the "chaperone" of the party while there. The party had a good chance while en route to Salt Lake to enjoy the sensation of being held up by train robbers. The robbers, however, took night as the time for their raid, and all the New York party were oblivious of the robbers' visit. After seeing all the sights of Salt Lake City the party went to Grand Junction, Col., where they were entertained by the mayor, and visited the peach and pear orchards. These are located on a reclaimed desert and produce the finest pears and peaches in the world. The party returned without accident and declared that the convention and trip were great successes.

Soda Fount Explosions.

Washington, D. C., Sept. 22.—A gas generator, used for charging soda fountains, exploded in a rear room of J. Louis Crick's drug store, 1700 Pennsylvania Avenue, this afternoon. Two pressure tanks, each weighing 500 pounds, were blown through the brick wall of the house. Matthew Pulliam, a clerk who was operating the generator when the explosion occurred, fortunately escaped. Mr. Crick, who stood in front of the store when the accident happened, rushed into the back room which is separated from the pharmacy by a little court, expecting to find that his clerk had been killed. Pulliam stood in the midst of the debris, dazed, but uninjured, save for a few scratches.

Mansfield, O., Sept. 21 (Special).—A soda-water fountain which Harry E. Courtney, a local druggist, was charging this afternoon exploded, injuring him so severely that his death followed.

Assets of Wallace Bros. $260,000 and Liabilities $275,000.

Raleigh, N. C., Sept. 26.—An inventory of assets of Wallace Bros., great herb dealers of Statesville, who assigned, is completed and shows them to be $260,000, exclusive of $200,000 of mining stock, which is uncertain. The liabilities are $275,000.

——There was on display in the show windows of Schaefer & Schaefer's drug store, Huntington, Ind., a handsome collection of mounted birds and animals. They do not look so well now, however, for a few nights ago rats made a raid upon them, causing much damage.

HERE AND THERE.

—Druggist Charles G. Brehm, in business for thirteen years at Milwaukee, Wis., disappeared a few nights ago, and at present writing has not been heard of.

—Druggist Blenkstone, of North Hudson, N. J., is inaugurating a policy of cutting, but the other druggists do not seem to be much worried by his departure.

—At Logansport, Ind., Sept. 21, a fire started on the third floor in the oil rooms of B. F. Keesling's drug store, 311 Fourth Street, and occasioned a damage of $8,000.

—The Ministerial Union at Wilmington, Del., has invited the druggists to a conference to consider the desirability of a united effort for closing drug stores for several hours on Sundays.

—Pomegranates from California are on sale in the Chicago fruit stands. This is a novelty in the fruit line, and may be of interest to druggists, considering the uses to which the rind is put.

—R. M. Burlingame, of Minneapolis, and lately in the drug business at New Richland, has abandoned the pestle and mortar for the present and taken up the study of medicine at Minneapolis.

—Jos. Kehrer, the blind druggist of Jordan, Minn., recently put in a complete new and stylish outfit of fixtures, etc. Although he cannot see it himself, he appreciates the effect on his customers.

—W. K. Hicks, a Minneapolis druggist, was severely injured while riding a bicycle a few days ago. He broke a pedal while "scorching" and was thrown to the ground, fracturing the left ankle.

—Henry H. Kelly, colored druggist at Washington, D. C., is out on $1,000 bail on a charge of selling liquor without a license. Sometime ago he was before the police court and fined $250 for the same offense.

—Ennis N. Searles, secretary and treasurer of the Athlophoros Mfg. Co., died Sept. 24 at his residence in New Haven, after a short illness. He was forty-nine years old, and was known in business circles throughout the East.

—John F. Boylen, a drug clerk at Lewiston, Mont., committed suicide a few days ago, after gambling away $310 of his employer's money. He left a note to the effect that he killed himself in order that his insurance money might be used to pay his debts.

—At Alton, Ill., Chas. Flackenecker, for several years clerk in E. Marsh's drug store, has gone to Chicago to attend the school of pharmacy. R. C. Stuart, clerk in the same store, has recently passed the board of pharmacy examination as registered pharmacist.

—At Peoria, Ill., Eugene Zimmerman has purchased the store of the late Edward Burch, on Knoxville Avenue. J. F. Rowcliffe's drug store was slightly damaged by fire. Charles Strathman has sold his store to his brother Jacob, an undertaker, and has taken a position as clerk.

—The Aberdeen Pharmacy, of Aberdeen, N. C., has opened a branch store at Southern Pines, under the name of Johnson's Pharmacy. It will be managed by Miss Alice Johnson, a registered pharmacist. Southern Pines is four miles from J. W. Tufts' new town, Pinehurst.

—The pharmacy on the southeast corner of Broadway and Pratt Street, Baltimore, formerly conducted by Mr. Tumbleson, who was compelled to make an assignment, has been reopened by John Rickes, who also has a store at Broadway and Canton Avenue. Franklin D. Woods has been placed in charge as manager

—The county fair held at Clinton, Mo., drew an unusually large crowd, among whom were numerous pickpockets. Oscar H. Ott, traveling salesman for the Dangherty-Cronch Drug Co. of St. Louis, after boarding the train and while passing through the smoker was crowded by a number of persons going in the opposite direction; a few moments later he discovered the loss of a $200 diamond scarf pin.

—An investigation is to be made at New Haven, Conn., of a death for which a druggist is thought to be possibly responsible. A Hungarian asked at Wood's pharmacy for some medicine for a summer complaint, and after taking it, said he was suffering from burning pains. In a few hours he died and it is owing to a fear that aconite was given by mistake that the investigation was decided upon by the medical examiner.

—Druggist J. C. Perry, of 4116 Haverford Avenue, Philadelphia, recently offered a prize to the person who guessed nearest to the number of seeds in a watermelon exposed in his show window. Many children gathered in front of the store and were driven away by the druggist. He was charged with being too severe toward them, and was arrested for disorderly conduct, but upon examination was discharged through lack of evidence.

—Apparently the good people of Weymouth, Mass., are of the opinion that Gen. Grant was right when he said that the best way to get rid of a bad law was to enforce it in the strictest manner, for they are living up to the so-called Sunday law with a faithfulness which would have won commendation from the Puritans themselves. You can't buy cigars or soda or anything of that sort of the druggists there now, and the grumbling of the residents has become so great that the selectmen probably will have to defer to public opinion and permit a little more freedom.

—A stranger entered the drug store of J. D. Humphrey & Son, at Huntsville, Ala., gave a worthless $5 bill in exchange for a 10-cent purchase, quickly hunted up a barber shop and had his whiskers cut off. This did not prevent his capture by the druggist, who had discovered the fraud. The $4.90 change was taken from the prisoner, and the man turned over to the United States authorities, who released him, holding that he did not pass counterfeit, but obsolete money, the bill being an old State of Tennessee bank note.

ASSOCIATIONS,
CLUBS, SOCIETIES.

Maryland Pharmacists Active.

Baltimore, Oct. 1.—President Henry P. Hynson, of the Maryland State Pharmaceutical Association, is bestowing a great deal of care upon the selection of members to serve on the various committees. He does not look upon these appointments as mere compliments, but he is desirous of securing workers who will discharge their duties faithfully. It is important that the men named take an interest in the various matters submitted for their consideration. The State Legislature meets next January and another attempt will be made to secure the extension of the Pharmacy law to all the counties. At present it applies only to Baltimore City. Any half-baked student who has failed in the examinations elsewhere can come to Maryland and set up shop without making himself liable to prosecution or incurring a penalty. In consequence of this condition of affairs the state has become the dumping ground for much of the material rejected elsewhere, to the great detriment of the drug trade. Unfortunately the capable pharmacists in the counties do not take the interest in the matter which they should manifest and previous attempts to secure legislation regulating the business in the rural districts has failed on that account. The success of the effort to be made next year depends largely upon the energy manifested and the personnel of the proper committee. The Baltimore pharmacists have steadily urged the extension of the law, but have been defeated by the apathy prevailing in the counties.

Philadelphia Drug Exchange Moves.

Philadelphia, Sept. 26.—In all probability the last meeting of the Philadelphia Drug Exchange will be held in the old room on Third Street next Tuesday. On Oct. 15 the rooms which have for many years been used exclusively by the Philadelphia Drug Exchange Association will be given up, and this exchange will take up its new quarters in the Bourse Building. A meeting of the exchange was held on Sept. 27 at which means were presented for raising money to fit up the new rooms as well as to carry on such schemes as would be of advantage to the association. When the exchange moves to the new quarters it is proposed to try and make the daily meetings of such importance that it will be of advantage to all members to attend. At one time most of the business relative to the drug trade was done at the Philadelphia Exchange, but with the introduction of the telephone there is very little of it done there now, as the dealers prefer to transact business direct with the house from which they are purchasing. It is thought, however, that a change can be made, and the old system will be again brought into use. Outside of the Drug Exchange the Oil, Paint and Drug Association will also take up its quarters in the Bourse Building, and while the formal opening of this building will take place on Oct. 1, it is thought that the drug representatives will not be in before Oct. 15.

Pennsylvania and Maryland on the Proprietary Goods Committee.

Philadelphia, Sept. 25.—A meeting of the representatives of the leading drug houses in Pennsylvania and Delaware was held this day in the rooms of the Philadelphia Drug Exchange, on Third Street, south of Market. There were 18 houses either represented in person or by proxy, and after a harmonious talk it was decided to appoint George A. Kelly, of Pittsburg, as a representative of this district to represent the two States on the Proprietary Goods Committee. This meeting was called last week by Mr. Shoemaker, of Shoemaker & Bush, of this city, and while all did not respond who received invitations, the meeting was a representative one and the leading drug men of the two States were in attendance.

The meeting was called to order at 3 o'clock, and C. F. Shoemaker was elected chairman and W. B. Smith, of Valentine H. Smith & Co., secretary. After a few remarks by Mr. French, of Smith, Kline & French Co., and others, George A. Kelly was unanimously elected to represent this district.

The following firms were represented in person: Aschenbach & Miller, Philadelphia; R. Barker & Co., Philadelphia; W. H. Pile & Sons, Philadelphia; Dr. George Ross & Co., Lebanon; Shoemaker & Busch, Philadelphia; Smith, Kline & French Co. and Valentine H. Smith & Co., of Philadelphia; William Smith & Co., York; G. D. Wetherell & Co., Philadelphia; Z. James Belt and N. B. Danforth, Wilmington, Del.

The following houses were represented by proxy: W. J. Gilmore & Co. and George A. Kelly & Co., Pittsburg; Dale, Hart & Co., York; D. S. Wiltberger, Philadelphia; Matthews Bros., Scranton, and Walther Robertson Drug Co., Pittsburg.

Proprietary Goods Committee.

At the meeting in this city Tuesday, held to elect a member of the Proprietary Goods Committee of the N. W. D. A., to represent New York and New Jersey, Mr. Chas. W. Hubbard, of Syracuse, was unanimously chosen. The following firms were represented at the meeting: Chas. Hubbard, Son & Co. and C. W. Snow & Co., Syracuse; L. Burton & Co., Troy; Walker & Gibson, Albany; J. H. Sheehan & Co., Crouse & Comstock, and A. H. Williams & Co., Utica; Wood & Tittamer, Poughkeepsie; and the following New York houses: Isaac C. Chapman, Schieffelin & Co., R. W. Robinson & Son, Bruen, Ritchey & Co., Tarrant & Co., Lehn & Fink, Coffin, Reddington & Co., C. N. Crittenton & Co.

——Darwin Derby, a Syracuse, N. Y., druggist, was struck and severely but not fatally injured by a cable car Sept. 19.

——M. Boyd, at one time senior member of the drug firm of Boyd & Berry, Atlanta, Ga., died Sept. 20 at police headquarters, of chronic alcoholism.

——Druggist E. D. Ransom, Belvidere, Ill., has just moved from his temporary store into the fine new brick building which he has erected on his old site.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Little Rock, Nov. 13.
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Oct. 9.
Colorado (C. H. Wells, Pueblo)—Denver, Dec. 6.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Dec. 3.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Oct. 7.
Florida (Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Nov. 5.
Kansas (W. C. Johnston, Manhatton)—Junction City, Dec. 11.
Kentucky (Wiley Rogers, Louisville)—
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Oct. 9.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Oct. 8.
Massachusetts Freeman H. Butler, Lowell)—Boston, Oct. 1.
Michigan (F. W. R. Perry, Detroit)—Lansing, Nov. 6.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Oct. 15.
Mississippi (J. C. Means, Natchez)—Jackson.
Missouri (F. W. Sennewald, St. Louis)—St. Louis Oct. 8.
Montana (G. W. Shoemaker, Billings)—Anaconda, Oct. 8.
Nebraska (M. E. Shultz, Beatrice—Lincoln, Nov. 13.
New Hampshire (George F. Underhill, Concord)—Manchester, Oct. 23.
New Jersey (Albert S. Elwell, Bridgeton)—.
New Mexico (W. C. Porterfield, Silver City)—.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburgh, Rochester, Syracuse and Yonkers, Nov. —.
North Carolina (Wm. Simpson, Raleigh)—
North Dakota (W. S. Parker, Lisbon)—.
Ohio (W. R. Ogler, Columbus)—Cleveland, Oct. 15.
Oklahoma (C. P. Wickmiller, Kingfisher)—.
Oregon (Dan J. Fry, Salem)—Albany.
Pennsylvania (Charles T. George Harrisburg)—.
Rhode Island (Wm. E. Cates, Providence)—Providence, Oct. 7.
South Carolina (H. W. Hummel, Charleston)—.
South Dakota (I. A. Keith, Lake Preston)—Aberdeen, Oct. 9.
Tennessee (J. O. Burge, Nashville)—Chattanooga, Oct. 16 and 17.
Vermont (J. G. Bellrose, Burlington)—.
Virginia (E. R. Beckwith, Petersburg)—Richmond, Oct. 22.
Washington (W. H. T. Barnes, Seattle)—.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville) Prairie du Chien, Oct. 9.
Erie County, N. Y. (C. O. Rano, Buffalo)—Buffalo, Nov. 2.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn)—Brooklyn, Oct. 15.
New York City (Wm. Balser, M. D., 218 East 13th street)—College of Pharmacy building, Oct. 14.

——August Buren and Wm. F. Peters, who were arrested at St. Louis some time ago for running a drug store without a license, were fined $25 each in Judge Peabody's court in that city on Sept. 18. The arrest was made at the instance of Secretary Sennewald, of the Missouri State Board of Pharmacy.

——The Maryland Board of Pharmacy will hold its next meeting Oct. 10, not the 8th, as erroneously announced. The board holds four examinations each year, on the second Thursday of January, April, July and October.

——The excellent service performed by Mr. John Larrabee, of Melrose, Mass., as a member of the State Board of Registration in Pharmacy, has been properly recognized by Gov. Greenhalge, of Massachusetts, who on Thursday last reappointed him for a long term.

——The Michigan Board of Pharmacy will hold a meeting for the examination of candidates in the Hall of Representatives, Lansing, Nov. 6 and 7, 1895, at 9 o'clock A. M. Candidates must file their applications with the secretary and must furnish affidavits at least one week before the examination, showing that they have had the practical or college experience required.

——The Illinois State Board of Pharmacy examined a class of 70 at their meeting in Chicago Sept. 10-13. The following passed as registered pharmacists: A. H. Christenson, W. R. Hancock, E. T. Holthusen, E. P. Hubbard, C. C. Lake, O. B. Leonard, W. Loesch, H. M. Miller, S. Verbnrg and A. E. Zuber, of Chicago; J. P. Briggs, Eureka; W. J. Felter, Cairo; G. W. Munch, West Pullman; C. W. Pool, Buckley; W. H. Schwingel, La Salle; R. C. Stuart, Alton, and C. S. Trowbridge, Marseilles. The next meeting of the board for examination will be held at 173 Thirty-ninth Street, Chicago, Nov. 12.

Ohio Board of Pharmacy Prosecutes.

Cincinnati, Sept. 30.—Robert Wotke, a clerk in Miller's pharmacy, Cumminsville, was arrested Saturday on a warrant filed by Mr. Meininger, of the State Board of Pharmacy, charging him with compounding medicinal preparations on a prescription without a proper certificate or license. Mr. Wotke's case will be heard Tuesday in the police court. There is a peculiar circumstance connected with Wotke's arrest, which will doubtless have considerable effect on the outcome of the case.

It seems that Mr. Miller has been negotiating for the sale of his establishment for several weeks past, but the deal was not consummated until about 10 o'clock Saturday morning. The formal transfer from Mr. Miller to his successor had scarcely been completed when the court officers arrived and served the warrant on Miller's clerk, Wotke. As Wotke was in the service of Miller at the time the alleged offense was committed, he (Wotke) will probably expect Miller to defend his case. The State officials are in a predicament, as they do not wish to prosecute Wotke directly, and only caused his arrest for the purpose of getting at Miller, who, they claim, is responsible for Wotke's transactions. Druggist Albert Ross, who was arrested last week on a charge similar to the one in the above case, has defeated the State Board in two instances. His first case was called in the police court last Thursday morn-

ing, but owing to the absence of the prosecuting witness Judge Gregg ordered a dismissal. The following day, Friday, Mr. Ross was rearrested on the identical charge, but for filling another prescription, and the trial was set for Saturday. When the case was called Judge Gregg declined to listen to it, stating that the prosecution had broken faith with him in failing to be present at the first hearing, so the Ross case was nolled. In speaking of the affair Mr. Meininger said: "Myself and witnesses were in attendance at the police court last Thursday at the hour set for hearing Ross' case, but we were informed by a court officer that the case would not be called until 11 o'clock, which was an hour later than the time specified for the trial. We had some matters to attend to in another part of the court, and left, but not before we had an understanding that the case would not be called until 11 o'clock. When we returned at that hour we were informed that the case had been reached at half past ten, and as we were not in court the case was dismissed. I do not understand Judge Gregg's actions in this matter. "We will go after Ross again." Mr. Meininger stated further, that he expected to continue the campaign on unregistered druggists until they showed a disposition to obey the laws.

——The next examination by the New Jersey Board of Pharmacy for registered proprietors will be held in the Y. M. C. A. Building, 127 East State Street, Trenton, Oct. 17, 10:30 A. M. On the 18th, same time and place for registered assistants. Application blanks to be had at any time of the secretary. Blanks and fee to be returned to secretary at least ten days before date of meeting. Blanks for reregistration under the new act will be mailed to all registered pharmacists during next month. Under the new act and by a rule of the board, all pharmacists are to pay a fee of 50 cents for reregistration on or before Jan. 1, 1896. At the annual meeting of the board held in Jersey City Sept. 20 the old officers were re-elected to serve for one year, as follows: President, William R. Laird, Jersey City; treasurer, George W. C. Phillips, Jersey City; secretary, Albert S. Elwell, Bridgeton. For a year or two there have been no prosecutions, as the board considered the old act rather defective, but in the future all druggists and grocers who persist (after notice) in violating the law will be prosecuted.

——A baby in Watertown, Mass., found, while creeping about the floor, a bottle of quinine pills which had fallen from a bureau, and, probably supposing that they were candy, ate them and was killed.

"I always said John was a-goin' to make his mark in the world," said the old gentleman.

"What's he been a-doin' of now?"

"Writ a piece fer the papers, in what he tells folks he's the best butcher in town, an' no one kin sell cheaper'n what he kin!"—Atlanta Constitution.

COLLEGES
AND SCHOOLS OF PHARMACY.

——The Lecture Committee of the New York College of Pharmacy cordially invites every one interested to attend the opening lecture of the sixty-sixth annual session of the college on Monday, Sept. 30, at 1:30 P. M.

——Professor Bastin, of the Philadelphia College of Pharmacy, has returned from a botanical trip in the Adirondack Mountains. He has secured a number of specimens which he will properly classify and donate to the college. Professor Remington has also returned, as well as Professor Sadtler, who took a trip to California.

Maryland College.

Baltimore, Oct. 2.—The fall sessions of the Maryland College of Pharmacy began to-day with lectures by Profs. William Simon, Charles Caspari, Jr., and David M. R. Culbreth. The opening was devoid of formalities, these being dispensed with until the social gathering to be held some time in the future, when the students will have an opportunity to fraternize. The number of applications for matriculation so far received is very satisfactory. Others will continue to come in until about November 1. The junior class of this year promises to be larger than that of any previous session in the history of the college and everybody connected with the institution is showing great zeal in the prosecution of his work.

St. Louis College of Pharmacy.

St. Louis, Sept. 28.—The thirtieth annual session of the St. Louis College of Pharmacy will begin on Oct. 7 and last until April 15 of next year. Many important improvements have been made during the summer months and from indications the attendance this year will rank among the largest, if not the largest, in the history of the college. The new officers for the year will be: Edmund P. Walsh, president; Thos. Layton, vice-president; Solomon Boehm, treasurer; Dr. John C. Falk, secretary; William K. Ihardt, corresponding secretary; board of trustees, Charles Gietner, chairman; Henry W. Scheffer, Adolf Braun, William C. Waldeck, H. F. A. Spilker and Joseph E. Hilby; faculty, Dr. Otto A. Wall, professor of pharmacognosy and botany; James M. Good, professor of pharmacy and dean of the faculty; Francis Hemm, professor of practical pharmacy; Dr. H. M. Whelpley, professor of microscopy, and Gustavus Hinrichs, professor of chemistry; instructors, Dr. John C. Falk, instructor in pharmacy and William K. Ihardt, demonstrator in microscopy. One of the features of the college is Shaw's botanical garden, which is an important aid to students. It is regarded as the finest botanical garden in America, and contains a special division where the students are permitted to see fine growing specimens of the most important exotic medicinal plants.

College Meetings.

Philadelphia, Sept. 28.—Owing to the indifference shown by pharmacists to the different colleges in their respective cities there is a movement on foot to create a better feeling among druggists in this respect. The Maryland College has sent to a number of the principal colleges for certain data and has compiled them in a circular, which has been sent to all its graduates. The table shows that there are 800 drug stores in Philadelphia, the proprietors of 180 being members of the college. The average attendance is 30, the percentage of membership to stores is 23, and the percentage of attendance to membership is 17. The number of drug stores in Baltimore is 355 and the college membership is 75, the average attendance is 12, and the percentage of attendance to membership is 17. In speaking of this the circular states: "You will see that the Maryland College of Pharmacy is placed fifth in the list. This must be changed. Your help will materially assist in placing our college at the head of the list, and you certainly have enough pride in it to wish it so placed, and make it the banner college, both in point of membership and attendance. Your name does not appear on the list of membership. It is your duty to become a member for a number of reasons, among which may be mentioned the opportunity to meet and become personally acquainted with your colleagues. These meetings are either business or scientific. They serve to promote business confidence among the pharmacists and to extend social feelings, and they aid in giving familiarity to scientific and professional portions of pharmacy and allied sciences.

Similar action has been taken by the Philadelphia College of Pharmcy, and it is the intention of the trustees of the college to try and make the meetings this year more enjoyable than ever. With this object in view, there is to be a canvass made and the druggists who have not been attending are to be prevailed upon to lend their presence. The table in the Maryland College circular includes the cities of Louisville, Washington, St. Louis, Philadelphia, Baltimore and Chicago. New York was asked, but there was no report rendered. Chicago leads with 1,000 drug stores, and Louisville leads with the percentage of attendance at 50.

——Violations of the liquor law are reported against the druggists of various parts of Michigan. At the time the law to increase the licenses went into effect many saloon keepers put in a small stock of drugs, hired young pharmacists and announced themselves as bona-fide druggists. They did not, however, depend on their drug sales for a living, but trusted to the appetites of their old customers who were generally well informed as to where they could quench their thirst. Reputable druggists as well as local temperance organizations and others have united against these combination saloon and drug stores, and it is rumored that there will be a big batch of arrests made before very long.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms*, all *changes* in firms, *deaths*, *fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ARIZONA.

Wilcox.—J. A. Bright, sold to E. A. Nichols.

ARKANSAS.

Fort Smith.—J. K. Kimmons, sold to W. O. Caldwell.

CALIFORNIA.

Los Angeles.—G. E. Fullerton, deceased.

COLORADO.

Durango.—J. J. Smyth, receiver appointed.

DELAWARE.

Wilmington.—I. V. McWhorter, closed by sheriff.

DISTRICT OF COLUMBIA.

Washington.—F. M. Darden, sold to Frank Berry.
Jno. A. Milburn, deceased.

FLORIDA.

Jasper.—J. E. Hanna, now J. E. Hanna & Co.
Pensacola.—J. E. D'Alemberte, sold to P. W. Smith.
Titusville.—Duren & Feaster, slightly damaged by fire.

GEORGIA.

Atlanta.—Mote Boyd, deceased.

IDAHO.

Hailey.—W. T. Riley, succeeded by Riley & Tracy.

ILLINOIS.

Chicago.—H. F. Flannery, confessed judgment.
The Hot Springs Remedy Co., incorporated.
M. V. W. Remedy Co., incorporated.
Freeport.—Freeport Chemical Laboratory Co., incorporated.
McLeansboro.—J. W. Dale, damaged by fire.
Morton.—W. O. McIntyer, sold to G. W. Moschel & Co.
Peoria.—C. A. Strathman, sold out.
Rock Island.—A. J. Riess, 4th Ave., new store.
Springfield.—O. C. Blakely, 223 6th St., sold to T. O. Musser.
Grazer & Fitzgerald, confessed judgment.

INDIANA.

Elnora.—J. F. Danners, sold to W. P. Chambers.
Lafayette.—Diehl's drug store, sold to Frank Harshaw.
Logansport.—J. A. Crawley, sold out.
N. B. Keesling's drug store, damaged by fire.
Maxwell.—McGuire & Bradley, sold to Charles Eakin.
Richmond.—J. A. Hiatt & Co., 825 N. E. St., removed to 1004 Main St., Westcott Hotel.
Tiosa.—Dr. Surgay's store, damaged by fire.

IOWA.

Ames.—H. D. Miller, removed to Beaman.
Ashton.—Carmichael Bros., now J. H. Carmichael.
Beaman.—J. K. Bowman, sold to H. D. Miller.
Des Moines.—Hulbut, Ward & Co., in hands of receiver.
Everly.—Carmichael Bros., now C. C. Carmichael.
Goldfield.—Tyler & Nichols, sold to Nichols & Co.
Iowa City.—Graff & Kettlewell, dissolved.
Lohrville.—H. P. Bell & Co., now Campbell & Co.
Oskaloosa.—G. P. Bertsch & Co., dissolved.
Yates City.—H. T. Royce, sold out.

KANSAS.

Eudora.—McShane & Scott, sold to John Kennedy.
Norwich.—The Eureka Drug Store, damaged by fire.
Oneida.—W. C. Hamlin, burned out.

KENTUCKY.

Louisville.—Fowler & Constantine, dissolved.
Shelbyville.—C. Hall, assigned.

LOUISIANA.

Donaldsonville.—J. H. Mathieu, sold to V. Maurin.

MAINE.

Caribou.—M. Alvard, new store.
Dover.—L. P. Evans, sold to E. E. Cole.
Rockland.—F. E. Bickmore, sold to Mr. Pooler.
South Portland.—A. D. Wilson, Frost and Sawyer, new store.

MARYLAND.

Baltimore.—John Rickes, Jr., Pratt and Broadway, new store.

MASSACHUSETTS.

Boston.—H. S. Blackinton, insolvent.

MICHIGAN.

Brown City.—J. F. Holden, damaged by fire; insured.
Ironwood.—Thomas & McCabe, now M. F. McCabe.
Paris.—Bradley & Co., sold to C. B. Fuqua.

MINNESOTA.

Alden.—Booth & Landis, recently burned out, have resumed.
Crookston.—Kermott Bros., sold out.
Eagle Bend.—Harris & Jackson, dissolved.
St. Paul.—Noble & Farwell, 4th and St. Peter, will open new store Oct. 10.
Zumbrota.—O. H. & O. I. Hall, dissolved; O. I. Hall succeeds.

MISSISSIPPI.

Edwards.—J. S. Davidson, discontinued.
Rolling Fork.—Crockett & Stevenson, now W. E. Stevenson & Co.
Starkville.—C. P. Montgomery, sold to R. H. Ligon.

MISSOURI.

Brookfield.—L. W. Clark, now Clark & Pratt.
Independence.—G. W. Clinton & Bro., removed to Merchants' Hotel Bldg.
Kansas City.—Samuel A. Howard, 12th and Tracy Ave., sold to F. L. Crampton.
Mexico.—Frost & Whitney, now E. S. Frost.

MONTANA.

Butte.—Fosselman Drug Co., incorporated.
Granite.—Silver Drug Co., now at Phillipsburg.

NEBRASKA.

Benedict.—Netsell & Co., removed to Stromsburg.
Dodge.—Ira Atkinson, burned out; loss, $4,600; ins., $2,000.
Person & Krasl, burned out.
Nebraska City.—H. N. Shuman, sold to F. McCartney & Co.
Nickersoo.—Geo. W. Tucker & Bro., new store.

NEW HAMPSHIRE.

Penacook.—C. H. Fowler, sold to W. C. Spicer.
Pittsfield.—G. H. Colbarth, new store.

NEW JERSEY.

New Brunswick.—Mrs. R. Eastman, removed to cor. Church and Neilson.

NEW YORK.

Eaton.—C. L. Hamlin, sold to E. B. Robin.
Hamilton.—Hamlin & Co., Opera House Block, new store.
Ilion.—Ogden & Downs, slightly damaged by fire.
Middletown.—Chamber's pharmacy, removed to 57 North St.
N. Y. City.—Kirby & Burkett, assigned.
Portville.—A. D. Rice, deceased.
Randolph.—W. L. Alexander, in hands of sheriff.
Rochester.—H. R. Myers, deceased.
Syracuse.—John M. Eagan, deceased.

NORTH CAROLINA.

Concord.—M. L. Marsh & Co., new store.

OHIO.

Chillicothe.—C. S. Chestnut, sold to Chestnut & Co.; to be known as East Side Pharmacy.
East Liverpool.—T. L. Potts, sold to Witzeman & Wunsh; to be known as the W. and W. Pharmacy.
Martin's Ferry.—Ernest K. Hoge, new store.
Massillon.—Morganthaler Drug Store, sold to W. A. Saltsman.

PENNSYLVANIA.

Butler.—C. Wuller, has opened Springdale Drug Store.
Chester.—Mathues & Warren, now Nathan Warren.
Conneaut Lake.—S. H. Hill, sold to Samuel Bligh.
Eaglesmere.—E. S. Bloom & Co., discontinued.
Philadelphia.—F. J. Boss, has opened branch at 4th and Master Sts.
Thomas Holliday, 12th, near Wolf, new store.
Charles Lennig & Co., damaged by fire.
T. M. Newbold, 608 S. 42d (branch store), sold to M. S. Goodyear.
Pittsburg.—J. E. Goldaine, removed to 5th Ave. and Smithfield.
Reading.—A. J. Livingood, of J. C. Sanderson & Co., deceased.
C. T. Stubbs, 751 Penn St., new store.
York.—C. W. Moody, sold out.

SOUTH DAKOTA.

Belle Fouche.—Gay Bros., burned out.

TENNESSEE.

Chattanooga.—Anderson & Cook, now Joseph Anderson.
Union City.—W. W. Hall & Co., burned out; partially insured.

TEXAS.

Austin.—M. C. Cornwell, sold to Frank Rainey.
Elgin.—S. H. Robertson, sold to Bennett Bros.
Graham.—R. G. Graham Drug Co., burned out.
Gunsight.—Andrews & Read, sold to C. P. Jones.
Houston.—J. E. Hertz, 59 Main, recently assigned, succeeded by Stuart-Waples Drug Co.
Iowa Park.—J. F. Greenlee, now J. F. Greenlee & Co.
Lewisville.—Young & Brown, now Young & Hardy.
Waco.—Williamson Drug Co., assigned.
Weatherford.—W. L. Simmons, Jr., & Co., removed to Montgomery, Tex.

VIRGINIA.

Farmville.—Winston & Gray, now Winston Drug Co.
Radford.—Radford Drug Co., sold out.

WASHINGTON.

Blaine.—Barnes & Co., attached.
Prescott.—F. Ibherson, deceased.
Spokane.—Dunn Bros., moved to Fairfield, Wash.
Winlock.—Gavitt & Co., sold to Phillips & Co.

WISCONSIN.

Milwaukee.—C. G. Brehm, attached.
Reeseville.—E. B. Fisher, sold out.
Turtle Lake.—H. Lohrbauer, new store.
Waldo.—E. E. Eastman, sold to D. R. Peck.

NEW BRUNSWICK.

St. John.—Dr. Mayes Case, 27 Main, North End, new store.

ONTARIO.

Norwich.—J. H. Haken, burned out.
Port Dover.—John McBride, sold to R. M. Taylor.
Toronto.—J. C. Johnston, sold to W. R. Reid.

Catalogues, Price Lists, etc., Received.

S. B. Medicine Co., South Bend, Ind.
W. F. Gray & Co., Nashville, Tenn
Thomas Mfg. Co., Baltimore, Md.
Jackson Medical Co., Chicago.
Kaercher Mfg. Co., Pittsburg, Pa.
Johnston, Holloway & Co., Philadelphia.
C. T. Hurlburt & Co., New York.
Detroit White Lead Works, Detroit.
Western Leather Mfg. Co., Chicago.
Packer Mfg. Co., New York.
Dios Chemical Co., St. Louis.
L. H. Thomas Co., Chicago.
M. M. Fenner, Fredonia, N. Y.
Philadelphia Watch Case Co., Riverside, N. J.
E. R. Squibb & Sons, Brooklyn, N. Y.
Burgin & Sons, Philadelphia.
Adams Mfg. Co., Minneapolis, Minn.
Cumberland Glass Mfg. Co., Bridgeton, N. J.
Geo. Blome & Son, Baltimore, Md.
H. P. Emerson & Co., Boston.
Harvey Chemical Co., Lafayette, Ind.
H. W. Johns Mfg. Co., New York.
John F. Stratton, New York.
The Van Dorn Iron Works, Cleveland, O.
Reports, Proceedings, etc., Received: Tennessee Board of Pharmacy, 1895; Minnesota Pharmaceutical Association; New Jersey Pharmaceutical Association.

A good plaster with the druggist's name on it gives him both credit and profit. The Deane Plaster Co., Yonkers, N. Y., make a special offer on all kinds, in which this question of profit is brought out in a particularly strong manner. Write for it.

Book Reviews.

PRINCIPLES AND PRACTICE OF AGRICULTURAL ANALYSIS. A Manual for the Estimation of Soils, Fertilizers and Agricultural Products By Harvey W. Wiley, Chemist of the U. S. Department of Agriculture. Volume II., Fertilizers. Cloth, 332 pages. Easton Pa., Chemical Publishing Co.

Volume I., devoted to the analysis of soils and issued under the above general title, was reviewed in our issue of Sept. 12, and the words of praise in its favor must be repeated when we refer to this second volume, on Fertilizers. The author is disposed to apologize for allowing the subject to exceed the amount of space originally intended to be devoted to it, but this we think is hardly necessary, as the student and specialist already have a mass of literature of a fugitive and widely-scattered character, and they now desire a broad and comprehensive treatment of the subject, and a work in which all these scattered data shall be grouped and arranged for comparison and easy reference. Agricultural analysis has passed the stage of the handbook and bulletin, and now demands an exclusive literature which shall attract the favor of the librarian and the best efforts of the writers and makers of books. Thanks are, therefore, due to Professor Wiley, from all those who claim an interest in chemical work, whether agricultural chemists or not, for his masterly presentation of his specialty, and it is to be hoped that his efforts in making a beginning for an American literature of agricultural analysis will meet with encouragement on account of the immense possibilities which this particular field offers. The volume under review is divided into four parts, part first being devoted to phosphates and phosphatic fertilizers; part second to nitrogen in fertilizers part third to potash in fertilizers; part fourth to miscellaneous fertilizers. Under each division all that is of value to the analyst and manufacturer is presented, from the history and occurrence of the various fertilizing materials in nature to the methods of determining their value when placed upon the market. The general typographical excellence which distinguished Volume I. is also a pleasing feature of Volume II.

PRIMER OF PHILOSOPHY By Dr. Paul Carus. Paper, 222 pages, 25 cents. Chicago, Open Court Publishing Co.

In a matter which is known to most people through the echoes of controversy there would seem to be a necessity for a primer through which the subject could be presented in its greatest simplicity. A great many of the differences between philosophers have arisen through a confusion of terms employed to express ideas, and the author says for this primer that it is simply "a presentation of the subject in the plainest and most lucid form in which he could put it." From this it is presumed that we are justified in assuming that his definitions of objectivity, subjectivity, experience, knowledge, cause and effect, reason, free will, etc., etc., are really his conceptions of what they should mean when applied to his own system of philosophy. But in the interests of progress this assumption may be dismissed, and by agreeing upon the definitions proposed the uninitiated student will not be bewildered with the high-sounding words and unintelligible phrases which distinguish the writings of most philosophers. In this respect the Primer of Philosophy will be found of great value, and by clearing the verbal atmosphere will encourage a deeper study of that which underlies all branches of scientific inquiry.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

THE DRUGGISTS DO NOT WANT FREE ALCOHOL.

Columbia, Tenn., Sept. 25, 1895.

To the Editor:

We have carefully read your articles on free alcohol, and it occurs to us that you have not touched upon the most vital point germane to the subject, so far as the material welfare of the pharmaceutical profession is concerned.

Considering the question as an entirely independent proposition, without regard to the objectionable restrictions likely to be imposed by the Federal Government, such as would place the manufacturing of all pharmaceuticals into which alcohol enters as a component part, into the hands of the large manufacturing concerns, it seems to us that the ultimate effect would be to so diminish the volume of business by the great reduction in prices which would follow as an inevitable result, in these days of sharp competition and price-cutting, that the net profits of the business would be so impaired that competent men could no longer earn a livelihood in its pursuit, and would be forced to abandon the vocation, thus more than counterbalancing the philanthropic view of the optimist who argues for the reduction "pro bono publico."

It would not be long before standard prices would be as follows: Tinctures, 1 to 2 cents per ounce; fluid extracts, 5 cents per ounce; spirits camphor and paregoric, 25 cents per pint, and so on, which might yield as good a per centum of profits as the prices of today, but the net results of the business would be so small as to render it unremunerative to competent and skilled pharmacists.

Every factor of expense would remain the same, rents, clerk hire, taxes, insurance, fuel, lights, etc., while the net income from the business would be greatly diminished. For example, we might mention petroleum as a practical illustration of the shrinkage in the volume or profit afforded the dealer as it declined in price, when the wholesale price of this article was 75 cents per gallon, the retail price was $1.25, affording the dealer a margin of 50 cents per gallon, while now the price in this section is 12½ cents, and retail price 20 cents, and only 7½ cents per gallon profit. This being an article of universal consumption, you may say the increased quantity sold would compensate for the loss in profits, but as medicine is not a luxury, and as no one takes it for the love of it, the reduction in price is not likely to materially increase its consumption.

We can understand why the large patent-medicine concerns of the country are clamoring for the abolition of the tax because their prices are purely arbitrary and are not regulated by supply and demand. The large manufacturing pharmacist would be vastly benefited who consumes sufficient quantities of the article to maintain a bonded warehouse, and thus usurp the rightful privilege of the retail druggist to manufacture his own preparations.

A. B. RAINS.

ORGANIZATION IN NEW ENGLAND.

Cambridge, Mass., Sept. 24, 1895.

To the Editor:

Since I last wrote you I have visited some parts of New Hampshire, but did not clear up the State. I was then called to other localities. The work has steadily increased and a strong feeling in favor of our work is manifest in all the places I have visited. There are some, however, who have no confidence that the manufacturer, wholesaler and retailer will stand together.

It is not to be expected that we will get every one to put their shoulders to the wheel and help. We can congratulate ourselves, however, upon finding as few enemies as we do. Out of over 600 retailers whom I have secured up to the present time, it has been my good fortune to find only two cutters who would not join in a uniform schedule of prices; and I have visited some of the largest retailers in New England.

The cutter, I think, has come to believe that no one has a mortgage on the cutting system of drawing trade. He has come to realize that he has only a few days advantage over his neighbor when both are selling goods at either cost or so near that it does not pay. Many of our large cutters today were not the men to start the system of cutting, but followed others, or took the word of a customer who represented that certain druggists were cutting. He, therefore, being anxious to offer goods at competing prices, would reduce one or all articles to the regular wholesale price; in many cases it was done in a fit of anger, and could a proper man have been called on the difficulty would have been solved.

I think the employment of an agent who can be consulted at all times by the retail druggist will settle these troubles. Many druggists do not care to go to a neighbor and complain, saying "if a man will not live up to his word, no good can be expected from a complaint." I have had occasion many times to straighten out a difficulty of this kind. Customers do not always tell the truth; and before condemning we should, at least, investigate.

I believe we should all take courage. To find the conditions so favorable is certainly a surprise to all the officers who have had the management of this

movement. They have devoted many hours to the study of past as well as present conditions. I am surprised to learn, however, that certain of our wholesale firms are doing what they can to break up our present move; and one at least has taken questionable means for this purpose.

We propose to be loyal to our friends, and shall be courteous and clean in our undertaking; and because the union has not had any evidence of friendship on the part of certain wholesale firms, and therefore cannot indorse them, does not warrant them in trying to lower the character or responsibility of any officer. If they want our co-operation they must co-operate with us, and we will do all in our power to help them. It is a case of reciprocity. The only reason why these wholesalers persist in not helping us now is, "if we do not sell the cutters they will go West and get the goods." I say, let them try it. Because one man in the West will do wrong there is no reason for any one in the East to do so.

Every one admits that the persisting cutter is an enemy to the retail trade. Is it right for a wholesale firm, that depends on the retail trade for its business, to help these cutters in buying their goods at the lowest price? It appears to me that this is encouraging a practice which should at least be discouraged. Our union will ask for the aid of New York and the West when we get Boston. It would be useless for us to go West while those who should be our friends here are standing out against us.

Hoping that we may soon prove our success, I remain, yours very truly,

F. W. REEVES.

New England Retail Druggists' Union.

Lion Brand Quinine.

Boston, Sept. 28, 1895.

To the Editor:

We notice in your issue of the 26th inst. an item about quinine being offered in Washington at 21 cents an ounce.

The article was recently offered to us. It was labeled Lion Brand, and said to be manufactured in Germany. It was put up in what purported to be original one-hundred (100) ounce cans. We tested a sample from one of the cans in our laboratory and found it to be composed largely of sulphate of cinchonidia; naturally we refused to have anything to do with it.

We hope that nobody will be victimized into buying sulphate of cinchonidia at 21 cents an ounce. Yours respectfully,

CUTLER BROS. & CO.

——Chicago papers are making merry over an incident to the effect that some practical jokers presented an illegibly written telegram to a druggist in that city, who read it, disappeared behind the prescription case, and after a long wait came back with a bottle of medicine and a charge of 60 cents.

——Wallace G. Palmer, late with F. W. R. Perry, of Detroit, has bought out the drug store of Bassett & Mason, Ann Arbor, and has assumed active control. His place in Detroit has been filled by Leonard Seltzer, Mr. Perry's old clerk, who has been away from the store about six months.

AMBER.—Amber is a substance which was long regarded as of a mysterious origin. It is now known to be the fossil gum of an extinct kind of pine tree. These pines formed forests thousands of years ago in the region of the Baltic Sea, where the gum which exuded from their bark accumulated in such quantities that it has supplied the markets of the world with amber since the most ancient times. The ancient Greeks got their supply from there, and the merchants of Venice during the middle ages made regular annual trips to the Baltic for cargoes of amber. Until recently no other way of obtaining amber was known than to gather such pieces of it as were thrown upon the shore in stormy weather, or to dive for it. But to-day there are great amber mines in the region of the Baltic which are worked day and night all the year round. The deposits of the fossil gum extend from the very shore of the sea to about a quarter of a mile inland. To keep the water out of the mines, which are below the sea level, pumping has to be kept up all the time. The stratum in which the amber is found is of blue earth, which is shoveled into cars and drawn up to the mouth of the mine, where the earth is driven down a sluice by a force of water that dissolves and separates it from the amber. Nets with meshes of different sizes catch the amber, which is found in pieces from the size of a pea to the bigness of one's hand and sometimes larger. Thirty dredging ships work during eight months in the year at fishing the amber out of the sea with winding chains of buckets, which drag along the bottom and bring up sand, stones and amber, the last being afterward washed out in nearly the same manner as on land. Many divers also labor in the gathering of amber, descending to the bottom from row boats in divers' armor, with shovel and bag. Sometimes they stay under water for five or six hours at a time, not coming up until their bags are filled. In addition to their regular pay they receive a prize for every piece that reaches a certain weight. Amber has a wonderful variety of colors. Some of it is as clear as crystal, some as yellow as honey, some light blue, and again a transparent green. Then it is found as white as snow, the color of cream, and often many of these tints are blended in one piece. There is a popular notion to the effect that amber has curative qualities for such ailments as croup and sore throat, and many thousand necklaces of it are sold annually for that purpose.

CURIOUS ARTIFICIAL FUELS.—The Patent Office at Washington, says an exchange, has at present a very curious assortment of contrivances patented for cheapening the cost of fuel. Some of the ideas are exceedingly interesting. One patent provides for using corn cobs soaked in petroleum; another would have people cut leaves and grass when green and press them into compact blocks. It is claimed for this particular patent that such blocks might be used for building and fencing without impairing their value as fuel. There are, besides, many devices for utilizing coal dust. One proposes to mix clay, molasses and water, coal dust and petroleum. Another mixture is that of sawdust, Irish moss, asbestos fiber and burnt limestone, these being boiled and made into bricks with coal dust. Then there is a patent for bricks without coal dust, to be composed of ashes and sawdust saturated with petroleum and coated with resin. Among the most curious ingredients for artificial fuels are clam shells, charred garbage, cornmeal, wheat flour, sugar, seaweed, broken glass, lard, tar and leaves. One of the most interesting of these contrivances is composed of powdered charcoal and finely cut cork. The fuel burns very slowly and gives off a great deal of heat, being particularly well adapted for the sick room. Exclusive rights have been taken out for the manufacture of a brick or cartridge of highly porous clay, which is to be soaked in kerosene and put into the kitchen stove when wanted. It is only necessary to touch a match to this and the fire is ready for cooking. None of these, however, are more ingenious or economical than a fuel which is reported to be in use at present in Egypt. In this case Egyptian mummies, chiefly those of cats, ibises and other animals held sacred by the ancients, are employed.

——Ray Moyer has bought out Sprong's drug stock at Menominee, Mich.

——A. J. McLaughlin has opened a new drug store at the corner of Michigan Avenue and Fifth Street, Detroit.

——Schepero & Jangejan have opened a new drug store at Grand Rapids, Mich.

——Tripp's drug store, at Allegan, Mich., has been damaged by fire.

——J. C. Wood, of Alpena, Mich., formerly manager of the Alpena Drug Store, has purchased the stock of the McDonald Drug Co. of the same place.

various pharmacies of Baltimore, Md., petitions asking Congress to take steps looking to the liberation of Cuba from Spanish rule. The printed blanks were sent out by the Dr. Miles Medical Co. of Elkhart, Ind.

——John Jacobs, who attempted to smuggle 250 pounds of opium across the river at St. Clair, Mich., last February, died at the Detroit House of Correction on Sept. 24, while serving a year's sentence for the offense. He had been ill ever since his confinement began, last March 18.

——Among the Baltimore (Md.) drug stores which have recently changed hands is that of Dr. C. Frank Jones, 1336 North Gilmer Street, sold to George W. Horting, and the pharmacy of C. A. Gibson, at the corner of George Street and Myrtle Avenue, which has been purchased by Joseph P. Costello.

——Harry Gilpin, of Gilpin, Langdon & Co., is the last of the delegates from Baltimore, Md., to return from the annual meeting of the National Wholesale Druggists' Association. He did not get home until last Tuesday, having made an entensive trip through the Far West.

——There are exposed for signature in

John Lucas & Co., Philadelphia, have some very striking color cards and other advertising matter. A postal card will bring them.

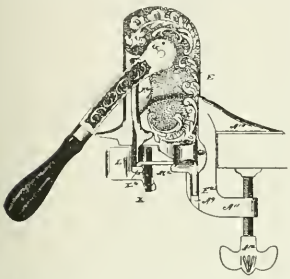
PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS

Issued September 24, 1895.

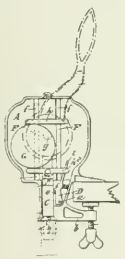
546,697—Paul Dvorkovitz, London, England.—Apparatus for distilling liquid hydrocarbons.

546,747—Michael and M. Redlinger, Jr., Freeport, Ill.—Cork extractor.



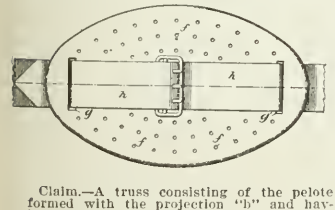
Claim.—In a cork extractor, in combination, a standard terminating at its upper end in a horizontal arm, a corkscrew rotatably mounted by its upper end in a stationary bearing therein, a corkscrew nut corresponding with, and adapted to freely slide up and down upon, the corkscrew, an oscillatory cam disk for driving the corkscrew nut, and a corkscrew nut carrier connecting the oscillatory cam disk with the corkscrew nut, substantially as and for the purpose specified.

546,902—John C. C. Read, Harborne, and G. I. Hurst, London, England.—Apparatus for drawing corks from bottles.



Claim.—In an apparatus for drawing corks from bottles or similar articles, the combination of a reciprocating frame provided with projections, a corkscrew attached to the said frame but free to rotate, a nonrotary nut engaging with the corkscrew and a spring catch adapted to engage the nut, with an eccentric or cam engaging between the projections on the frame and means for rotating the eccentric, all substantially as set forth.

546,949—Adolf Weil, assignor to A. Strauss, Frankfort-on-the-Main, Germany.—Truss.



Claim.—A truss consisting of the pelote formed with the projection "b" and having an outer covering of fabric or wool, and an independent plate conforming to the shape of the body and adapted to move freely over the pelote, said plate being provided with bands for securing the truss to the body, substantially as described.

546,963—Heinrich Schlenk, assignor to firm of C. Reich, Nuremberg, Germany.—Manufacture of bronze tincture.

TRADE-MARKS

Registered September 24, 1895.

27,089.—Paste for Removing Spots and Stains. August Falk, Vienna, Austria-Hungary. The word "Aphanizon."

27,090.—Chemical Refrigerants. The Freezol Co., St. Louis, Mo. The word "Freezol."

27,091.—Remedies for Blood, Liver, Stomach, Skin and Lung Diseases. William S. Rice, Smithville, N. Y. The words "Home Doctor" and a monogrammatic arrangement of the letters "H. D."

27,092.—Certain Named Medicines. Mother's Salve Co., Chicago, Ill. The representation of a woman's head and shoulders, front view, and inclosed in a circle, with a background consisting of a scroll and the words "Mother's" and "Remedy" disposed on either side of the head.

27,093.—Remedy for Alcoholism and Nervous Diseases. Robert L. Van Devanter, Hagerstown, Md. The word "True-Tonic" upon a band, through an opening in which palm leaves extend.

27,094.—Remedies for Internal and External Use. Edwin R. Reynolds, Chicago, Ill. The word "Electrene."

27,095.—Mouth Washes and Dentifrice. The Oakley Soap and Perfumery Co., New York, N. Y. The word "Prophylactine."

27,096.—Ointments, Pills, Plasters and Specifics for all Ailments. Henry Danbney Brandreth, Birkenhead, England. The word "Exaino."

27,097.—Remedy for Corns. Jefferson Davis Goddard, Kansas City, Mo. The word "Bootshoes."

When the people first began to chew pepsin gum they noticed the name "Beeman" on the wrapper. They still look for the same name and are best satisfied when the druggist hands out that kind.

Stearn's Electric Paste is one of the "sure things" when the extermination of rats, cockroaches and other vermin becomes necessary. It is therefore a good seller, and the druggist makes 100 per cent. profit by selling it. All jobbers have it.

If an investment of one cent will disclose an opportunity for making money a great many druggists ought to invest. The Searle & Hereth Co., of Chicago, make an announcement to that effect, and a postal card sent to them will bring full information.

Truslow & Co., 2 and 4 Platt Street, New York, make a special quality cork, which they call their "Prescription brand." It is just the kind which the druggist should turn out with his best prescription work. Samples sent if you wish to examine them.

Much of the bother and expense of keeping walls and ceilings in an attractive condition can be obviated by using the patent metal panels made by A. Northrop & Co., Pittsburg, Pa. They can be put on over old ceilings, are fireproof and cannot fall down. If interested in repairs of this kind send stamp for catalogue of designs.

The catalogue of Eli Lilly & Co., of Indianapolis, should be right in front of the druggist when he writes his orders for pharmaceuticals. There is a 40 per cent. discount on the prices quoted therein instead of the usual 25 per cent., and the goods can be ordered through the regular jobbing trade.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

Anderson's Sifter and Mixer will soon save its cost to the druggist who manufactures baking, Seidlitz, tooth or horse powders. It is made entirely of metal, has changeable sieves and does not retain odors. Descriptive circular will be furnished upon application to the Anderson Cycle and Mfg. Co., Detroit, Mich.

Somatose, the tasteless and odorless extract of meat made by the Farbenfabriken vorm., Friedr. Bayer & Co., Elberfeld, Germany, is to be presented in a new form, that of a biscuit containing 10 per cent. somatose, by the American Biscuit & Mfg. Co. In this new form an agreeable, appetizing and nourishing food for invalids and feeble persons will be furnished.

The delicacy and evanescence of violet odors has heretofore stood in the way of the perfumer in giving a satisfactory perfume, but this has of course stimulated effort, and in Vennard's New Roman Violet a great improvement in permanency is noted. This new perfume is guaranteed to be just as satisfactory as the imported odor, and is much cheaper in price.

The one advantage in purchasing a sample line of suspensory bandages of Flavell's, 1005 Spring Garden Street, Philadelphia, is that the money is cheerfully refunded if the goods are not satisfactory. But in all their sales they have never been called upon to make the exchange. Six bandages are sent upon receipt of $1.10 or satisfactory reference.

The matter of buying pill boxes is one which comes up quite frequently, and while the druggist does not like to sacrifice quality, he wishes to purchase as cheaply as possible. In such instances the quotations of the E. N. Rowell Co., Batavia, N. Y., should be remembered. The quality of their sizes, 20, 24 and 28 bronze pill boxes is standard, and the price for all three sizes is 45 cents per gross.

The C. C. White Toilet Paper Co., 164 Duane Street, New York, import large quantities of Japanese napkins, the original packages of which contain one thousand, with from one to four patterns. The prices on these range from $3 to $10. They also supply reassorted packages comprising thirty or more patterns. As these napkins form a paying side line for the druggist, correspondence from the trade is solicited.

Fosgate's Anodyne Cordial will after Sept. 3 be sold on the rebate plan. This well-known remedy, now in its ninety-fifth year, makes friends wherever known. It is an old reliable family medicine, speaking for itself. Retail trade, by obtaining supply of reliable wholesalers only, will avoid counterfeiters. Retail price, 35 cents; three bottles for $1. WILLIAM FOSGATE, Jr., sole proprietor and manufacturer, Auburn, N. Y.

John Phillips & Co., Detroit, have recently fitted up the store of R. M. Renshaw, Butte City, Mont., with several of their style No. 68 "Silent Salesman" showcases.

Jayne's Medical Almanac is a widely read publication, and people who now consult it regarding certain inevitable changes in the weather will be reading of Jayne's Expectorant. The druggist who has it in stock will next receive their attention.

In store fixtures the original raw material is about the same for the ordinary as for the fine, but the extra touches from skilled hands give attractiveness and value. The Cassell-Garside Mfg. Co., Peoria, Ill., put on these extra touches, and their estimates for such work show that the expense need deter no druggist from having something extra. They will be glad to submit figures whenever a new store is to be furnished or an old one remodeled.

There is not much of a chance to make money by selling a good whisky at a higher price than one's competitors are willing to sell for, but there is an opportunity for profit in buying cheaper and selling at regular prices. Such an advantage is offered by J. T. S. Brown & Sons, Louisville, Ky., on their "Old Prentice" brand. They sell direct to the retailer and let the latter have the jobbing profit. Write for their samples and prices, and see if this latter statement is not exact.

Neutral Sulphite of Lime is one of the best preservatives for cider, and Billings, Clapp & Co., of Boston, put it up expressly for that purpose. This is the only season of the year when it is wanted, and it should be pushed by druggists in cider-making districts. If wanted immediately, send $1.17 to the above firm, and a dozen packages will be sent postpaid. Each package contains enough for one barrel, and by retailing at 25 cents the druggist realizes $1.83 on the transaction.

True salicylic acid in crystals and salicylate sodium, true, both from the wintergreen oil, were introduced, and are prepared, by the William S. Merrell Chemical Co., of Cincinnati. They mark a distinctive step in the introduction of high class preparations for physicians' use. Offered and sold as they have been, in competition with the commercial qualities at very much lower prices, their increasing sale is a striking tribute to the intelligence and percepton of the medical profession.

So much of the ordinary printing now turned out goes with but briefest interruption to the waste basket, that many advertisers are awakening to the fact that it pays best to send out printed matter whose artistic appearance will save it from such a fate. The Lotus Press, 140 West Twenty-third Street, New York, has done and is doing a great deal of work for the converts to this idea, and they are looking for more. They take pride in showing prospective customers how nicely they can do such work.

The lowest prices upon toilet papers attract the general public, and the same should have some interest for the druggist. The Morgan Envelope Co., Springfield, Mass., claim to quote such prices, and they wish to place their catalogue at the druggist's elbow for use when he makes out an order for toilet paper.

John F. Betz & Son, Limited, of Philadelphia, have a reputation as brewers which they are careful to sustain when it comes to making a malt extract for the drug trade. Forty years' experience has made them masters in the business of handling malt, and their success has enabled them to build up a plant with which they can manufacture at the lowest possible cost. Their prices on Goldbeck's Malt Extract will interest the drug trade.

One of the best ways to become familiar with metric weights is by using the weights. Many do not like the idea of discarding the old system suddenly, for fear of confusion or a lapse of memory at some critical moment. The triple beam on the Springer Torsion Balance gets around this difficulty quite nicely. The beam is graduated in metric, troy and avoirdupois weights, and the user finds that he soon becomes familiar, not only with the new system, but with the equivalents in the other systems. Pamphlets describing the triple beam will be sent upon application.

Fletcher's Bottled Cocktails, made by the Fletcher Cocktail Co., 421 Broad Street, Newark, N. J., are recommended by leading physicians and druggists on account of their positive tonic and appetizing properties and their effect as a gently stimulating and refreshing beverage. They are compounded with the most scrupulous care from the choicest liquors and cordials with the accuracy of a physician's prescription, and are therefore always uniform in quality and flavor. In order to more thoroughly introduce them the company will until further notice send one dozen sample bottles with first order for one case. The following varieties will be assorted as desired: Martini, Whiskey, Manhattan, Gin, Vermouth and Congressional. See advertisement for prices.

The Detroit Free Press of Sept. 10, in referring to the branch of J. W. Tufts in that city, says: "Since the Detroit branch was established in 1889 it has met with such success that out of 235 fountains in the city all except fifteen are of the Tufts make, and among the fine apparatus installed by this house are included those of Brown & Co., Scott & Co., and other leading druggists, the two mentioned being fine Mexican onyx fountains. Murray's confectionery and Kuhn's, while the Detroit Pharmaceutical Co. have large and elaborate fountains of Tufts' make. They are also large manufacturers of fine silver plated ware, turning out some of the handsomest water sets, individual coffee sets, smokers' sets, brushes butter dishes, etc. Mr. O. J. Price, the manager, has been with the house for nineteen years and gives able attention to its business in this city and section."

Wing's perfumes have an enviable reputation the year round, but this becomes more apparent along about the holidays, and each year has seen an increase in that attractiveness of appearance which gains favor with the gift-giving shopper of that season. The advance in this respect for this year is quite marked—new and stylish boxes, single and couplets and new bottles, cut and decorated have been provided, and the manufacturers, F. F. Ingram & Co., Detroit, Mich., would like your request for their perfume list, or for their traveler to call with samples.

A New Pill and Tablet Coating.

The P. J. Noyes Mfg. Co., Lancaster, N. H., have lately received letters patent upon an improved coating for pills and tablets which is quite sure to attract the favorable attention of the medical and pharmacentical professions. The new coating is effervescent, thus securing a rapid solubility after the pill or tablet reaches the stomach. As a coating for tablets it has many advantages in preserving from oxidation, evaporation, etc. A very complete price list of the most frequently used tablets has been issued by the company and circulars describing the new process more fully will be sent upon application.

Tanglefoot.

A Lacon (Ill.) paper says: "One day last week a Toluca druggist hung up a placard which read, 'Tanglefoot for sale.' An old farmer from Evans township, who, strange to say, hasn't drank anything stronger than cornmeal coffee for several years, came up street. The placard caught his eye and he spelled it out. He took his spectacles out of his pocket, carefully wiped them and put them on and read it again. He threw out his cud, entered the store and said he'd take 10 cents' worth of that tanglefoot just to remind him of old times. The accommodating clerk led him mysteriously to the back room and gave him a sheet of sticky fly paper."

An Emergency Hospital.

At the New York State Fair held at Syracuse Aug. 26 to 31, the Clinton Pharmaceutical Co. established an emergency hospital for free treatment, at which fully 500 people per day received medical attention. The Syracuse Post of Aug. 31, speaking of the hospital, said: "A number of prominent Syracuse physicians yesterday visited the State Fair for the express purpose of inspecting the emergency hospital provided by the generosity of the Clinton Pharmaceutical Co., and by the trained nurses from the House of the Good Shepherd. They expressed themselves as being very much pleased with the hospital and considered it one of the most interesting features of the fair. A complete assortment of high grade remedies, suitable for hospital service and provided by the Clinton Co. from its extensive laboratories located in West Water Street, this city, and donated by them for the use of the hospital, reflect much credit upon the firm and their enterprise in this humanitarian relief."

Earning Power of Fine Fixtures.

People often deceive themselves regarding value. There is an old saying that a thing is worth what it will fetch. That depends. The purpose it is designed to serve has much to do with the case in hand. A pair of slippers are very happily fitted for certain uses, but almost worthless where a heavy boot is demanded. This is readily apparent to every one, equally so not to expect the dress coat to take the place of the ulster, or vice versa. There are many things just as incongruous which to the uninitiated are more difficult of discernment than the ones quoted and lead to the deception regarding values already mentioned. No matter what the intrinsic value of an article may be, if it fails to serve the purpose for which it has been designed or purchased it can hardly be considered at its face value—in fact, may prove a hindrance; a sort of white elephant, too valuable to kill and too expensive to keep. I know of nothing to which this more fitly applies than to store fixtures. Formerly a store was fitted for its various conveniences to serve the wants and purposes of a chemist. To-day it must answer the requirements of a merchant and a modern merchant who must cater to the exactions of a public a hundred times more critical than formerly. The whole thing reduces itself largely to one of taste; an ability to so fit and arrange your store as to call forth the admiration of the public. Here, again, the merchant often deceives himself by measuring the capacity of his customers for tasteful discrimination by the length of their purses. Wealth conduces to taste by education, but fortunately in this country the educated constitute the larger body of our citizens, and wealth does not affect the natural instinct for the beautiful possessed by thousands of our countrymen, who are unable to gratify their tastes in decorating their own homes. There is, however, a wide difference between capacity to appreciate and to create. An eminent critic has said that of all buildings erected only about 10 per cent. are good, the rest ranking from indifferent to very bad, while of the architects designing them probably not one in an hundred but could appreciate the good however incapable of producing it. Perhaps, also, this illustrates as forcibly as anything I could say the difficulties surrounding the druggist, who, through the ordinary channels, is trying to obtain the most desirable interior for his store. Probably in as many as nine cases out of ten he himself has little conception of his own needs and requirements outside of the conveniences connected with the business, and of even these not a very complete knowledge. With the advent of the professional store fitter a higher result has been possible, the most important connected with the business. The object in view, at least in my own case, is to so construct your store as to lay the very foundation for your business success; a meet and fitting base upon which to rear the structure of your financial enterprise. Allow me once more to impress you with the importance of this step, upon which may hinge the whole problem of your success or failure. If you were seeking a situation upon which your prospects for life depended and you knew the person to whom you were about to apply was extremely critical and fastidious in certain particulars—demanded neatness of attire, a given style of deportment and an air of probity and uprightness—would you not try to impress him in your favor on these points? That is your public—constantly changing, perhaps, but always demanding as much as the most rigid employer would exact. Whoever, therefore, undertakes the fitting of drug stores with a view to reaching the highest possible success for his customer must have more than an ability to do good woodwork. He must be a close student of human nature and possess an artistic instinct that will enable him to successfully cater under varying circumstances to its tastes, whims and caprices. Until he possesses the capacity to treat the whole subject in a masterful manner, be able to see it from every point of view, judging carefully from the situation and surroundings the problem of success which every customer is trying to solve, he is not an expert store fitter; he is merely a woodworker, and the druggist must rely upon his own limited experience to help him in this most critical period of his business career. Who goes a-fishing for pleasure may use a hand line and deem himself well paid in healthful recreation for labor expended, but he who goes for business uses the most approved appliances of trawls and nets, economizing in time and labor to the greatest possible extent. I cannot think that you go into the drug business for either physical or mental exercise, and if you place upon yourself a handicap in the race at its start, it is because you are not conscious of so doing. Do I exaggerate the existing requirements of the case? I think not. I simply try to emphasize a fact. A report has just come from one of my customers which I will give, not because it is remarkable or the best illustration I could present, but because, as the newspapers say, "it reaches me just as we are going to press." In December, 1877, I refitted a customer whose trade at that time averaged $17 per day. The town then contained 7,500 inhabitants; to-day it consists of about 8,000. Then there were four stores in town, and to-day there are seven. His sales for the past three years have averaged $50 per day; increased expenses in interest on store fixtures, clerk hire, etc., $3.30 per day; net increase of profits, say $8; for 365 days, $2,920. This does not fully represent the gain on account of increased competition, although the prestige of his elegant store has in his case reduced it to a minimum. Don't let some one he so kind as to save you $500 on a set of fixtures and sacrifice two or three thousand a year in income. You cannot afford to hazard so grave an interest to every one who applies. Don't be misled; here earning capacity and not cost decides the value.

C. H. BANGS.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Angostura Tonka Beans, Buchu Leaves, Caffeine, Colocynth Apples, Golden Seal Root, Sugar of Milk.
Declined Oil Peppermint.

New York, Oct. 1, 1895.

A few of the commercial branches have experienced a falling off in the volume of business during the period under review, but in the drug department there has been no cessation of demand from consumers, and we are able to chronicle a continued active market, with the same feeling of buoyancy which has stimulated the movement into channels of consumption since the opening of the autumn campaign. Fluctuations in values have been less frequent and most of the new developments of the current week are of no special significance; but dealers are considerably encouraged by the fact that there has been no recession from the higher figures recently established for a large number of articles, and the undertone indicates that a further upward movement of prices is confidently expected. There is nothing of a depressing character in the general outlook, and the trade at large seems to have settled down to a steady, legitimate and healthy condition of affairs. Speculative operations have been confined to a few crude drugs and are without unfavorable influence; in fact, they are so unimportant that the probable outcome is considered hardly worthy of discussion. Continued firmness is noted in all the tartar preparations, and the strong upward tendency is evidenced by the limited offerings of manufacturers, who decline to book orders for future delivery. Camphor also continues firm at the abnormally high prices recently recorded, but the active consuming season having passed, the demand is rather slow. Manufacturers of medicinal chemicals report increasing activity in the movement of their products, and the consumption of quinine shows no abatement. Remedies for diseases incident to autumn and winter months are moving more freely and add materially to the general improvement in business. There is nothing new in the condition of financial affairs.

OPIUM.—No quotable change has occurred in this article, but it is easier to buy at the current quotation than it was a week ago, and the better feeling then existing seems to be largely dissipated. The demand has fallen off and the decreased movement wholly of a jobbing character, with the opinion again prevailing among consumers that future prices are likely to favor buyers. The views of dealers, however, are conflicting, some believing the efforts of speculators to control the primary markets will be successful, while others predict that the withholding of orders by American buyers would result in a collapse. The speculative feeling in Smyrna and

Constantinople continues strong and rumor has it that Col. North, the so-called "Nitrate King," is the financial backer of the syndicate. On the other hand, it is claimed that manufacturers of opium products are abundantly supplied, and their holdings, together with the stock held by the larger dealers, would meet all requirements for a whole year.

MORPHINE—Continues steady at unchanged prices, with the movement into consuming channels of full average proportions.

QUININE—Is meeting with an active inquiry from the consuming trade, and a liberal volume of business is reported at former prices, which are maintained with considerable firmness. The demand is from all sections, but consumption continues greater in the South and Southwest. The position of the article is decidedly strong, the situation being entirely controlled by first hands, but there does not seem to be any disposition on the part of manufacturers to advance prices, and all seem willing to meet legitimate requirements, to the full extent of the usual sixty days' limit, on the basis of present quotations.

ALCOHOL. — The market for grain has undergone no further change, and the causes which have influenced the unsettled and irregular conditions noted for a long time past are yet very much in evidence.

ACIDS.—Quotations for all varieties are practically on the same basis as noted last week, and nothing new has developed calling for special mention. Tartaric continues very firm, with manufacturers offering limited quantities only, and higher prices are anticipated. Oxalic is moving steadily at the values fixed by the combination abroad, and the same range is expected to prevail during the coming year. Salicylic is unchanged and barely steady.

ANTITOXINE. — The prevalence of diphtheria in many localities has created a brisk demand for this article, but manufacturers and their agents seem to be abundantly supplied to meet all requirements.

BALSAMS.—Prices of all varieties are unchanged. A fairly active jobbing business is reported in Central America copaiba. Tolu is held firmly at the recent advance, with exporters willing to buy at a shade less. Peru is quiet and Canada fir in moderate request, with stocks accumulating.

BEANS.—Angostura tonka continue to harden owing to increasing scarcity, and values are 5 cents per lb higher. The better grades of crystallized Surinam show a similar advance. Mexican vanilla continues to sell freely in small parcels at former prices.

CAFFEINE. — Spot stocks are very much reduced, and the market is firmer, with prices about 50 cents per lb higher.

CREAM TARTAR—Continues to rule strong in sympathy with the crude material, and manufacturers still decline to make contracts for future deliveries.

COD LIVER OIL—Has been arriving quite freely during the past week, but all comes to regular importers, and the market is not unfavorably influenced. The consuming demand continues active, and the indications are that a shortage will occur before the end of the season.

COLOCYNTH APPLES. — The extreme price of 60 cents for prime Trieste, which was predicted some time ago, has been reached, and sales are reported of case lots at that figure. Increasing scarcity both here and abroad is likely to result in still higher prices.

BUCHU LEAVES.—Short have again been advanced 1@2 cents per lb, according to quality, and the stock of dealers is said to be very light.

ESSENTIAL OILS.—The only change of consequence is in peppermint, which is about 5 cents per lb lower in sympathy with a corresponding decline in the Western primary markets. Lemon, orange and bergamot are all ruling firm, with an upward tendency.

CAMPHOR. — The market is rather quiet, with little doing beyond a moderate jobbing trade in Japanese, but holders relax none of their firmness, and the tenor of foreign advices continues strong.

GUM TRAGACANTH.—Aleppo varieties are cabled higher in primary markets, and there is an improved demand here, but former quotations are yet current.

SENNA.—An active demand is reported for both Tinnevelly and Alexandria, with the latter firmer owing to reports from abroad of a short crop.

GOLDEN SEAL ROOT—Is slightly firmer and about ½ cent per lb higher than last week.

SUGAR OF MILK—Is very scarce on the spot, and those able to deliver are asking an advance of 1 cent per lb. Large shipments from the principal makers are expected this week, when, it is presumed, the market will again be in its normal condition.

London Market Report.

London, Sept. 21, 1895.

A fairly active week, with an improvement in values in many cases. American agents especially active on rhubarb, benzoin, buchu leaves (round), gamboge, camphor, crude glycerin and Tinnevelly senna.

ACID CITRIC — Is advancing, but more in sympathy with tartaric than upon its own merits. Closing prices, 1s. 2¼d. to 1s. 2½d. per lb.

ACID TARTARIC.—A very firm market, closing dearer at 1s. 2½d. per lb. This price has been refused by makers for forward delivery and higher prices are looked for.

ALOES.—Cape slightly easier at 24s. for good hard bright. Curacao, good quality wanted. Socotrine, a small business doing privately at steady rates. Soft in tins neglected.

AMBERGRIS—Offered freely at our auctions, but in the usual small lots; fair gray with good flavor sold at 70s. per oz.

ASAFOETIDA. — Only a few cases sold at 37s. 6d. to 40s. per cwt. for heavy and mixed block part pinky.

BENZOIN.—Privately a good business has been done for America in Sumatra qualities. Good almondy £8 15s., down to £6 5s. for fair marbled but rather false packed.

BUCHU LEAVES.—4½d. per lb paid for fair green round, being an advance of ¾ to 1d. per lb on the fortnight. Higher rates are expected.

CAFFEINE. — Quiet; spot, 21s. 6d.; October and November, 20s.; December, 18s. per lb.

CAMPHOR.—A quiet week. Japanese refined offered at 2s. per lb. It seems pretty certain that prices will be maintained for at least the next six months.

CARDAMOMS.—Fine bold pale Mysores sold at 3s. 3d.; good ditto, 2s. 6d. to 2s. 9d.; medium, 1s. 11d. to 2s. 3d. per lb. Decorticated dearer, at 2s. 1d per lb.

CINCHONA BARK.—At our monthly sales on Sept. 17 the offerings were again small, being only 1,100 packages, the bulk of which sold at steady prices.

COD LIVER OIL. — Norwegian is dearer at 170s. per bbl. for best brands.

CREAM OF TARTAR — Continues very active, and closes dearer at 95s. for crystals.

ERGOT OF RYE.—New Russian offers at 6½d. per lb c. i. f. terms, while new Spanish is held for 9d. per lb spot.

GAMBOGE.—Dearer, at £10 15s. for good picked.

GLYCERIN.—Dearer, 54s. to 55s. per cwt. being asked for double distilled s. g. 1.260 from first hands, but from second hands lots can still be had at 2s. to 3s. less. The position of the crude is such that decidedly higher prices may be predicted.

IPECACUANHA.—Firmness of holders prevents business; a few lots sold at 5s. to 5s. 3d per lb for thin wiry; native picked, 6s. per lb.

JALAP.—Held for 10½d. per lb for good sound.

MENTHOL.—Firmer; 13s. per lb spot; 13s. 6d. per lb c. i. f., September and October shipment.

MESSINA ESSENCES—Are all very firm and higher prices anticipated.

OPIUM—Continues firm, but many believe we shall see lower prices later on. Much depends upon American buyers.

ORRIS ROOT.—The heavy buying of new crop having subsided, prices are slightly easier from some quarters.

QUININE.—Rather more doing at 1s. 1¼d. per oz. The new departure in the form of a shipment to this market from your side is much commented on.

RHUBARB — Has been in good demand privately for America. At the auctions, however, the article was quiet and prices in many cases lower.

SCAMMONY.—A new lot of Virgin firsts just in, and part sold at 31s. per lb.

SENNA.—Tinnevelly was in good supply, nearly 500 bales being offered. Demand was very active and the whole sold at steady rates. Quality was rather better than at previous sale.

TONKA BEANS — Are in good demand. Good frosted Paras are held for 2s. 4d. to 2s. 6d. per lb.

VANILLA. — Fine beans 2s. per lb dearer.

THE PHARMACEUTICAL ERA.

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GROUP PORTRAIT.

A. PH. A. OFFICERS.

We have just issued, and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the present.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address, The Pharmaceutical Era, New York.

WHERE IS THAT PRICE LIST?

Our illustration will appeal to every druggist as a faithful representation of an aggravating difficulty which he too often encounters. He wants to know something about certain goods which customers want, and he knows he has a price list *somewhere*. But his friends, the manufacturers and dealers, have deluged him with a shower of catalogues, lists, etc., no two alike, which can only be filed for future reference in a "heap," and heaps are not handy to look through when anything is wanted in a hurry.

The druggist has done a good deal of thinking upon this mixed-up method of furnishing him information, and, at times, as indicated in the picture, his thinking is of a vivid character, emphasized by certain remarks which he doesn't use when waiting on customers. We have also done some thinking upon the subject, and we offer the present issue, our "Price List Edition," as evidence. It is a result in which the leading firms of the country catering to the wants of the drug trade have co-operated most willingly and enthusiastically. It is a "Print Exposition," in which all lines of drug-store goods have entered, and prepared displays for the mutual benefit of the trade. We are somewhat proud of the showing. The drawer, pigeon-hole and other price-list receptacles can now have a rest, and the druggist who wants information, prices, etc., upon any article which his fall and winter trade demands, will have to think but one moment, and say to himself: "I will look in the 'Price List Edition' of the Pharmaceutical Era."

There remains one question, however, which the druggist must answer. Do you approve of this plan of issuing such "price list editions" at stated intervals during the year, and do you want it carried out? Manufacturers have expressed their approval and indorsement of it, and we want every reader to let us know what he thinks of it. It is a plan which will be greatly to your convenience and benefit, as a moment's thought will convince you. Kindly drop us a line, stating frankly your opinion. Upon the results of this canvass will rest our decision.

FOR BUSINESS DRUGGISTS.

In this issue the practical business druggist ought to be able to find lots of good things of value to him. In fact, he will find every page, from front cover to back cover, of exceptional interest. We might offer a menu for this rich feast, but it would mean practically the reproduction of the number, for every page presents an entree succulent and appetizing, or a dessert or cordial fitly topping off the banquet, producing that contented and comfortable condition of mind always attending the well-fed. The best we can do is to call attention to a few of the more noticeable and important features. In the first place, the advertisements, price lists and handsome inserts, the reason for and cause of this special edition will attract the merchant druggist, who will find much to his liking, price quotations, notice of novelties, new goods and standard lines, where his financial interests lie. In the reading pages, the interests of the druggist as a business man have been kept in view in the preparation of an exceptionally good and large amount of practical matter. There is some advice on advertising, and a few of his brother druggists relate their experience and the rewards that have come to them from following business methods in the conduct of their business. The student, too, will find that he is remembered, for there is another instalment of the botany paper, and some interesting tabular and compiled information relating to colleges and schools of pharmacy and their courses of instruction. "All work and no play" is particularly apropos when applied to the druggist, and accordingly we give him a little fiction, which he can read when he has digested the more solid and important portion of the text. Without particularizing further, we leave it to the reader to detect the good points of this number, being confident that he cannot fail to do so.

WHICH IS THE HANDSOMEST ADVERTISEMENT?

We want every recipient of a copy of this issue of the Era to tells us which he considers the

Handsomest Advertisement

in the number. To stimulate our advertisers to their best endeavors on this occasion, we have told them we shall ask our readers to decide this question by vote, and, accordingly, you are asked to kindly fill out the blank voting slip sent you, and return it to us. The fine appearance of the advertising pages merits this degree of attention, does it not?

COLLEGES OF PHARMACY AND THEIR REQUIREMENTS.

An attempt has been made in this number to present in tabular form, for easy comparison and reference, the requirements of the various schools and colleges of pharmacy in the United States. The result is not altogether satisfactory, tabulation being possible with only the smaller proportion of the total number of institutions, exceptions being by far the most numerous. One thing will be plain, however, to the reader, and it has been made extremely obvious to us, that the requirements of these teaching institutions vary very greatly and within widely separated extremes. The student who desires to select a college to which he may go for his pharmaceutical education, will obviously have a quite difficult task. He will notice too, that a degree obtained from one institution means, in amount of labor, etc., much more or much less than the same degree if obtained from another We have attempted a statement of the actual number of hours of obligatory attendance required of the student upon various branches of instruction given by the colleges and schools. But in a number of instances this statement is purely an estimate rather than definitely warranted; for example: from neither college catalogues, members of the faculties, or from other sources have we been able to obtain a definite, straightforward statement of the obligatory attendance required. We say colleges of pharmacy are remiss in this respect, for the university departments or schools of pharmacy are, as a rule, explicit in the statement of their requirements, and it is easy to calculate the total amount of work necessary for the student to complete to obtain his degree. Further, some of the college announcements outline their courses of instruction extending over a certain number of hours, but neglect to state that attendance by the student is required, this being left to his option. The instruction is there, lectures are given, the laboratories are open, and the student can come and take all these if he desires, but he is not compelled to. In this particular, many, even the majority of the colleges of pharmacy are very remiss. Though the tabulation is therefore necessarily incomplete and defective, enough is given, supplemented by explanatory notes, to allow one to form a pretty fair estimate of the relative advantages offered by the schools and colleges Interesting figures relative to hours of attendance, courses of study presented, number of students, graduates, etc., are offered, and something too upon the subject of preliminary examination.

The moral, or conclusion, which may be drawn from all this is that pharmaceutical education is in a rather chaotic state just at present, and a necessity for uniformity of requirement is very apparent. Everything considered, the university departments make a very creditable showing indeed, as compared with the teaching colleges of pharmacy, and it is toward the standards of the former that the latter seem to be slowly, but earnestly and surely working. We commend this presentation of facts as we find them to the consideration of all interested in pharmaceutical education in the United States.

A NEW CLASS OF SALESMAN.

The increase of amount in advertising, the increase in its quality, and the expense which increased attention to it has demanded during the last few years are matters which appeal to both the practical person and the theorist when the question of payment or return for this extraordinary development is considered. The alarming possibility that all this increased expense is simply a penalty exacted through growing competition to obtain a certain amount of business which formerly came with less effort is suspected by many. In comparing the "good old times" with the present they find that prices received for goods show a shrinkage, that volume of trade, while showing an increase, is yet restricted by the increased number of people engaged in business, which in the absence, or in spite, of statistics is claimed to be in excess of the legitimate demand coming from growth in population. They also find that taxes, rent and real estate values have increased, salaries are larger for clerks and salesmen, newspapers charge more for advertising space on account of increased circulation, and lately there has arisen a demand enforceable through its inherent strength that the salary of that peer of salesmen—the advertisement—shall be increased. The artist and the writer by showing what they can do in the way of drawing trade with brush and pen have made their services almost a necessity. It is hard to explain this paradox of conditions—the reductions in cost and prices and the increased expense of doing business.

This new item of expense will therefore be regarded with disfavor until its profitableness is thoroughly established. There has always been more or less competition to secure the services of good salesmen, although the market is apparently full of those offering such alleged qualification, and present indications point to a similar state of affairs when the effective advertisement is to be written and paid for. Instead of regarding this new business or profession of making effective advertising as a sort of "hold up," which simply levies a toll upon the returns of the dealer, or by making a display of talent in favor of one tradesman compels all competitors to unwillingly adopt the same methods, there is good reason to place it upon the basis of the other salesmen behind the counter or upon the road. There are many able individuals engaged in trade who are eminently successful in planning, management and attention to various essential details, but who are admitted failures as salesmen, and there are able salesmen who are admitted failures in any other branch of a business. It is quite obvious, therefore, that some men must be better "advertising salesmen" than others. There are quite a number actively engaged in proving this, and their success indicates that they have made a position for themselves and mean to fill it.

It is quite generally understood that a salesman must pay for himself, that is, sell enough goods to render his services valuable, and it is just this point which is now worrying the tradesman when he considers his relation to this new class. He isn't so sure that the direct value of its services can be determined. But the same rules which apply to other salesmen will apply to these new ones. The salesman who can talk most readily and persuasively will sell the most goods. Likewise the writer of advertisements who can write most readily and persuasively will attain the same object. The well-dressed salesman with a pleasing personal appearance will sell more goods than his opposite, and the well-dressed or well-displayed advertisement will do the same. The salesman who can cover the most ground at the least expense is also an advantage. The newspaper or journal which covers the most ground in the way of readers, and makes effective and appreciated visits to these readers is a similar advantage to the advertiser. The gain from an improvement of the literary construction, display, etc., of an advertisement therefore justifies the appearance of this new class of workers.

Much of this work will be done by tradesmen themselves, as advertising competition will sharpen many wits which have heretofore been content with a signboard style in mediums which make no pretensions of being literary. There will also be as many grades of ability in the advertisement-writing profession as there now are in the ranks of the ordinary salesmen, but in the hands of those who make a study of the subject and are devoted to its improvement the horizon of the field will gradually widen. In their hands the advertising of the future will be an education of the people, teaching them and training them to want more things, and to obtain more of both the necessities and luxuries of life. It will not be so much a howl about low prices as it will be an artful and convincing presentation of new things, or old things in new form. New inventions, in addition to being guardedly mentioned and critically analyzed in technical and scientific publications, will receive just as skillful treatment in advertising columns. The avidity with

which a description of any new thing is read will then be just as apparent when it is described in the advertising columns. In the first instance, it is the trained writer who understands the art of telling things; in the second, under present conditions, it is the attempt of the man whose forte is making certain things, not talking or writing about them. In the hands of skilled writers the advertising pages will command almost as much attention as the regular reading pages. In proof of this let any one examine the advertising pages of a popular magazine of to-day and compare them with similar pages published fifteen or twenty years ago and note the advance. Aside from a certain smartness of style, which distinguishes the literary pages of the magazine of to-day, not much difference can be detected between them and those published a decade or two ago. The world had been pretty well explored and described then, and present-day tales of travelers cannot claim the charm of newness. They can only tell us that certain portions of the earth are building up and advancing in the arts, or that the hand of time shows a heavier touch upon other portions. In fiction we are turning with zest to back numbers of romance to quicken our pulses after an enervating period of realism. The essayist has almost perished in the struggle of the soldier, the statesman, the man of money and the society lion to pre-empt the remaining available magazine space. The advertising pages, however, show no such deterioration. They are not so crowded when meritorious writing asks for admission. It is true that the prominent clergyman and the famous actress or brave soldier have not much trouble in getting their testimonials on pills and soap into print, but the advertising writer can squelch these if his exacting taste and critical eye determine that they are intrinsically unworthy to adorn his pages.

While there is room for specialism in this new profession, no cult has yet been established, the ranks are open, and literary exercises may well engage the attention of ambitious tradesmen.

100 YEARS OF AMERICAN COMMERCE.

We commend to our readers a careful perusal of the pages elsewhere in this issue descriptive of a forthcoming work on American Commerce. The history of affairs and material progress comprised in the exhaustive plan of this publication is not only unique, but its inestimable value as an American record is patent. Dr. Chauncey M. Depew, the editor of the book, has been successful in securing as contributors men who have made the history they tell. When Armour talks of packing, Cramp of ships, Morton of banking, Harper of publishing, North of textiles, McKesson of drugs, Bower of chemicals, there should certainly be few but could listen with profit. It ought to be the greatest work ever published on American commerce, and unless all the indications fail it will take its place on the shelves of every library as "The Book of the Century."

PRACTICAL HINTS.

——The path of success in any calling is usually the path of common sense.

——Drawers and tin cans are not, as a rule, suitable receptacles for chemicals. Substances of this character should be kept in glass bottles. Chemicals like Epsom or Glauber salts, sal soda, carbonate of ammonium, and some others likely to be sold in quantities of several pounds, may be kept in stoneware jars provided with suitable tight corks.

——The success of a business man depends measurably on his habits. If he have good business habits, allied to average business abilities, then may he depend on realizing more than average success. Don't be narrow-minded or "one-sided." If you are a druggist you should realize that you have a mission in life, and that your business is the channel by which you fulfil it.

——A good scheme to keep dust out of drawers is to have them made with sliding covers. This is done by cutting grooves along and near the upper edges of the sides of the drawer, in which a cover is made to slide. The act of pushing the drawer into its place causes the cover to slide forward, closing it quite effectively. When it is desired to get into the drawer, it is pulled out and the sliding cover is pushed back by the hand.

——"There is no place for a luskish lobcock in my store," said an east-side druggist. "I believe in hiring competent help and keeping at work myself. I insist that my employees shall be polite, not overbearing, and use all customers alike. In no other way can one elevate and extend his business. To maintain the highest standard of excellence for his preparations the pharmacist should buy only pure drugs and chemicals, and then analyze them to see that they are up to the standard."

——A very convenient and effective remedy for destroying insects attacking crude drugs is bisulphide of carbon. The infested drug should be placed in a tight vessel (after having removed the dust and debris caused by the attacks of the insects), and a quantity of the liquid, sufficient to charge the vessel with vapor, introduced. Any insects in the vessel will be killed. Keep your drugs likely to be attacked by insects in tight cases and make an occasional inspection of them. In this way insects which have been introduced into the case with the drug may be detected before they have had time to do much damage.

Flovilla Drug Co., Flovilla, Ga.—We cannot praise the Era too highly. It is certainly a great journal, and you are doing a good work for the pharmacists of the country. Accept our thanks for the work you are doing for the small druggist in the fight for alcohol rebates.

A. C. Beardslee, Hecla, Ind.—I think so much of the Era that were it to stop publication I would quit business. Cannot get along without it. It is always up to time, and is worth its weight in gold, if the druggist follows half of what it tells him. The ads for retail druggists are worth each week the price of the paper for a year, if they advertise as they should.

Many druggists have found customers for their stores by putting a "Want Ad" in the Era. Two cents a word, lowest charge 50 cents.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

Every druggist knows a lot of people who have money to spend, but who have not, as yet, purchased an article which he thinks they ought to have, viz.: a manicure set. They probably will not buy unless their attention is called to the matter, and we suggest in our sample advertisement that this be done. Such a course will undoubtedly cause many people to notice certain unsightly defects about their hands and they will quite likely do something about it. If an advertisement of this kind of goods is responsible for one sale to the gentler sex, it can be credited with many more, through that peculiar force of example which identifies itself with the attainment and possession of certain articles of a quasi-luxurious character. For the benefit of those druggists who see a possible source of profit in this line, we present on another page a few formulas for nail polishes, etc.

(No. 34.)

THEY are not mates—one has been manicured, and the other has not. Your choice—everybody's choice—is inclined toward the neat shapely hand with well trimmed, polished nails. It is easy to have beautiful hands if you use our Nail Polish (15 cents); our Hand Lotion for whitening and softening the skin (15 cents); and our Files and Polishers (25 cents each).

Complete manicure sets in handsome cases $.....

KNIGHT & DAY, DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

IS O. K.

Dr. J. M. Yandell, Atkins, Ark.—The Era is O. K.

J. M. Farnsworth & Co., Chicago, Ill.—The Era is all right.

W. E. Mattern, Chicago, Ill.—Cannot possibly do business without the Era.

L. E. Dvorak, Wilber, Neb.—The Era is the best journal out—too precious to lose.

W. H. Tope, New Philadelphia, O.—The Era is of so much value to me that it must follow me wherever I go.

Erastus E. Lake, Shamokin, Pa.—I have been a subscriber to the Era for several years and cannot get along without it.

J. L. Suddarth, M. D., Washington, D. C.—I consider the newer remedies of as much value to the physician as to the pharmacist.

E. O. Thomas, Ph. G., Columbia, S. C.—Am very much pleased at the snap and constant improvement of the Era. It is in touch with the business as well as the professional side of pharmacy.

J. F. Hancock, Baltimore, Md.—I embrace the opportunity to congratulate you on the especial excellence of your journal, the Pharmaceutical Era, this year. Every progressive pharmacist should have it preserved in bound volume.

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[Continued from page 427, October 3.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXIV. BOTANY.

[*Continued.*]

By Henry H. Rusby, M. D.
Professor of Botany, Physiology and Materia Medica, New York College of Pharmacy.

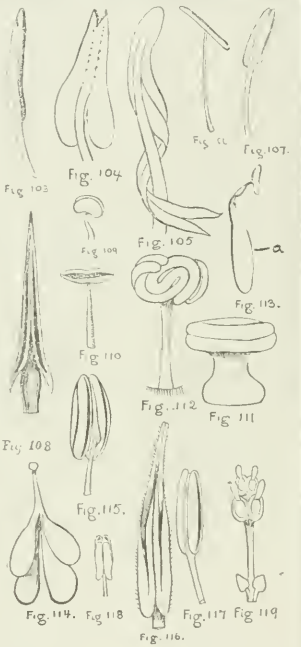
THE ANDROECIUM.

It has already been shown, in considering the general nature of the flower, that the androecium typically consists of two stamen-circles, the stamens of each isomerous with the parts of the other circles, one standing in front of each petal and sepal, that each stamen is entirely free and distinct, and of characteristic form and structure (Figs. 13 and 14). We have also pointed out some of the forms of deviation due to duplication, suppression, adhesion and metamorphosis. To these the following general remarks may be added:—When an anther, still present, has lost its function, it is called a Sterile or Imperfect Anther. When the anther has become suppressed, but the filament remains, the latter is called a Sterile Filament. One or more complete circles of sterile filaments, changed or not by metamorphosis, may be mistaken for a crown or a disk (Fig. 36). Adhesion of the stamens to the corolla, or even to the ovary, may include only one circle, the other circle being entirely free, or they may be adnate to different degrees (Fig. 28a).

Before discussing other and specific points of variation we shall consider the typical organ more in detail. The number of stamens in the androecium is indicated by joining the appropriate numeral to the suffix "androus," thus, Monandrous, Diandrous, Triandrous, Tetrandrous, Pentandrous, &c. These terms do not necessarily indicate the numerical plan of the flower. When the number is 20 or more, the term Polyandrous or Indefinite is commonly employed.

In color the filament is commonly white or whitish, and the anther yellow, but this is not an absolute rule, as the latter is often blue, brown, black or otherwise colored.

There are several distinct forms of attachment of the anther to its filament

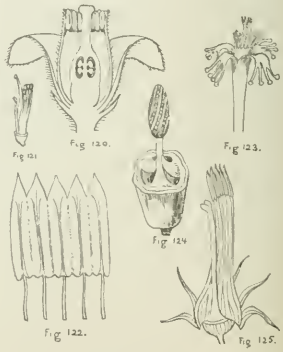


which are characteristic of larger or smaller groups. Its origin from the leaf assumes the curving forward and inward of the margins of the blade to become attached to the face of the midrib, producing two thecae, and the production of a secondary or "false" partition separating each theca longitudinally into two locelli. This implies a four-locellate condition of all anthers (Fig. 119). Only rarely is this condition permanent. Ordinarily the false septa more or less completely disappear after the formation of the pollen, leaving the mature anther two-celled, or the condition is brought about in other ways. It is furthermore assumed that the filament is normally continuous along the back of the anther in the relation of the midrib of the formative leaf. This form of attachment is called Adnate (Fig. 103).

It may be attached only at some point upon the back (Dorsifixed). Of this there are two forms. In one (Fig. 104) the anther is rigidly fixed, its lower portion close to and parallel with the upper portion of the filament, the Incumbent form. In the other it moves freely upon the pivotal point of attachment (Fig. 106), the Versatile form. Rarely the anther is wrapped or twisted about its filament (Fig. 105).

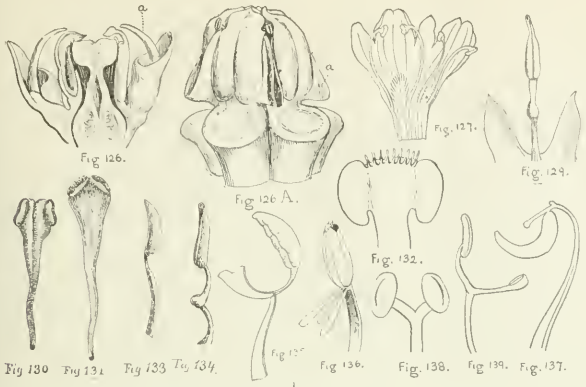
The continuation of the filament, instead of being along the back, may be centrally up through the base and between the thecae (Fig. 107), the Innate form. The lower portions of the thecae may be separated from one another and from the connective (Fig. 108), the Sagittate form. The sagittate condition is sometimes extreme, the anthers becoming more or less reniform (Fig. 109) or semi-circular, or they may even become horizontal (Fig. 110). This is to be distinguished from the form which is horizontal by versatility (Fig. 106), by the presence in the latter of the two cells side by side, in the former, end to end. Rarely the adnate form will possess the connective upon the inner side (next the pistil), when it is Extrorse by Attachment, in the normal form being Introrse.

Besides these variations in the relation of the two parts, each is in itself subject to certain modifications. Some of them will be discussed in connection with appendages and exaggerated growth. The general form of the filament is subject to much variation which, being characteristic in a given species or genus, requires specification. When cylindrical, either of uniform thickness throughout or regularly tapering, it is Terete. When considerably thickened toward and at the summit, so as to be club-shaped, it is called Clavate.

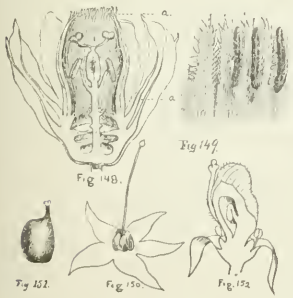


When flattened it is Complanate. Laterally Complanate is so flattened that the edges point toward and from the gynae-

cium, the broad sides to right and left. Dorsally complanate has the edges pointing to right and left, the broad sides facing toward and from the gynaecium. A dorsally complanate filament may have a sharp ridge or keel running along its back, when it is called Carinate or Keeled. If the ridge is less sharp and prominent it is Costate or Ribbed. It may upon the other hand bear a groove, when it is called Channelled. Rarely a filament is Triangulate in cross-section or otherwise prismatic. When tapering from a broad base to a rather acute apex, it is Subulate or awl-shaped. When very slender or thread-shaped, it is Filiform. When even more slender, hair-like, it is Capillary.

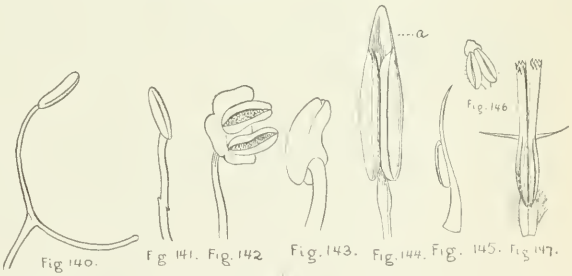


The principal forms of anther are oblong, oval, globular, reniform, quadrangular or linear, and the base or apex may be truncate, rounded, obtuse, acute or pointed. An anther is occasionally doubled upon itself, when it is styled Sinuous (Fig. 112). It may even take the form of a horizontal ring (Fig. 111). This condition is sometimes preceded by the loss of one theca. In any case of curvature, even slight, of the anther, the same is characteristic and of value in classification, as exemplified in the vast genus Solanum, where attention to this



character is well nigh indispensable. The filament is also sometimes variously curved or reduplicate, and this condition may be permanent, or only temporary, during the early stage of the flower, for the purpose of utilizing the powerful elasticity of the filament in promoting some function.

Inside of the theca develop certain large cells, the Spore Mother Cells, each of which produces a Tetrad of four pollen-grains. Ordinarily the wall of the mother-cell mostly disappears and leaves the grains separate and mobile, while in other cases they cohere in the tetrad or a cluster of tetrads. Large clusters are called Pollinia or Pollen-Masses. The entire contents of a theca may form one pollinium or they may be divided into several. (Figs. 113 and 114). A cluster of pollinia is called a Pollinarium. The number of pollinia in a theca is of much diagnostic importance in the Orchidaceae. The characteristics of the individual pollen-grains are of the utmost value in pharmacognosy as well as in classification (as, for instance, in the Acanthaceae), and will be discussed in the division of Histology. Pollen-grains represent two classes, with characteristic characters, the one adapted for distribution by insect agency, the other by that of the wind.



We must next consider the structural provisions for permitting the escape of the pollen from the thecae or locellae. This is commonly by splitting, Dehiscence, along a longitudinal line upon each theca, the Suture.

If the suture is at the back of the anther, as in Hyoscyamus (Fig. 115), the dehiscence is called Dorsal. If upon the face, as in the tomato (Fig. 116), Ventral; if upon the edge, as in Convallaria (Fig. 117), Marginal.

This suture may face the gynaecium, when the anther is Introrse by Dehiscence or away from it, Extrorse by Dehiscence. It does not follow that an anther introrse or extrorse in one way is the same in the other. In the sagittate-horizontal anther the sutures of the two thecae often become continuous, the Confluent form (Figs. 109 and 110). Small orifices, called Pores, frequently exist at the apex, as in Cassia (Fig. 118), more rarely at the base. The most scrupulous care must be taken to determine the exact direction in which apical pores look in some cases, as in Solanum, where a slight difference will possess a specific importance. A rare form of discharge is by Valves (Fig. 119), the common form for the four-locellate anther. Special mechanical contrivances for aiding in the discharge of the pollen are of great interest and will be mentioned under Cross-pollination.

Cohesion is responsible for quite as great and important modifications of the androecium as of the corolla. Here as there, it may be complete, or, beginning at either apex or base, it may stop at any point. Fig. 71 displays the dilated bases of the filaments of Styrax lightly coherent, the detection of the condition calling for the same keen inspection as in the case of the corolla. In Guarea (Fig. 120) the union is seen carried to the anthers, themselves left distinct. Coherent filaments are styled Monadelphous when all united (Fig. 120), Diadelphous, when there are two groups, even though one of them contains but one stamen, as in Glycyrrhiza (Fig. 121), Triadelphous when three, and so on. It must not be lost sight of that the terms are applied similarly whether the union is progressive, or the result of cohesion, as in this case, or that of incomplete chorisis, as in the Tilia (Fig. 35) and Hypericum (Fig. 36), though its classificatory value is very different in the two cases. The term Column, previously explained, is changed to Stamen-Column for monadelphous stamens. The stamen-column is ordinarily hollow, containing the Gynaecium, but when the flower is staminate it is solid, called a Synandrium. The term Syngenesious is applied in a special sense to coherent anthers, as in

Fig. 122. When, as seen in Fig. 72, the anthers come together but do not actually cohere, they are called connivent. The cohesion is carried only partly down the filaments in the squash (Fig. 124), and in the Lobelia (Fig. 125), but in the Asclepias (Fig. 126) it is complete for the entire organs.

A lack of symmetry and regularity, acting separately or together, is responsible for a number of characteristic and important states of the androecium requiring distinctive terms. In the 5-merous flower of Scutellaria (Fig. 127) six stamens are suppressed and the remaining four are irregular, there being a similar pair of each form. This form of androecium has received the title of Didynamous. In this case the anthers of a pair are connivent also. In that of the Mustard (Fig. 33), two of the stamens have each by chorisis become converted into two, these longer than the undivided pair. This form is styled Tetradynamous.

No other subject connected with the androecium calls for such close and discriminating attention in connection with pharmacognosy as the products of exaggerated growth and enation. No portion of the androecium is free from their effects, which apply equally to them when adherent or coherent, free or distinct. The simplest form of appendage to the filament is that of stipuloid appendages to the base, called Petaloid when assuming the form of a petal, as in Fig. 129. A similar appendage may stand in front of a stamen. One standing in front of a stamen-group has been shown in Fig. 35. Appendages may be developed at a higher point in other cases. Appendages in the form of teeth or hairs are very common. Modifications of the connective are numerons and remarkable. The thickening of the entire body, equally or unequally, produces such appearances as are seen in Figs. 130 to 132. Or the extension may result in elongation either above or below the thecae instead of in broadening. If the extension is downward it will lead to an apparent jointing of the filament (Figs. 133 and 134). A slight bulbous enlargement at the base may be modified into the most grotesque forms, as shown in Figs. 135 to 137. Such appendages, in any detail of number, form, position and direction, are characteristic, and in a family like the Melastomaceae, from which most of the above illustrations are taken, possess generic value. Instead of elongating as a single body, the base may apparently divide longitudinally, through extreme broadening, resembling a forked filament, one theca borne on each branch (Figs. 138 and 139). When one of the thecae then becomes suppressed, its connective branch remaining (Fig. 140) or even disappearing (Fig. 141), one form of the one-celled anther results. Another form is produced by simple abortion, without any such modification of the connective, or it may result from the disappearance of the connective. Instead of the base, the back of the connective may be appendaged. It may become expanded into a disk-like form over the backs of the thecae, as in Gratiola (Fig. 142). The backs of the anthers may be excavated to receive it, as in Aloe (Fig. 143), or it may be appendaged in any other direction. Appendages of any form may develop at its apex. In the Compositae these are frequently triangular, as in Eupatorium (Fig. 144), or lance-shaped. In the Asarum (Fig. 145) it is an awn, while in the Violet (Fig. 146) it is sail-shaped. Sometimes it is formed like a feather (Plumose). It remains to be pointed out that the thecae themselves may be similarly appendaged at any part. Fig. 108 displays Caudae, or tails, which are found in a great variety of forms. In Fig. 126a, Alae, or wings, are illustrated. Fig. 147 displays dorsal spurs or claws (Calcarate) which frequently are borne at the top. Apical awns to the thecae, forked and pore-bearing at the summit, are also shown in Fig. 147. The corona, described in connection with the corolla, is developed to a remarkable degree in the passion-flower (Fig. 148 a). The stamen-column itself is subject to remarkable and characteristic appendaging, with or without connection with an adnate disk. Ordinarily, the summit of the stamen-tube terminates at the beginning of the distinct portion of the stamens, but sometimes, as very generally in the Amaranthaceae (Fig. 149), it is continued upward in the sinuses of the anthers, and this portion may be lobed and appendaged in the most beautiful manner.

Stamens which extend beyond the margin of the corolla are called Exserted or Exsert. This term is also applicable to any organ which projects beyond the perigone.

(To be Continued.)

AMERICAN COLLEGES OF PHARMACY,

Their Requirements, Degrees Conferred, Hours of Instruction Offered, Number of Students, Graduates, etc., etc.

[*For explanation and references see text opposite.*]

I. COLLEGES OF PHARMACY.	No. in Faculty.	No. Years in Course.	No. Weeks in Year.	Degrees Conferred.	Grade Entrance Examination.	Years of Pract. Exper. Required for Grad.	LECTURES PER WEEK. Phar. J.	Phar. S.	Chem. J.	Chem. S.	Mat. Med. J.	Mat. Med. S.	Bot'y. J.	Bot'y. S.	HOURS PER WEEK. Phar. Lab. J.	Phar. Lab. S.	Chem. Lab. J.	Chem. Lab. S.	Bot. Lab. J.	Bot. Lab. S.	TOTAL HOURS PER WEEK. J.	TOTAL HOURS PER WEEK. S.	No. Students.	Graduates, 1895.
Albany, N. Y	7	2	32	Ph. G.	Ent. H. S.	4	2	1½	1	1½	1	2	1	...	5	5	3	...	...	1	15	15	47	15
1. Atlanta, Ga	5	2	..	Ph. G.	.....	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
2. Brooklyn, N. Y	7	2	26	Ph. G.	Eng.	4	2	2	2	2	2	2	1*	...	2	2	2	2	...	2	14	14	...	19
3. Buffalo, N. Y	10	2	26	Ph. G.	None	4	2	2	2	2	2	2	2	...	4	...	...	4	1	2½	14	14½	104	40
4. Chicago, Ill	7	2	28	Ph. G.	None	4	2	2	2	2	1	2	1	...	2	3	4	4	2	2	17	17	151	47
5. Cincinnati, O	7	2	30	Ph. G.	None	4	1	1	1	1	...	1	1	...	6	6	6	6	1	1	17	17	...	27
6. Denver, Col	4	2	26	Ph. G.	Gr. Sc.	4	2	2	2	2	2	2	2	2	...	4	..	4	...	...	9	18	24	7
7. Detroit, Mich	7	2	31	Ph. G.	H. S.	None	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10	10	25	10
8. Kansas City, Mo	7	2	26	Ph. G.	Gr. Sc.	4	2	2	2	2	1	1	1	1	3	3	3	3	...	3	12	15	81	26
Louisville, Ky	8	2	24	Ph. G.	Gr. Sc.	4	3½	3½	2½	2½	2½	2½	1	1	6	...	...	9	...	...	14½	20½	61	19
9. Maryland, Baltimore	6	2	28	Ph. G.	Gr. Sc.	4	2	2	2	2	1	...	1	2	6	6	6	6	...	...	22½	22½	179	49
10. Massachusetts, Boston	11	2	34	Ph. G.	Eng. Br.	4	2½	2½	3	3½	1	2	...	...	1½	4	3¾	6	2	2	16½	19	266	23
11. Montreal, Quebec	6	2	26	None	None	None	2	2	2	2	...	...	...	1	...	...	...	...	...	...	4	5	93	...
12. National, Washington, D. C	6	3	26	Phar. D.	Gr sc.	4	1	1	2	2	1	1	...	...	1	1	2	2	...	...	7	7	86	5
13. New Jersey, Newark	4	2	28	Ph. G.	Gr. Sc.	4	2	2	2	2	1	1	...	...	...	2¼	2¾	...	3	...	9¼	11¾	...	5
14. New York, N. Y	12	2	23	Ph. G.	Gr. Sc.	4	1½	2	3½	2	...	1	1	...	1½	3	3½	...	1½	½	17	11	368	105
15. Ontario, Toronto	4	1	33	Phm. B.	H. S.	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
16. Philadelphia, Pa	9	3	30	P. D. (P. C.)	Gr. Sc.	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	757	197
17. Pittsburgh, Pa	9	2	22	Ph. G.	None	4	2	2	2	3	3	2	...	...	6	6	6	6	...	...	24	22	72	26
18. St. Louis, Mo.	7	2	28	Ph. G.	Gr. Sc.	3	2	2	2	2	2	2	...	...	7	7	7	7	3	3	25½	27	171	46
19. Highland Park Norm. Col., Des Moines, Ia.	5	2	22	Ph. G.	None	4	3	3	5	3	2	3	3	...	9	15	...	...	...	...	28	33	...	...
20. Ohio Norm. Univ., Dep't. of Ph., Ada, Ohio.	5	2	20	Ph. G.	None	None	5	5	5	5	2	2	2½	..	3	3	3	3	...	...	23	22	211	58
21. Richmond Univer. Col. of Med. Dep't. of Pharm., Richmond, Va	6	2	32	Ph. G.	Gr. Sc.	4	2	2	2	2	...	2	2	2	3	3	3	3	...	...	12	12	29	5
22. Tulane Univ., Dep't. of Ph., New Orleans, La	5	2	25	Ph. G.	Gr. Sc.	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	36	14

* (½ year).

AMERICAN COLLEGES OF PHARMACY. A STUDY.

There are at the present time within the United States and Canada about fifty institutions where instruction in pharmacy is given. From the catalogues issued by them for the present year, we learn that about 4,200 students, 125 of whom were women, were enrolled during last session. Of this number 1,100 were graduated, the larger part of whom received the degree Ph. G. Other degrees conferred were Ph. C., Phar. M., Phar. D., Phm. B. and B. S. (Pharmacy). A few graduates received no degree, but were awarded a "certificate of proficiency." To teach this army of students required the services of not far from 300 persons, as professors, instructors, assistants, etc. The shortest length of time required for the completion of a full course in any of the institutions was thirty-three weeks, while the longest course was not far from eighty weeks (two years) to twice this number for the course leading to the bachelor's degree. About half a dozen colleges require no entrance examination whatever, while most of the so-called university schools require that the student possess a knowledge equivalent to an education obtained in a high school. A majority of the colleges require from two to four years practical experience in a drug store as a necessary qualification for graduation. Most of the colleges of pharmacy proper require the candidate for graduation to be twenty-one years of age. But a study or comparison of the requirements of the various colleges and schools brings to view something more than an array of figures, and that is in the amount of obligatory work required of the student. From the catalogues of a number of institutions, it is simply impossible to find out the number of hours' actual instruction in the lecture room or hours of obligatory laboratory practice required. To get more specific information upon these points, requests were sent to all of the colleges. Answers were received from nearly all and are here tabulated. The results speak for themselves. With respect to some of them, our knowledge is no greater than it was before. The departments of pharmacy in the universities give by far the most instruction, while the best colleges of pharmacy are those which state specifically the amount of instruction they give and how much of it the student must take. Colleges from which no data or information have been obtained are Alabama Polytechnic Institute, Auburn, Ala.; Grant University, Department of Pharmacy, Chattanooga, Tenn.; Kansas Medical College, Department of Pharmacy, Topeka, Kan.; Illinois University, School of Pharmacy, Champaign, Ill.; Maine State College, Department of Pharmacy, Orono, Me.; Ohio National Normal University, Department of Pharmacy, Lebanon O.; Washington State University, Department of Pharmacy, Seattle; Wisconsin University, School of Pharmacy, Madison.

The following notes refer to the numbered references in the table on the opposite page.

[1]) Statistics for 1895 have not been received.

[2]) Total hours per week do not correspond with number of hours itemized. Juniors attend botany lectures ½ year 1 hour per week.

[3]) Has an advanced course of 3 years leading to Pharm. M., which is the same as Ph. G. course with one year's additional study. Juniors and Seniors receive 1 and 2½ hours instruction respectively per week in microscopy.

[4]) Confers two degrees Ph. G. and Ph. C. no practical experience being required of candidates for the latter degree. Requires no entrance examination, for the reason "that we know of no instance where a student has been refused for want of scholastic education. A student who lacks primary education will have such poor rating in the examinations held 3 times during each year, exclusive of the final examinations for each year, that he will attain no standing in the class." Quizzes and reviews are held 3 hours each week, but attendance upon them is optional. Each class is required to spend 2 hours daily one-half of each year in dispensing laboratory.

[5]) Microscopy, 1 hour per week, each class

[6]) Microscopy, Juniors, 1 hour, and Seniors 2 hours per week respectively. Attendance 12 hours per week in the laboratory and dispensary compulsory upon senior students.

[7]) Instruction given in the evening.

[8]) The course in pharmaceutical laboratory includes work in dispensing laboratory.

[9]) Not scheduled above; microscopy, Juniors, 1½ hours and Seniors 1½ hours per week. Reviews in pharmacy, chemistry and materia medica, each class 3 hours per week.

[10]) Statistics obtained from last catalogue. Lectures on botany counted in with materia medica.

[11]) With the reply to the request for information came this statement: "Pharmacy and materia medica are considered as one. The two hours in chemistry may be in lecture room or laboratory, as the lecturer may see fit. We have no pharmaceutical laboratory, and no practical botanical or microscopical laboratory. We have been 28 years in existence, and it is only in the last few years that any advances have been made, and they are nothing to what we must do to put us anywhere near where American schools of pharmacy are. We are, I am sorry to say, away behind, and we don't see much chance of stirring up the people interested in the matter. The best men we have are French Canadians; the English seem to be afraid to allow day lecturers, and we cannot get it into their heads that the Montreal College of Pharmacy is "not in it." We hope to succeed some day, and to get the college on the way to be a school of pharmacy in more than name."

[12]) Instruction in first or Freshman year: Pharmacy, 1 hour; chemistry, 2 hours; botany, 1 hour; chemical laboratory, 2 hours (per week); total, 6 hours.

[13]) Junior students spend 75 hours in the chemical laboratory, while Seniors put the same number of hours in the pharmaceutical laboratory. 15 lectures comprise the course in physiology.

[14]) Other instruction to Junior students: Physiology, physics and mathematics of chemistry, each 1 lecture per week. Quizzes on each subject, 1½ hours per week, each class.

[15]) No information received from the college.

[16]) Numbers of hours obligatory attendance not stated in the catalogue. In response to request for this information, Dean Remington writes: "This year we will start with the junior or first year students on the three years' course schedule. We are of course compelled to give to those who have already passed the junior examination, the senior lectures on the second course basis. The full three years' schedule has not been completely worked out, as the degree of 'Doctor of Pharmacy' (P. D.) will not be conferred for three years. The total number of hours required to obtain this degree will be 800. For the Pharmaceutical Chemist Degree (P. C.) at least this number of hours, with an increased amount in the laboratory work to offset the lack of practical experience required

[17]) Latin and microscopy, each 1 hour per week to juniors. Each class required to attend quizzes 3 hours per week. Materia medica, botany and work in botanical laboratory grouped in schedule under materia medica.

[18]) Microscopy, each class 1 hour per week. Reviews all branches, juniors, 1½ hours; seniors, 3 hours per week.

[19]) Has a post-graduate pharmaceutical course leading to the degree of Ph. C. Students are not allowed to spend part of their time in drug stores. Subjects not scheduled above: Juniors, quizzes, 4 hours, and pharmaceutical arithmetic, 2 hours per week. Seniors: Therapeutics, 5 hours, and microscopy, 4 hours per week.

[20]) Has two courses, Ph. G. and Ph. C. The latter requires 70 weeks' work. During the senior term 5 hours per week are devoted to prescription analysis and compounding.

[21]) The laboratory work shown in the schedule does not extend over the entire 32 weeks.

[22]) Information obtained from catalogue: Schedule of subjects, with number of hours devoted to work, not submitted.

California College of Pharmacy (Department of Pharmacy, University of California, San Francisco.) Two years of thirty-six weeks each in the course. Confers Ph. G. degree. Will probably confer Phar. D. degree in 1896. Entrance examination equivalent to first year in High School required. "Time experience" required for graduation, four years, inclusive of time spent at college. Hours of obligatory attendance required of student in junior year: Lectures, pharmacy, 30; chemistry, 60; materia medica, 60; botany, 30; pharmaceutical laboratory, 48; botanical laboratory, 48; microscopy, 30; quizzes in five subjects,

90 hours; total, 396 hours. Senior year: Lectures, pharmacy, 60; chemistry, 30; materia medica, 30; botany, 30; chemical laboratory, 72; pharmacognosy, 102; botanical laboratory, 48; microscopy, 30; quizzes in all subjects, 90; total, 492 hours. Both years, 888 hours. Of this number 96 are obligatory botanical excursions. Other botanical excursions are held, but they are not obligatory. Next session Dean Searby says the number of laboratory hours will be largely increased, probably reducing the number of botany hours, but not any of the others. Members of faculty, 11. Students last year, 112; graduates, 22.

Cleveland School of Pharmacy, Cleveland, O. Two years in course, of thirty weeks (net) each. Confers certificate of graduation, but no degree. Entrance examination equivalent to Grammar School grade required. No practical experience required for graduation. Hours of obligatory attendance required of juniors: Lectures on pharmacy, 50; chemistry, 70; botany, 14; pharmaceutical laboratory, 50; chemical laboratory, 50; botanical laboratory, 25; total, 259 hours. Seniors: Materia medica, 70; pharmaceutical laboratory, 30; chemical laboratory, 70; microscopy, 32; total, 202 hours. Both years, 461 hours. Members of faculty, 4. Students last year, 49; graduates, 16.

Iowa State University, Department of Pharmacy, Iowa City. College course, two years, of twenty-five weeks each. Confers Ph. G. degree. Entrance examination equivalent to that required for admission to standard High Schools of the state. Three years' practical experience in a drug store a necessary requirement for graduation. (This condition will probably be abolished this fall.) Instruction and work: Junior years, hours for lectures: Pharmacy, 100; chemistry, 100; materia medica, 50; botany, 50; pharmaceutical laboratory, 225; chemical laboratory, 150; total, 675 hours. Senior year: Lectures on pharmacy, 100; chemistry, 100; materia medica, 50; botany, 50; pharmaceutical laboratory, 180; chemical laboratory, 150; pharmacognosy, 50; total, 680 hours. Both years, 1,355 hours. Recitations in different branches average one and two per day for juniors and seniors respectively. Students must devote their whole time to the work. Members of faculty, 10. Students last year, 67; graduates, 8.

Kansas University, School of Pharmacy, Lawrence. Two years, of forty weeks each (including vacations) in course. Confers Ph. C. degree. Entrance examination equivalent to High School graduation. No practical experience necessary to obtain degree. Hours of instruction and work, junior year: Lectures on pharmacy, 110; chemistry, 40; pharmacognosy and materia medica, 90; botany, 240; pharmaceutical laboratory, 300; chemical laboratory, 400; botanical laboratory, 160; physics, 140; Latin, 100; total, 1,580 hours. Senior year: Lectures on pharmacy, 110; organic chemistry, 40; pharmacognosy and materia medica, 90; pharmaceutical laboratory, 400 (includes drug assaying, physiological chemistry and thesis); chemical laboratory, 230; botanical laboratory, 200 (includes histological botany and microscopical examination of drugs); mineralogy, 50; physiology, 50; toxicology, 50; total, 1,220 hours. Both years, 2,800 hours. Members of faculty, 14. Students last year, 57; graduates, 18.

Meharry Pharmaceutical Department, Central Tennessee College, Nashville, Tenn. College course, two years, twenty weeks each. Confers Ph. G. Practical experience required for graduation, four years. Instruction and work, junior year: One hundred hours each in pharmacy, chemistry, materia medica, pharmaceutical and chemical laboratories; botany, 12 lectures; total, 512 hours. Senior year: One hundred hours each in pharmacy, materia medica, pharmaceutical and chemical laboratories; 12 lessons each in urine analysis, toxicology and microscopy; total, 436 hours. Both years, 948 hours. Members of faculty, 5. Number of students last year not obtained.

Michigan University, School of Pharmacy, Ann Arbor, Mich. Gives two courses, one of two years, leading to Ph. C. degree, and one of four years, leading to B. S. (Pharmacy). Requires no practical experience for graduation. Hours of instruction and work: Junior year, lectures on pharmacy, 54; chemistry, 162; botany, 72; chemical laboratory, 720; botanical laboratory, including pharmacognosy, 72; lectures on analytical chemistry, 126; lectures on pharmacognosy, 36; total, 1,242 hours. Senior year: Lectures on pharmacy, 162; chemistry, 90; materia medica, 90; pharmaceutical laboratory, 360; chemical laboratory, 360; lectures on analytical chemistry, 54; lectures on pharmacognosy, 72; lectures on crystallography, 18; total, 1,206 hours. Both years, 2,448 hours. Members in faculty, 12. Students last year, 86; graduates, 19.

Minnesota University, College of Pharmacy, Minneapolis, Minn. Number of years in college course, three optional, two obligatory. The student is allowed to enter without examination, provided he holds a diploma from a High School requiring four years' attendance. Instruction and work: Junion year, lectures on pharmacy and quizzes on same subject, 96; chemistry, 96; materia medica, 64; botany, 64; pharmaceutical laboratory, 288; general chemical laboratory, 192; botanical laboratory (pharmacognosy), 160; physiology, 32; pharmaceutical chemistry, 64; Latin, 32; pharmaceutical mathematics, 32; total, 1,120 hours. Senior year: Pharmacy, 96 to 160; medical and general chemistry, 96; materia medica and therapeutics, 64; pharmaceutical laboratory, 384 to 576; general chemistry, including urine analysis, 192; botanical laboratory (pharmacognosy) and microscopy, 96; pharmaceutical chemistry, 128; pharmaceutical mathematics, 32; qualitative chemistry, laboratory and lectures, 240; quantitative chemistry, laboratory and lectures, 192 to 288; organic chemistry, 160 to 240; bacteriology, 15; hygiene, 12 lectures; medical and pharmaceutical jurisprudence, 12 lectures; total 1,719 hours. Both years, 2,839. Members of faculty, 14. Students last year, 37; graduates, 13.

Northern Indiana School of Pharmacy, Valparaiso, Ind. College course given in one year of fifty weeks. Degree conferred, Ph. G. Entrance examination in English branches required. Practical experience not necessary for graduation. Students are not divided into junior and senior classes. During the college year lectures and instruction of 100 hours each are given in the following subjects: Pharmacy, chemistry, materia medica, botany, botanical laboratory (pharmacognosy) and dispensing; pharmaceutical laboratory, 200 hours; chemical laboratory, 100 hours; total, 1,100. No vacations or holidays excepting July 4, and examinations every ten weeks. A final examination of five days is held at the close of each year in August. Members of faculty, 4; number of students last year, ——; graduates, 53.

Northwestern University, School of Pharmacy, Chicago, Ill. Two courses, of one and two years respectively, forty weeks in each year, offered leading to the Ph. G. and Ph. C. degrees. Entrance examination equivalent to High School admission (Ph. G.), and High School graduation (Ph. C.), required. No practical experience. Hours obligatory work and instruction (Ph. G. course), juniors: Lectures on pharmacy, 40; chemistry, 40; pharmaceutical and chemical laboratories, 320; botanical laboratory, 80; oral reviews, 80: other subjects, 50; total, 610 hours. Seniors: Lectures on pharmacy, 40; chemistry, 40; materia medica, 20; pharmaceutical and chemical laboratories, 320; botanical laboratory, 100; dispensing, 80; other subjects, 50; total, 650 hours. Hours in Ph. G. course, both terms, 1,260. The course for Ph. C. requires one year (forty weeks) additional work, occupying thirty-two hours per week of the student's time; total, 1,280 hours. Hours in both years, Ph. C. course, 2,540.

Ohio State University, School of Pharmacy, Columbus, O. Number of years in college course, three, containing thirty-seven weeks each. Two degrees conferred, Graduate in Pharmacy, and Master in Pharmacy. Entrance examination in English branches required. Practical experience not necessary for graduation. Instruction and work: Freshman year, chemistry, 185 hours; botany, 65 hours; pharmaceutical laboratory, 185 hours; Latin, 185; physics, 185; mineralogy, 39; total, 844 hours. Junior year: Lectures on pharmacy, 74; chemistry, 74; botany, 111; pharmaceutical laboratory, 185; chemical laboratory, 185; botanical laboratory, 74; microscopy, 74; physiology, 111; total, 888 hours. Senior year: Pharmacy, 74; chemistry, 111; materia medica, 111; pharmaceutical laboratory, 185; chemical laboratory, 185; toxicology, 111; total, 777 hours. Number of hours in three years' course, 2,509.

Oklahoma University, Pharmaceutical Department, Norman, Okla. Two years' course of forty weeks each. Degree conferred not stated. Entrance examination equivalent to English branches and two years' preparatory Latin required. Instruction and work, junior year: Pharmacy, 100 hours; general chemistry, 80; physics, 20; microscopy, 20; botany, 80;

qualitative and quantitative analysis, 80; pharmacognosy, 40; pharmacopœial preparations, 100; total, 520 hours. Senior year: Materia medica, including prescription reading, writing, etc., 80; practical pharmacognosy, 60; pharmacology and therapeutics, 40; crystallography, —; organic chemistry, 100; quantitative chemical analysis, 80; organic analysis, 100; pharmacy, 100; analysis of urine, elective; total, 560 hours. Both years, 1,080 hours. Members of faculty, ——. Students last year, 7; graduates, none. This school was organized in 1894.

Purdue University, School of Pharmacy, Lafayette, Ind. Two years, of twenty-eight weeks each, in college course for Ph. G. degree. Ph. C. and B. S. (in pharmacy) are also conferred. Entrance examination equivalent to High School admission required. Practical experience not required for graduation. Instruction and work in junior year: Pharmacy, 84; inorganic chemistry, 60; qualitative analytical chemistry, 50; organic chemistry, 30; pharmacognosy, 6; physiology, 20; therapeutics and doses, 30; pharmaceutical laboratory, 120; chemical laboratory, 315; botanical laboratory, 28; total, 743 hours. Senior year: Chemistry, 128; pharmacy, 40; prescription work, 28; botany, materia medica and therapeutics, 82; qualitative and quantitative analytical chemistry, 25; pharmaceutical assaying, 8; urine analysis, 10; chemical and pharmaceutical laboratory assaying, etc., 660; total, 981 hours. Hours in both years, 1,724. Members of faculty, 8. Students last year, 89; graduates, 33.

Scio College, Department of Pharmacy, Scio, O. Gives two courses, ten and a half months (Ph. G.), and nineteen and a half months (Ph. C.). Entrance examination equivalent to High School admission required. Practical experience requirement for graduation abandoned. For degree of Ph. G. 982 hours' obligatory work are required. (This does not include six weeks' instruction in chemical and pharmaceutical arithmetic, urine analysis and physiology.) For Ph. C. degree 644 hours additional, or 1,626 hours in all are required. All laboratory work in this college is obligatory, except urine analysis, which is optional with Ph. G. students only. Members of faculty, 8. Students last year, 41; graduates, 11.

Texas University, School of Pharmacy, Galveston, Tex. Two years' course, of twenty-eight weeks each. Confers Ph. G. degree. Entrance examination in English branches required. Schedule of required work not submitted. Members of faculty, 5. Students 1894-95, 26; graduates, 3.

Vanderbilt University, Department of Pharmacy, Nashville, Tenn. College course two years of 40 weeks each. Confers Ph. C. and Phar. M. Entrance examination in English branches required. Practical experience not necessary for graduation. Instruction and work, Junior year (Ph. C.), pharmacy, 100; chemistry, 120; botany, 120; pharmaceutical laboratory, 240; chemical laboratory, 360; botanical laboratory (lectures), 80 hours; physiology, 20, total, 1,040. Senior year, pharmacy, 120; chemistry, 80; materia medica, 80; pharmaceutical laboratory, 240; chemical laboratory, 360; biology and microscopical botany, 240; physics, 80; total, 1,200. No time is allowed the student to work in a store, except he divides his course and takes more than 2 years. Members of faculty, 7. Students last year, 30; graduates, 8.

GROUP PORTRAIT SOUVENIR OF A. PH. A. OFFICERS.

What is Thought of It by Prominent Pharmacists and Officers of the Association.

S. A. D. Sheppard, Boston, Mass.—I am pleased with the souvenir. It is a credit to you.

H. M. Whelpley, St. Louis, Mo.—Shall have the picture framed for my residence, or my private room at the College of Pharmacy.

Chas. Caspari, Jr., Baltimore, Md.—I appreciate the souvenir highly, and shall see to it that it occupies a prominent place in my office.

E. L. Patch, Boston, Mass.—Permit me to acknowledge arrival of group portrait of the officers of the American Pharmaceutical Association. I shall prize it highly.

C. Lewis Diehl, Louisville, Ky.—I appreciate it highly as a souvenir, which I shall take pleasure to have framed, so that I may have it before me at all times.

H. N. Rittenhouse, Philadelphia, Pa.—It was a happy thought to publish this sheet, and I will appreciate my copy very much, for the very pleasant memories it reviews.

Henry C. C. Maisch, Philadelphia., Pa.—I recognize quite a number of familiar faces. My father's is very good. I am so well pleased with the picture that I will have it framed and hang it it in my study.

James T. Shinn, Philadelphia, Pa.—I recognize many old friends in the profession. The likeness to the original is very good in almost all of them, and I should think that the one of myself is quite natural.

Enno Sander, St. Louis, Mo.—It is a fine memorial for all the officers of the American Pharmaceutical Association, and no doubt it will be duly appreciated by every member. As regards my portrait, I certainly feel proud to be in such distinguished company.

W. S. Thompson, Washington, D. C.—Thanking you for the group portrait of the past officers of the American Pharmaceutical Association, I beg also to compliment you on the fidelity of the likenesses as well as the artistic character of the work.

J. M. Colcord, Saratoga Springs, N. Y.—The souvenir is an admirable one and will be highly prized, not only on account of the satisfactory picture of Samuel M. Colcord, but also of other well-known friends and acquaintances. You are certainly to be congratulated upon your success.

Geo. W. Sloan, Indianapolis, Ind.—You are deserving of great credit for your enterprise in arranging this, and I am sure the older members especially will prize the same, as it contains the likenesses of Procter, Parrish and others who were pioneers in the organization of this now great association.

Chas. Bullock, Philadelphia, Pa.—These faces of old friends and associates awaken many recollections of the past, and the group of portraits will serve to keep them green in memory. The execution of a work of this character is attended by many difficulties, and I congratulate you on your success.

J. M. Good, St. Louis, Mo.—It is a valuable souvenir, beautifully executed, and you deserve the thanks of the association for the enterprise displayed in producing it. Independently of its historic value I shall prize it because it bears the "counterfeit presentments" of a number of my personal friends.

E. H. Sargent, Chicago, Ill.—Permit me to express my appreciation of your enterprise and sagacity in publishing the portraits of past officers of the A. Ph. A., thereby bringing back to our view many faces of friends of long ago, who in their day were esteemed as worthy helpers in a good cause. The work is well done and artistically put together; quite worthy of your genius and enterprise.

J. F. Hancock, Baltimore, Md.—The idea and the artistic work are most creditable. In it I recognize many old friends with whom I have enjoyed many pleasant hours. I shall embrace the opportunity to congratulate you upon the especial excellence of your journal—The Pharmaceutical Era—this year. Every progressive pharmacist should have it preserved in bound volume.

Wm Simpson, Raleigh, N. C.—I can hardly find words to express my high appreciation of the group of portraits of past officers of the American Pharmaceutical Association. It is singular, but the very day upon which the picture arrived, I was thinking how much I would value just such a collection, little dreaming how soon my wishes were to be realized. I think that the likenesses are excellent, and the work as a whole reflects much credit upon your good taste. Let me congratulate you upon it.

J. U. Lloyd, Cincinnati, O.—During my studies in pharmacy I have continually met the names of those connected with the early history of the association, and am delighted to now obtain their picture. Not less pleasurable is the opportunity of associating therewith the faces of men I knew, but who are seen no longer in the flesh, and of men I know and hope to meet from time to time these many years. The collection is now being nicely framed, and will become a part of our library, where it is to be hung conspicuously.

Wm. Saunders, Ottawa, Can.—Although for some years past I have been unable on account of the absorbing nature of my official duties in my present position, to pay any attention to pharmaceutical matters, yet I value this very much as a souvenir of the past, on account of the number of very dear friends included in this group. I think your efforts have been very successful as to the quality of the pictures and the satisfactory way in which they are presented. My own portrait is, I think, a very good likeness.

RETAIL DRUGGISTS' EXPERIENCE.

What Advertising and Business Methods Have Done and can Do for the Pharmacists. Related by Those Who Have Tried Them.

The experience of druggists who take in money every day which they have good reason to believe comes to them through judicious advertising, is of such interest that the following communications, with samples of advertising, from enterprising retail drug firms will meet with general appreciation from readers of the Era.

* * *

E. G. MICHEL & CO., who, according to a recent issue of Texas Siftings, are getting rich at Marble Falls, Tex., through the employment of up-to-date business methods, write:

"When we began business here three years ago we had three competitors. Now we have but one, and he wants to sell. The first advertising we did was the use of 'mile boards,' reading, '—— miles to E. G. Michel & Co., dealers in, etc.,' for six miles on every road leading to town. Every sign read differently. The next scheme was a mail pouch. The post office was quite a distance from us. For the convenience of our part of town we swung a sack near the front in our store. It is patronized liberally, and is very little trouble, as we would have to take our own mail any way. Of course we sell stamps, writing paper, envelopes, etc. Next we contracted for a column right across the top of our local paper, and we change the advertisement every week. In front of our store we have a board, 3x8 feet, in the shape of a steep roof. On one side we have painted facsimiles of the daily, weekly and monthly periodicals which we sell, and a cigar advertisement. The other side is a blackboard on which we announce anything new. Theatrical companies have free use of it, hence tickets to be sold are always left with us. Two years ago we started the lamp 'racket,' and since last March we have added rocking chairs. We allow a family one lamp, but two chairs. We have given away 219 lamps and 17 chairs, costing $1 and $2.10, respectively. The following reproduction of our tickets which we give to customers explains the scheme:"

Free! Free! Free!

A HANDSOME ROCKING-CHAIR.

With every $25 worth of goods bought from us; or, if you wish, you may have the chair for $2 cash and $5 worth of tickets; or, $1.50 cash and $10 worth of tickets; or, $1 cash and $15 worth of tickets; or, 75 cents cash and $20 worth of tickets.

If you have no Lamp yet, $12 worth of tickets will get you one. For $10 worth we will give you one year's subscription to "The Standard;" for $2.50 worth we give you a bottle of Gargling Oil.

.....

$.....

E. G. MICHEL & CO.,
DRUGGISTS AND BOOKSELLERS,
MARBLE FALLS, TEX.

"In our advertising we frankly say that the lamps and rockers are advertisements, and that we pay for them as we do for newspaper space.

"At least once a month we have a boy leave advertising matter at each dwelling in town. Few customers leave our store without a package of some sort of advertising matter. We rarely quote prices, dwelling more particularly upon quality. In the store we make frequent changes and use the mimeograph and stencils freely. Recently we learned that a clock was needed in our college and we immediately presented one with the following in white and bronze letters on it: 'Your patronage is respectfully solicited, E. G. Michel & Co., druggists and booksellers.' Also upon the face a sort of table reminding scholars of the aggregate amount of time lost in a year by losing five, ten, thirty and sixty minutes each day."

* * *

McELHENIE & MARSLAND, Brooklyn, N Y.—"There is a great interest being manifested throughout the entire retail drug trade along the line of trade-winning methods, said interests not being a matter of choice, so much as a matter of necessity, a result of the existing condition of our business.

"We must reach out our feelers, set our bait, and draw in our share of the business that is going, or gradually grow smaller and smaller accordingly, as other lines of business encroach upon us, and our legitimate business drifts into other channels.

PHOSPHO SELTZER is a remarkably good medicine for headache, 10 and 25 cents per bottle.

Which hurts most, headache or 25 cents?

From

McELHENIE
& MARSLAND.

"Understand us, we are not complaining of the way things have been going in things pharmaceutical, of late years, as that would be foolish, for the reason that we as pharmacists, are responsible for the position we hold.

"Your idea of drawing a practical expression from the individual pharmacist is a good one, for if one does not advertise, it will set him thinking, and if one does advertise, and gives you his experiences, they will be of benefit to others.

"We do advertise, and what is more, we enjoy it; first, because it pays, and, second, because from the expressions of our customers we can see that our efforts are appreciated.

"Our efforts are confined to in and around our neighborhood, for the main; our idea being to get all the trade there is to be had from this source, and to make people think of McElhenie & Marsland, at once, when there is a prescription in the house to be filled.

"We try to make our impression on every customer, and to this end we have slips similar to those inclosed ready for them.

"These go in packages that leave the store. On reaching home and opening their package, and finding a 'The Main Object,' or a 'duplicated' circular, or a list of physicians whose prescriptions we have filled, an impression is made upon them right there, which is bound to bring us their trade again.

THE MAIN OBJECT

In keeping our drug store open is to put up prescriptions, and that keeps us fairly busy—with more business in sight. Our little shop is often full, but we will make room for you long enough to take your order, and will deliver your medicines anywhere in the city.

Incidentally, (and why not?), we supply several hundred of the Pratt Institute and Adelphi Students with Art Materials and they think a lot of the corner drug store.

McELHENIE & MARSLAND,
Apothecaries of the First Class,
DeKalb Ave., cor. Ryerson St.

"We find a duplicator quite useful to have. For instance: If we get in a new line of sponges, or a lot of whisk brooms, up they go on the counter, write the original, and duplicate two or three hundred circular letters for the occasion, and before the time comes to pay the bill they are nearly all sold.

"We have added a branch post office to our store recently, making it the occasion for a little advertising, as per inclosed folder, which we consider a model in its way, of artistic printing."

[The folder referred to is a very neatly printed affair, bearing upon the first page the displayed words, "The Postmaster Knew," in the center of the page, while in smaller type at the bottom is the firm's name and address. The second page announces the establishment of a branch post office at the advertiser's store, and instead of showing an unfavorable regard for Uncle Sam's business, as so many druggists do, they say, "You can get a money-order issued or paid, register a letter or package, get all the stamps, cards, wrappers, etc., you want, and needn't even say, 'Thank you;' it is part of our business." The last page of the folder has an engaging and convincing frankness and reads as follows:]

SPEAKING
OF
SICKNESS,

When it is serious, of course you call a doctor. He prescribes and you are satisfied.

But wait a minute. That prescription wants preparing, and if the patient is very sick you wish it promptly filled.

In any case you want it carefully com-

pounded and you don't want to pay more than the medicine and service is worth.

Now, all these considerations will probably impel you to ask the doctor, "Where shall I take this to have it quickly and properly prepared?"

If he knows us we should be interested to hear his answer.

McELHENIE & MARSLAND,
Apothecaries of the First Class.

"'Apothecaries of the First Class' is our motto, and we try to live up to it.

"Our policy may be defined this way:

"We don't push patent medicines or show their signs.

"We push our own specialties. We give people what they ask for. We preach National Formulary to the doctors.

"This is the way we do business as near as we can put it on paper.

"We believe in a future for our business, as there are more opportunities in it for real live men than any other retail business.

"Stop complaining and *push* is our suggestion.

"'Printer's Ink,' a journal for advertisers is the paper we advise all druggists to subscribe for and read. You can get more points out of one of the weekly issues than you could think of in a year's time."

* * *

J. H. GUTHRIE, Conneaut, O.—"I think the 'New Druggist,' like the 'New Woman,' has got to step to the front. The time has come when he has got to be more of a merchandiser, and place less reliance on the traditions and eminent respectability of his fathers in the past. It is necessary that he be hustling, aggressive and, as the saying goes, 'up to snuff.' He cannot hang back expecting the trade to come to him, as it used to twenty-five years ago, but he must be up and after it. He must advertise, must keep himself eternally before the public, must keep people talking about him and his wares; he must be everlastingly on the alert for a something, he knows not what, that is always appearing in this hustling age, and must be keen enough and far-sighted to take advantage of the opportunity. There must be no rest for him; he can't sit down and wait, as the profession has done in the past, but must have constantly in mind 'I never sleep.' He must make his store attractive, make constant changes, turn his goods around, next week place them in a place different from last; keep changing, so that when customers come in to his place of business they will expect to see something different from what they saw when they were there last week. Let him place something odd in his window, and by all means don't let the goods that you place in your show windows remain there until they are ready to walk off by themselves, with dirt and the flies. In my experience in advertising I have secured the best results from steady and persistent advertising in either the daily or weekly papers, whichever the locality may have, with constant changes (the same remarks in regard to show windows hold good). Make people read your ads, and they will every time if you get them interested in wishing to know what you are going to say next time. And so keep at it. Don't run your ads spasmodically, it will not pay if you do that. Keep at it, 'everlastingly at it,' and in time you will reap your reward, and this is what you are after. I have watched with a great deal of interest your sample ads, which you have running through the Era this year, and I say, 'keep at it,' and before we any of us realize it, the 'New Druggist' will be here, and he will have come to stay.

"I have been in business in this town a little more than twenty-five years, and have been closely watching these changes as they have come about, and am thoroughly satisfied that as druggists and business men we have simply to join in and keep up with the procession, or our names will be 'Dennis,' as far as the trade is concerned."

NOTES UPON SOME PHILIPPINE ISLAND DRUGS UNDER ANALYSIS FOR ALKALOIDS, ETC.*

By Albert B. Prescott.

From the Laboratory Work of Elgin Mallett, Ph. C., and F. M. Marsh, Ph. C.

By the courtesy of Mr. Oscar F. Schmid, of the drug house of the Weeks Drug and Chemical Co., of Jackson, Mich., this interesting collection of drugs was given me for examination. All the articles have repute for medicinal virtue among the native people of the Philippine Islands. The collection was made by an exploring company from this University. This exploring company went to the Philippines to continue the work of Prof. Joseph B. Steere in natural history, and with the benefit of his experience and direction. For all the information which we can give as to the source and native reputation of the drugs we are indebted to Prof. D. C. Worcester, of this University, who was in the exploring party that made the collection. And I should say that the collection in my hands consists only of certain representative samples of the stock obtained from the Philippines and now in the hands of the Weeks Drug and Chemical Co., at Jackson.

It was the first object of the work so far undertaken upon the drugs to find whether each one contains an alkaloid or not. Other distinctive principles, resins, acids, etc., were to be sought for when time would permit, and a few results were obtained, as reported below, but further work is desirable upon the non-alkaloid principles, and I expect to have this work done during the next college year. It may be found expedient to make a full plant analysis of some of the articles. It will be still more important to make a full chemical examination and analysis of any distinct principles of interest not previously known.

Leaving the botanical determination of the plants to other hands, they will be designated in this report by the English spelling of their native names, and by these alone.

The method of analysis for alkaloids was in general as follows, subject only to minor variations dependant upon the differing character of the drugs:

(1) The drug reduced to a fine powder was digested on a water-bath, in a flask fitted with a small return condenser, with about 50 parts of alcohol, to which about $^1/_{20}$ part of sulphuric acid had been added, for several hours.

(2) The contents of the flask were strained through muslin and then filtered clear. The filtrate then placed in an evaporating dish and concentrated on a water-bath to about 5 parts. Sufficient water was then added to precipitate resins and other plant constituents, which were then removed by filtration.

(3) The filtrate obtained was placed in a separator and shaken out several times with an equal volume of chloroform to remove coloring matter, etc. The chloroform was then evaporated and the residue examined.

(4) The watery solution in the separator was then made alkaline to litmus and immediately shaken out with 3 to 5 portions of an equal volume of chloroform and the chloroformic solution reserved (Extract I.). This was then followed in the same manner with amyl alcohol (Extract II.).

(5) The chloroform of "Extract I." was evaporated and the residue dissolved in hot water acidulated with sulphuric acid. The whole was then filtered and reserved for tests. "Extract II." was treated in the same manner.

(6) The filtrates were first tested for alkaloids by the following general reagents: Iodine in potassium iodide solution, Mayer's reagent, phosphomolybdic acid, bromine water, tannic acid and picric acid, and the test tubes set aside for several days to allow precipitation to take place. In the mean time various tests for the more common alkaloids were applied and any color reactions noted.

The following-named drugs were analyzed by the method given above. With these drugs first below described no reactions for alkaloids were obtained, their medicinal activity being doubtless due to other plant constituents, requiring further examination. The work was very faithfully performed by Messrs. Mallett and Marsh, who made the operations together with two-fold security against inexactness in execution. The results are given in their own language, as is also the external description of the drugs

Dolulugai.—A seed of a light slate color and having a very hard testa. It is nearly spherical and about half an inch in diameter. The kernel is of a very solid texture, having a characteristic odor and a bitter taste. It is said that the natives of Philippine Islands dissolve the powdered dolulugai in vinegar and employ it as a specific for all pains of the stomach, also as a poultice in rheumatism. It was said to contain strychnine, but this is positively not so,

*Read at the A. Ph. A. meeting.

Send in your vote on Handsomest Advertisement in this Issue.

since on analysis it gives entirely negative results. The principal constituents found on analysis were fixed and volatile oils.

Mountain Cinnamon.—A bark from one-fourth to one-half an inch thick, of a dark-brown color and having an odor resembling a mixture of spices rather than the true cinnamon. It contains an aromatic volatile oil, tasteless resins and a very large amount of coloring matter.

Mangal.—A very hard fibrous rhizome with rootlets, used by the natives as a stomachic, also as a purge by boiling thin shavings of it in cocoanut oil. It contains no alkaloids, but has a considerable portion of acid resins.

Vita.—A bark of a very thick, coarse texture, used as a remedy for fevers. Nothing was found to which its medicinal properties could be ascribed.

Macbujai.—From parts of drug in our possession we are unable to determine to what plant organ it belongs. It contains considerable resin, coloring matter and other plant constituents. The drug is excessively bitter and is used in the form of a decoction as a remedy for fevers.

Arbutra.—Samples of this drug in our possession consist of billets, about 1½ inches in diameter and several feet in length, of a tough, fibrous wood, having a very characteristic cross section not unlike pareira brava. The wood beneath the bark is of a uniform yellow color. Upon extracting with acidulated alcohol and purifying the extract by the process previously given the solution containing the alkaloids as sulphates gave heavy precipitates with all of the general reagents for alkaloids.

From the fact that it colored the chloroform yellow when shaken out from the water solution we were led to believe that the alkaloid was berberine, and by carefully-conducted tests this was verified. It responded to all tests for that alkaloid, and we were able to produce the hydrochloride under the microscope.

As to whether a white alkaloid is present, as in many other berberine-bearing plants, we are unable to say. The limited quantity of material and small percentage of alkaloid present was insufficient to attempt a separation, while there was not time to obtain more drug. The amount of berberine, or total alkaloid, if another be present, was determined in the following manner: A portion of the drug (5 gm.) was weighed out and mixed with 2 gm. of magnesium oxide; the whole was then carefully transferred to a Soxhlet extraction apparatus and extracted with a mixture of alcohol and chloroform (1 : 3) until exhausted. The extract was then placed in a separator and shaken out with dilute sulphuric acid. The combined acid solutions were then made alkaline with ammonia and shaken out until all coloring matter was removed. The combined chloroform washings were evaporated to constant weight in a tared beaker, and the percentage obtained by this process was $^1/_{10}$ of 1 per cent.

(Written for the Era.)

THE FAMOUS HOLLIS POISONING CASE.

Being a Detailed Account of the Tragedy and of Druggist Ayer's Connection with it.

By HOWARD FIELDING.

INTRODUCTORY NOTE.

"Poisoning cases such as this," said the visitor, laying a copy of the Era on the editor's desk, and tapping with his forefinger upon a page, "are worth far more space than they get."

"The technical points are there," was the reply. "As for the personal details, they have appeared in the newspapers."

"Exactly," rejoined the visitor; "the scientific part is here, and the unscientific part is somewhere else. It is a pity they can't be brought together. It couldn't be done in the newspapers, because the majority of readers couldn't understand the technical language, without which the case could not be accurately described. But readers of the Era would understand the one and appreciate the other. Take the Hollis case, for instance."

"I have a report of it here," said the editor, picking up a page of "copy."

"It contains," the visitor continued, "material for a romance of surpassing interest. But I'll take my oath that no human being can put it in so few words as are on that paper in your hand."

"No such attempt has been made. This is merely a review of the chemistry of the case."

"There is a chemistry of the heart," said the visitor, "and that Hollis affair was full of it. There is a prescription business that is run by Fate, and we poor mortals get extraordinary doses put up for us, sometimes. Here is a case in point. It appeals to me as it would to any other writer of stories. I believe it would appeal to the readers of the Era; and, certainly, I'd like nothing better than the chance to dish it up for them."

The editor tossed the page of copy across the desk.

"Go ahead," said he. . . .

I.

The Death of Stephen Hollis.

Dr. Mallory has kept a drug store in Harlem for fifteen years and he is now a rich man. He did only a fair business in drugs, but his soda-water fountain made his fortune. Mrs. James Barnard, widow of the famous real estate speculator, used to come into the doctor's store to quench her thirst. Then she came just for a chat ; and at last they were married, and the doctor's fortune was made.

After this joyous event, it was no longer necessary for Dr. Mallory to devote his time, early and late, to the cares of business. Within three months after his marriage, he had put the store in charge of his assistant, Willis Ayer, under an arrangement quite satisfactory to the latter.

It was, indeed, a streak of luck for Ayer, and it did not come any too soon, for the young pharmacist was trembling on the brink of matrimony, with no better dependence than his meager salary. The girl of his heart had no money, but she had an abundance of love and a courage that bordered on rashness. So in the betterment of her lover's condition and prospects, fortune was again favoring the brave.

The store had a good prescription business, due partly to its location, but more to Dr. Mallory's professional reputation and personal popularity. Ayer was, of course, anxious to retain this business, and the chances of his doing so seemed excellent. He had a good many friends among the doctors of the neighborhood.

His particular crony was Dr. Lawrence M. Stanley, a man somewhat Ayer's senior, naturally gifted and exceptionally well taught. Dr. Stanley used to come into the store late in the evenings, when business was practically over, and the two men were, perhaps, as confidential in their relations with each other, as men ever are in these latter days.

One evening about 10 o'clock Dr. Stanley came into the store and passed through into the prescription department at the rear, behind the usual tall partition.

"Ah, doctor," said Ayer, "where have you been all day? You're looking a bit rocky."

"I am not feeling my best," replied the doctor with a rather grim smile. "I think a little of this is indicated."

He poured out a glass of brandy, and drank it at a draught. It was a somewhat unusual indulgence, for him; and it moved Ayer to ask what was the matter.

"There are," replied the physician, "certain phenomena attendant upon the passage of a human being to a brighter and better sphere—"

"Is Steve Hollis dead?"

"Yes. How did you know it was he?"

"I heard something about it, but not definitely. When did he die?"

"This evening; and the phenomena of which I was about to speak were disagreeably prominent. In short, my dear boy, he died hard."

"In great pain?"

"Not at all. I am speaking of the mind. In spite of the brighter and better prospects to which I alluded, he did not want to go. He clung to life. He was conscious almost to the last moment, and he implored us to save him."

"Who was with you?"

"Dr. Barker."

"Hollis couldn't have been fully conscious if he expected Dr. Barker to save him."

"There is something in what you say,"

replied Dr. Stanley, pouring out a little more brandy. "My colleague was not of my own choosing. I had been attending Mr. Hollis, who, as you know, was suffering from paralysis—a somewhat obscure case of myelitis. There was every chance that he would die within a few days of his attack, but, on the contrary, he showed a strong tendency toward recovery, and this morning I had no fear for the result. Late this afternoon I was called in a hurry. Dr. Barker came almost immediately afterwards. They sent for him, fearing that I might be out. Mr. Hollis wanted him to remain, and I made no objection. It made no difference. The end was in sight then."

"What did he die of, finally?"

"Dr. Ayer!"

It was a young man in charge of the soda water fountain who called. The druggist stepped into the outer store without waiting to hear the reply to his question.

He found Edward Hollis, nephew of the man who had died that day, waiting. Ayer had a slight acquaintance with young Hollis—a thin, dark, nervous fellow with streaks of gray above his ears, though he was only twenty-five. He was turning over the leaves of the telephone directory and making them rattle under his trembling fingers.

"May I use your telephone a few minutes?" he asked. "It has occurred to me that there are several persons whom I can notify in that way. My uncle is dead—perhaps you already know."

"I was grieved to hear of it," said Ayer courteously. "Certainly you may use the telephone. It is here."

He pointed to a little closet near the end of the partition that has been already mentioned.

Just as Hollis entered the closet Dr. Barker appeared at the door of the store.

"Is Dr. Stanley here?" he asked of Ayer.

"Yes; come in," replied the druggist, and Dr. Barker walked into the prescription department.

At that moment a woman who was making a purchase appealed to Dr. Ayer as to which of two things that were exactly alike was the better. As there is no way of settling such a question it is an excellent subject for endless conversation. The woman realized her opportunity and she proceeded to improve it.

Dr. Ayer listened to her with a portion of one ear, but the remainder of his auditory apparatus was occupied with something far more interesting. Dr. Barker and Dr. Stanley were talking on the other side of the partition.

They were speaking in tones so carefully guarded that they doubtless believed it to be impossible for any one to overhear what they said. Indeed, there was probably only one place in the outer store where the conversation could have been heard, and Dr. Ayer was in that place. He was leaning against the partition. A small case containing toilet articles separated him from his customer. She was too much interested in what she herself was saying to pay attention to anything else.

"What are you going to do about it?" Ayer heard Barker say.

"I shall certainly report death from natural causes," replied Stanley. "There is no earthly reason to do otherwise."

"I cannot agree with you, doctor."

"You don't mean to say that you attach any importance to what the patient said about others desiring his death, and all that."

"I attach considerable importance to it."

"And I tell you the man was out of his head. You yourself saw that he was subject to delusions."

"He was subject to no delusions when I first saw him. There were certain illusions of vision, but they fit well enough with my theory of the case. At the last it is true that his mind wandered somewhat, and there again my opinion is confirmed."

"And what is your opinion? I haven't been able to grasp it yet. You speak of poisons."

"Doctor, I merely suggest. It is true that I have as yet said nothing definite. This is your case, and I am far from desiring to do anything unprofessional. However, since you now ask for my opinion, I tell you that the patient was suffering from poisoning with two toxic agents."

"Namely——"

"Morphia and atropine."

"What makes you think so?"

A portion of the reply was inaudible to Ayer, but he heard enough to make him aware that Dr. Barker laid particular stress upon the appearance of the pupils of the patient's eyes, which were much contracted.

He admitted, however, that otherwise there was little to indicate morphine poisoning. There were certain phenomena not inconsistent with that view of the case, but yet not definitive. Dr. Barker's opinion seemed to be that the dose of morphine had been very small and not in itself sufficient to cause death. It had probably been given to disguise the effect of the atropine, which, in the end, had asserted itself. He called attention to the dilation of the pupils just previous to death in proof of his theory, and he instanced a celebrated poisoning case of recent occurrence wherein the signs had been as obscure and contradictory as in the case in question.

Dr. Stanley replied by desiring to know why his colleague had not advanced these theories somewhat earlier, when they might have been of use to the patient. Dr. Barker's rejoinder was exceedingly lame. He insisted that he had been a mere cipher in the sick room, and that Dr. Stanley had so persistently refused to be guided by anything he said that he had at last decided to be only a spectator.

The druggist, listening, was convinced that Dr. Barker's theory had been formed since the death of Hollis, and that it depended more upon his suspicions of certain persons than upon any professional view of the case.

It was well known that Hollis was at odds with nearly all his relatives. Not more than a year before he had quarreled violently with his sister and her son, Edward, and had driven them out of the house, receiving in their place another branch of the family in whose favor he had immediately drawn a new will. Six months later another convulsion had occurred in the house. The favorites were deposed; Edward Hollis and his mother were recalled, and another will was made dividing almost all the old man's great property between his sister and his nephew.

These sudden changes of sentiment had been the talk of the neighborhood. There were rumors of violent quarrels in the Hollis household. And so, upon the occasion of a death that had anything of mystery in it, gossip of the blackest description was sure to be excited.

And by lending himself to the popular side of the question Dr. Barker might get considerable advertising—a commodity which Ayer suspected him of desiring overmuch.

The two physicians were still disputing when Ayer finally got through with his customer and turned to go into the prescription department. Just then Edward Hollis came out of the telephone room.

Ayer met him face to face, and at that moment Barker said in a much louder tone than prudence should have dictated:

"You may hold to the theory of natural death if you like, but I tell you that Stephen Hollis was poisoned, and——"

He was interrupted by a loud noise of crashing wood and shivering glass.

Edward Hollis had leaned too hard upon a fragile counter and had crushed it. But the look of fear upon the man's face impressed Ayer much more strongly than the convulsive action that had wrecked the counter.

At that moment the druggist was as firmly convinced as Dr. Barker was that Stephen Hollis had been poisoned.

(To be continued.)

SPANISH OLIVE OIL.—Spain produces more olive oil than any other country, the annual production being nearly 3,000,000 hectoliters (79,251,000 gallons), while that of France is only 300,000 hectoliters (7,925,100 gallons), and that of Italy is 1,300,000 hectoliters (34,342,100 gallons). The annual production of French olive oil is valued at 49,000,000 pesetas ($9,457,000), while that of Italy is valued at 195,000,000 pesetas ($37,635,000). It follows, therefore, that French olive oil is valued most highly, and that Italian olive oil, if considered equally good, would yield 18,000,000 pesetas ($3,474,000) more than it does. If Spanish olive oil were sold at French prices it would be valued at 400,350,000 pesetas ($77,267,500), instead of its present valuation ($37,758,569). The best olive oil in Spain is produced in Andalusia and Jaén, and the next best in Valencia, Tarragona and Extremadura. The reasons why better olive oil is not produced in Spain are (1) because the olives are not of the first quality, (2) because the machinery employed is not of the best, and (3) because the olive is not sufficiently studied. (U. S. Consul at Barcelona.)

PHARMACY.

PRESERVING MEATS, ETC.—A patented process consists in subjecting the filled but open cans of meat, fruit, etc., to compressed carbonic acid, about one hundred pounds to the square inch, and at once closing and soldering the tins.

PRESERVING EXTRACTS OF LEMON, ETC.—An English patent provides for adding to the juice and the extract of fresh lemon peel, limes, etc., from 5 to 25 per cent. of acetic acid, adding sugar if desired. Count us out on the use of such stuff.

MIXTURA CHININI EFFERVESCENS.—Mix 0.12 gm. quinine sulphate, 0.6 gm. citric acid, 2 gm. each elixir of orange and syrup of orange peel. Pour the whole into a glass of water containing 0.6 gm. sodium bicarbonate, and drink quickly. This is a palatable combination, well borne by the stomach.

FLUID EXTRACT OF CUBEB.—Percy Hyers prepared a fluid extract which contained 20.85 per cent. total solids, 13.70 per cent. oil and fatty matter and 4.40 per cent. resin. He compared this sample with market preparations, and finds that the latter vary in total solids from 11.97 per cent. to 15.30 per cent., in oil and fatty matter from 7.60 per cent. to 11.92 per cent., and in resin from 3.98 per cent. to 4.22 per cent. These results, none being as high as those obtained from his own preparation, are reported in Am. Jr. Ph.

CRUELTY TO FLIES.—The Leipzig Society for the Prevention of Cruelty to Animals has circularized the druggists of the city, pointing out the suffering caused to flies by the use of sticky fly-papers, and suggesting that the sale of these articles should be discontinued. (Ch. & Dr.) The society at the same time suggests, as a more "humane" means of keeping off flies, the placing about the apartments of small, open vessels filled with cod-liver oil. As flies greatly dislike the odor of that drug they may be trusted promptly to betake themselves next door.

THE RUSSIAN CHEMICAL INDUSTRY.—There has been a great increase in the demand and the production of sulphuric acid in Russia lately, says the Austrian Consul in Moscow, and in 1894 the Russian manufacturers for the first time sold the whole of their output locally instead of sending part of it to the annual fair at Nishny Novgorod. The principal increase in the demand has been caused by the smokeless powder factories, one of which, at Kasan, requires 200,000 poods of vitriol yearly. Formerly the bulk of the Russian sulphuric acid was made from pyrites obtained in the Ural Mountains, but in the course of the last year or two the decline in the price of Sicilian sulphur and the reduction of the railway rates and the import duties on that article have caused the manufacturers to resort to it again. The production of hydrochloric acid has grown even more rapidly than that of sulphuric acid, the output of a single factory in the Moscow district having advanced from 35,055 poods in 1893 to 114,854 poods in 1894. The principal consumers of this acid are factories which convert it into chloride of zinc for the purpose of impregnating sleepers. In the course of the last two years hydrochloric acid has also superseded sulphuric acid in the preparation of fine cotton fabrics, which cannot be successfully dyed unless freed from lime-residues. The production of acetic acid has also increased.

OTTO OF ROSE.—British Vice-Consul Wratislaw had occasion in last year's report to draw attention to the inaccuracy of the figures given by the custom-house as representing the exportation of otto of rose. This is again stated for 1894 as between £15,000 and £16,000, whereas almost the whole of the crop, a good average one of about 2,000 kilos, was exported at prices between 900 and 1,200 francs per kilo. France, Germany, the United States and Great Britain were the principal buyers. The adulteration to which otto of rose has always been subjected seems hardly to have been checked by the prohibition imposed by the Government on the importation into Bulgaria of the adulterating medium, essence of geranium. Indeed, the quantity of otto which reaches the European markets in a pure state must be very small. Last summer the British Chamber of Commerce at Constantinople sent a delegate to Kezanlik, the principal otto-producing center, with a view to procuring an absolutely pure sample to serve as a standard for purposes of comparison. This gentleman, however, was obliged to return empty-handed, for he ascertained that, though the otto may not be tampered with after reaching the merchants' hands, there is no means of insuring that the peasant, whose stock the former buys up, has not already adulterated it. Supervision during distilling is no guarantee, for the ingenious peasant is in the habit of sprinkling essence of geranium over the freshly gathered roses before distillation in order to increase the yield. Congelation at a certain temperature, which is principally relied on as a test of purity, is quite fallacious.

ARGON AND HELIUM.—The Physical and Chemical Sections of the British Association for the Advancement of Science met together on Sept. 13, when Lord Rayleigh gave an account of experiments made to determine the index of refraction and the viscosity of argon and helium, through which it was found that argon had 0.961 and helium 0.146 of the refractive value for air. Ch. & Dr. has a good report of his paper. The viscosity of the gases was measured by the rate of their flow through a narrow tube. The relative viscosities referred to air were for argon 1.21 and for helium 0.96. Lord Rayleigh stated that he had received a sample of gas from a Bath spring. Formerly it was supposed to be nitrogen, but analysis shows it to be nitrogen of less density than atmospheric nitrogen, and, Lord Rayleigh said, amidst cheers, that "the spectrum test did show that that contained helium showing line D." So that the Pyrenees mineral water spring has not a helium monopoly. Other papers confirmatory of the argon discovered were read, Dr. Gladstone giving some results of investigations relative to specific refraction and the periodic laws which argon, with other gases, obeyed in decorous fashion. Prof. A. Schuster and Prof. Runge, of Hanover (with his co-worker, Dr. Paschen), contributed separate investigations on the same subject, the latter being received with enthusiasm on the merit of his original researches into the spectrum of helium. A difference of opinion arose upon the latter papers, for Dr. G. Johnstone Stoney stated that the admirable work of Profs. Runge and Paschen could not have been carried out in the British Isles, there being no place fitted with apparatus of the necessary delicacy. It was more desirable to remedy this as soon as possible. The work described was performed with a large Rowland grating belonging to the Royal Observatory at Potsdam. Prof. Armstrong desired to correct the idea that the work could not have been done in the British Isles. It had been carried out in the true British spirit with individual procuring of apparatus. Prof. Liveing added that good hard work was more effective in obtaining results than elaborate apparatus. He instanced the results which Lord Rayleigh had described.

ANTISEPTIC ACTION OF OINTMENTS.—Since Koch has demonstrated the fact that carbolic oils possess no disinfectant properties, it became indispensable to learn how antiseptics behave in the form of ointments, a point concerning which there has been no definite information up to the present. Dr. E. Breslauer has undertaken to solve this problem by a series of very practical and extremely exact experiments. He describes the methods he has employed, amongst which Spirig's cover-glass method is most important, and then communicates the results of his experiments. He attaches less importance to the testing of the strength of the antiseptics themselves than to the examination of their behavior when mixed with different ointment bases. For his investigations he selected oil, vaseline, fat, lanoline, lanolinum anhydricum and unguentum leniens, and employed the micro-organisms of staphylococcus pyogenes aurens and bacillus prodigiosus. It was demonstrated that when, for instance, mixed with carbolic acid, carbolized vaseline, was superior to carbolic oil, carbolized fat to carbolized vaseline, carbolized lanolium anhydricum to carbolized fat, and that superior to all was carbolized lanoline and carbolized unguentum leniens. Similar results were obtained when corrosive sublimate, resorcin, silver ni-

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trate, 10 per cent. boric acid or 5 per cent. salicylic acid were substituted for carbolic acid. The combinations with lanoline and with unguentum leniens always proved the most active ointments. Moreover, several ointments much employed in therapeutical practice were tested as to their bactericidal action, such as unguentum zinci, unguentum hydrargyri and unguentum hydrargyri ammonii. The two mercurial ointments exhibited a high degree of antiseptic action, the others none. It was also determined that other ointment vehicles less extensively employed, such as ung. simplex, oesypus, adeps lanae, epidermis, and ung. glycerini, are all inferior to lanoline and ung. leniens in antiseptic power. The value of this investigation is increased by the additional experiments made by the author with the different ointment constituents upon animals. These corroborated the conclusions already arrived at, that lanoline and ung. leniens combined with various antiseptics possess by far the greatest disinfectant value, while vaseline and fat, on the other hand, and still more so oil, as ointment bases, reduce the disinfectant value of an ointment to a minimum.

Dr. Breslauer therefore summarizes his conclusions as follows: (1) A varying degree of antiseptic action is to be attributed to disinfectants in different kinds of ointments. (2) The choice of ointment base is of the greatest importance to the value of an ointment. Lanoline and ung. leniens are superior in antiseptic power to all other ointment bases.

NAIL POLISHES.

Cera Fortitant, for the Nails.

Oil of lentise.....½ ounce
Salt ....½ dram
Resin .. .. 1 scruple
Alum.... .... 1 scruple
Wax.. .... 1 scruple
Mix together.
Oil of bitter almonds...2 ounces
Oil of tartar.....2 drams
Essence of lemon.....6 drops

For frequent application when the nails are weak or loosened.

Finger Nail Dressing.

Sulphuric acid .....5 drops
Tincture of myrrh.....1 dram
Water to make.....4 ounces
Mix.

First clean the nails with a stiff brush and soap, and then plunge them into the above mixture and hold them there for five minutes.

Polish for Finger Nails.

Peroxide of tin, 6 ounces; tragacanth, 6 grains; glycerin, 4 drops; rose water, sufficient; mix and make into a paste. Color with ammonia solution of carmine.

Nail Powder.

Oxide tin, very fine.. 4 pounds
Carmine .... ¾ ounce
Oil bergamot .....150 grains
Oil lavender .....150 grains

Subscribers to the Era may make full use of the extensive facilities of the Question Box for the solution of prescription and dispensing problems, and all difficulties encountered in practical pharmaceutical work.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Chemical Apparatus, Reagent Bottles, etc.

(C. E. B.) Address Whitall, Tatum & Co., or Fox, Fultz & Co., this city.

Ownership of the Prescription.

(G. W. H.) See issues of the Era, Feb. 28, 1895, page 271, and March 7, 1895, page 288.

Dean of Rush Medical College.

(C. E B.) Address the secretary, Dr. J. H. Etheridge, 1634 Michigan avenue, Chicago, Ill., for information. This college is a department of Lake Forest University E. L. Holmes, M. D., is the president of the medical faculty.

Carbolic Salve Containing Calomel.

(F. J. S.) Here is the formula you desire:

White wax ..... 8 ounces
Lard .... 24 ounces
Carbolic acid .....2½ ounces
Calomel .... 4 drams
Camphor .... 1 dram

Explosions in Mines.

(C. M. G.) Refer your query to an expert mining engineer, or, if there be none in your vicinity, it may pay you to write to the editor of the Engineering and Mining Journal, 253 Broadway, this city. Your questions have no particular bearing upon practical pharmacy, and therefore they are not discussed in this department.

Herbum Oviga Aurea.

(J. E. N.) Dr. Fr. Hoffmann, of this city, says: "Herba oviga aurea is not mentioned in any of the older or more recent pharmaceutical, medical or botanical works. If such name occurs in any old German formula, as, for instance, the customary 'Bitters,' very likely 'herba origani cretici,' sometimes 'origani aurei' is meant."

Decolorized Tincture of Iodine.

(C. E. B.) A decolorized tincture of iodine does not contain free iodine and it is therefore by no means as powerful a counter-irritant as the original tincture, which is a simple solution of iodine in alcohol. As a local discutient, medical authorities state it to be of no more value than a solution of iodide of sodium or ammonium in water.

Eczema Lotion.

(H. B. R.) See reply to query to similar query in the Sept. 26, 1895, Era, p. 399. Chaulmoogra oil is used to some considerable extent in the treatment of eczema. An ointment is made by mixing from 20 to 30 grains of the oil with lard, suet, lanolin, or other appropriate fatty vehicle. For obstinate chronic eczema the following combination is recommended by Shoemaker:

Citrine ointment .....½ ounce
Chaulmoogra ointment (1 to 16) .....½ ounce

A German Mixture.

(Subscriber.) A Masinda, Prague, Neb., submits the following translation of your prescription appearing under the above title in the Aug. 15, 1895, Era, p. 207:

Durchdrängendes oel=Croton oil.
Loor oil=Laurel oil.
Häthtreinen=Cantharides.
Grünes glieder (Grüne glatte)=Copper acetate.

Water and Tincture of Buchu.

(B. & S.) Criticism is asked upon this prescription:

Potassium nitrate,
Potassium citrate, of each ....1 ounce
Water ....4 ounces
Dissolve and add:
Tincture of buchu, enough to make.....8 ounces

The resinous principles of the tincture of buchu are thrown down by the water. A much more satisfactory preparation would result if a freshly made infusion of buchu was to be substituted for the water and tincture.

Clear Solution of Sulphur.

(W. N. F.) Sulphur is insoluble in water, but soluble in alkaline solutions, petroleum, naphtha, the fixed oils, and carbon disulphide. It is also somewhat soluble in oil of turpentine, many of the volatile oils, absolute alcohol and chloroform. Dr. Pentermann (Monatshefte für Prakt. Dermat.) makes a so-called "soluble sulphur" by the addition of hydrochloric acid and the thiosulphite of sodium. If the mixture be allowed to stand for a while there appears a flocculent precipitate, which is soluble in water, with a resultant yellow color. It soon undergoes changes, however, passing over into the ordinary thiosulphite.

Genuine Rattlesnake Oil.

(Subscriber) wants to know if a "genuine" oil can be obtained, and, if so, where?

Inquiry of a leading drug jobber in this city brought the reply that he had never been able to purchase an article of this character, though he had often tried it. Some of that sold on the market as such would probably answer all of the tests for lard or cottonseed oil. The following combination has also been sold as "rattlesnake oil," and it is said to satisfactorily answer the purpose:

Gum camphor ..... 1 ounce
Oil cedar .....½ ounce
Oil sassafras .....½ ounce
Raw linseed oil, enough to make ..... 1 quart

Gold and Sodium Chloride and Alkaloids.

(A. L. R.) says he cannot make a clear solution from the following prescription:

Atropine sulphate,
Gold and sodium chloride,
Strychnine sulphate, of each ....2 grains
Distilled water .....4 ounces

Of course you cannot, for the prescription is an incompatible one. Chloride of gold is frequently used for the estimation of alkaloids, and its property of precipitating these bodies is only increased in the double salt of gold and sodium. If

you want to do any experimenting with bichloride drunkenness cures you had better leave the gold out, for all others do. We do not make analyses of patent medicines.

Witch Hazel Ointment.

(B. L. M.) The following formula is official in the British Pharmacopœia:

Liquid extract of hamamelis ..... 50 minims
Simple ointment.....410 grains

The simple ointment is prepared from white wax, 2 ounces; benzoated lard, 3 ounces, and almond oil 3 fluid ounces. Melt the wax and lard in the oil on a water bath; then remove the mixture, and stir constantly while it cools.

2.) Tincture hamamelis.....12 drams
Lanoline .... 6 drams
Petrolatum, enough to make ....16 ounces

3) An ointment sometimes prescribed under the above name and used in erysipelas, subacute eczema and similar diseases is the following:

Ointment zinc oxide....½ ounce
Zinc carbonate ..... 1 dram
Powdered starch ..... 1 dram
Hamamelis ointment... 1 ounce

Water of Ammonia, Laudanum and Spirits of Turpentine.

(C. M. G.) In the prescription for a liniment

Alcohol,
Gum camphor,
Water of ammonia, of each ....1 ounce
Oil of sassafras.....2 drams
Laudanum,
Tincture of capsicum, of each ....1 ounce
Spirits of turpentine, enough to make.....8 ounces

you failed to produce a clear mixture because such a one cannot be made. Water of ammonia is incompatible with all of the other ingredients. The spirits of turpentine, too, is not miscible with the other liquids. You cannot mix oils with preparations containing water, as, in this instance, oils of sassafras and turpentine with water of ammonia, laudanum and tincture of capsicum. A "shake" mixture and nothing else can be made out of it without materially reorganizing the formula.

Varnish for Oil Paintings.

(J. W. O.) We cannot give you the formula for the proprietary article. Here are, however, two formulas from Dick's Encyclopedia, one of which may answer your purpose:

(1) Take mastich, 6 ounces; pure turpentine, ½ ounce; camphor, 2 drams; spirits of turpentine, 19 ounces; add first the camphor to the turpentine; the mixture is made in a water-bath; when solution is effected add the mastich and the spirits of turpentine near the end of the operation; filter through a cotton cloth.

(2) Very pale and picked gum mastich, 5 pounds; glass pounded as small as barley, and well washed and dried, 2½ pounds; rectified turpentine, 2 gallons; put them into a clean 4-gallon stone or tin bottle, bung down securely, and keep rolling it backwards and forwards pretty smartly on a counter or any other solid place for at least 4 hours, when, if the gum is all dissolved, the varnish may be decanted, strained through muslin into another bottle, and allowed to settle. It should be kept 6 or 9 months before use, as it thereby gets both tougher and clearer.

Fragrant Cream.

(B. & B.) We cannot give you the formula for the proprietary preparation. Here are, however, several formulas for typical preparations of this character:

1.) Linseed ....20 ounces
Salicylic acid .....25 grains
Distilled water ..... 1 gallon
Glycerine ..... 1 pint
Alcohol .....24 ounces
Carbolic acid ..... 1½ drams
Cologne ..... 2 ounces

2.) Mucilage of quince seed.100 parts
Borax ..... 2 parts
Water .... 4 parts
Glycerine ..... 6 parts
Alcohol .... 3 parts
Oil bergamot ..... 1 part

3.) Lanolin .....30 grams
Glycerin .....20 grams
Borax ....16 grams
Eucalyptol ..... 1 gram
Perfume with oil bitter almond.

Elder Flower Cream.

4.) Lanolin ..... 4 drs.
Powdered soap ..... 2 drs.
Spirit bergamot (1-16)... 2 fl. drs.
Elder flower water..... 4 fl. oz.

Flashlight Powder.

(L. L.)

Magnesium powder ... 6 ounces
Potassium chlorate ....12 ounces
Antimony sulphide .... 2 ounces

Mix them. Use from 75 to 150 grains of the mixture at a time.

2.) Purchase 1 ounce magnesium powder and 1 ounce of negative gun cotton from dealers in photographic material; place on a dust pan enough cotton when pulled out to measure 3½ inches in diameter. Sprinkle it over with 20 grains of magnesium powder, to form a thin, even film. Lay over the magnesium thus arranged a very thin layer of gun cotton. Connect to the bunch of cotton a small fuse of twisted cotton about 6 inches long, so that it will extend to the side of the dust pan. Then set the pan on a step ladder near the object, and, when ready, light the gun cotton fuse with a match, when instantly a brilliant flash will ensue.

3.) Chlorate potassium .....25 parts
Yellow prussiate potassium .... 3 parts
Sugar ..... 2 parts
Aluminum powder .....10 parts

Dose of Pyrophosphate of Iron.

(A. H. B.) wants to know if he would be justified in filling the following prescription, containing an unusually large amount of pyrophosphate of iron, without communicating with the prescriber:

Strychnine sulphate . 1 grain
Pyrophosphate of iron ....5½ drams
Tincture of ginger... 32 minims
Glycerin .... 3 drams
Water, enough to make .... 4 ounces

Teaspoonful 3 times a day after eating. He further says that the physician claims that $10^{19}/_{32}$ grains of the salt in question is a correct dose, and that the pharmacist should not be timid in dispensing it without seeing him.

In questions of doubt it is always safer to "err on the right side," but in this instance it is quite likely that the doctor knew his business. While true that a majority of the standard works on therapeutics and posology state the maximum dose to be 5 or 6 grains, yet a much larger dose can be given without producing untoward effects. Pyrophosphate of iron is easily assimilated and, as claimed by some authorities, unirritating. In this case it is taken after meals, the food causing it to be largely diluted before it comes in contact with the stomach. It must be stated, however, that large doses, or small ones, long-continued, of all of the iron preparations are directly unfavorable to digestion, nausea and vomiting resulting.

Chill Tonic.

(S. F.) We cannot give the formula for the proprietary preparation. The following are typical formulas for remedies of a similar character:

1.) Quinidia .....128 grains
Syrup of glycyrrhiza, N. F.
Aromatic syrup yerba santa, N. F., of each. 4 ounces

2.) Cinchonia ..... 96 grains
Iron and ammonium citrate ..... 64 grains
Aromatic elixir yerba santa .... 4 ounces
Compound elixir of taraxicum, enough to make .... 8 ounces

Dose, two teaspoonfuls.

(3) The following, though not a "tasteless" preparation, was recommended to the members of the Illinois Pharmaceutical Association some time ago:

Tincture eucalyptus .. 2 ounces
Tincture serpentaria .. 4 ounces
Tincture capsicum .... 5 drams
Tincture myrrh ..... 5 drams
Tincture nux vomica.. 2 drams
Quinine sulphate ..... 60 grains
Elixir glycyrrhiza, sufficient to make..... 16 ounces

Dose, one-half tablespoonful.

KOLA.—N. L. Thompson (Am. Jr. Ph.) has estimated the total alkaloids and the tannin of some specimens of this drug, which he obtained in commerce. Calculating results to absolutely dry drug, he finds in the four samples the following percentages of tannin, 1.87, 1.86, 2.85, 2.47. Total alkaloids in the four samples, estimated by three different methods gave these percentages: No. 1. 1.08, 1.46, 1.46; No. 2, 0.59, 0.80, ——; No. 3, 1.84, 1.96, 1.73; No. 4, 1.22, 1.62, ——.

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Many druggists have found customers for their stores by putting a "Want Ad" in the Era. Two cents a word, lowest charge 50 cents.

Practical Hints and Suggestions for Advertisers are two Era departments which readers find of much financial value. A single hint is often worth more than the subscription price, $2.

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Standard Drug Co. to Discontinue.

Cincinnati, Oct. 7.—President C. P. Calvert, of the Standard Drug Co., has authorized the formal announcement that his company has concluded to close out its entire stock of drugs and druggists' sundries, dissolve partnership and wind up the affairs of the firm at once. When interviewed some time ago by the Era reporter Mr. Calvert denied that the concern contemplated quitting business, and would only admit that the company was disposing of its sundry department in the interest of economy. As an explanation for the conflicting statements Mr. Calvert said that the latter action had not been definitely decided until recently.

The history of the Standard Drug Co. is rather interesting. It was organized about five years ago by C. P. Calvert, Le Roy Brooks, Otto Rauchfuss and the late Ernst Wilfert. Messrs. Calvert and Brooks were associated in the drug and chemical business, while Rauchfuss was engaged in the wholesale drug business. Wilfert conducted a retail establishment. A short while previous to the formation of the Standard Co. Rauchfuss assigned, but shortly afterward effected a compromise settlement with his creditors, paying them about 40 per cent. When the Standard Co. was formed Calvert and Brooks and Rauchfuss inventoried their combined stocks at $80,000, and as the company was capitalized at $100,000 Wilfert paid $20,000 in cash for his interest. About three years ago Mr. Wilfert died and his heirs not wishing to carry stock in the Standard Co. sold their holding for 50 per cent. of its face value, or $10,000, to Mr. Brooks, who now has a controlling interest in the company. It is said that the concern's net earnings have not satisfied Mr. Brooks, and that it is at his instigation that the company is retiring. The members of the firm are reticent about their future movements. Mr. Rauchfuss will probably open a pharmacy on Walnut Hills.

Retailers and the Rebate Plan.

Philadelphia, Oct. 5.—There are a number of druggists in this city who are somewhat exercised over the new rebate plan, as they have for some time past been classed as jobbers, but they think now that the wholesale dealers will have their names stricken off the jobbers' list and in this manner keep them from purchasing direct from the manufacturer. The members of the Philadelphia Drug Co. do not seem surprised in the refusal of the N. W. D. A. to act on its application for membership in that association. This company claims to meet the requirements of the N. W. D. A. more closely than any other wholesale house in this city. None of the goods are sold at retail, and, besides, they are only sold to druggists. It is thought that as this company is not a member of the N. W. D. A. it will suffer with the rest of the druggists, and that it will have a hard time to get its goods direct and in this way secure the discount.

Mr. Bowers, secretary of the Proprietary Committee of the N. W. D. A., is receiving reports from all over the country and they are very encouraging. A meeting of the new committee will be held in a short time to act on the plan. The large houses in this city are very much pleased with the plan and they say that they will do all that lies in their power to make it a success. The cut-rate stores, however, do not seem to be alarmed and they state that they will be able to get all the goods they want and as low as sold to any one else. These houses generally pay cash for what they order and on this account they think that they will not be stricken from the list, no matter what the wholesale dealers suggest.

Druggist Borton Sells Out.

St. Louis, Oct. 5.—James M. Borton, the druggist at Washington and Jefferson avenues, gained considerable unpleasant notoriety of late by his connection with what is known as the Avery case. Avery was the cashier for a commission house, and is said to have embezzled over $7,000 from that firm and about $1,300 from Mound City Council of the National Union. Mr. Borton, it appears, cashed the checks drawn by Avery on his account as collector for Mound City Council. Yesterday Mr. Borton sold his drug store, to the great discomfiture of the officers of the council, who believed Borton could be held responsible for the money he received on the checks. Mr. Borton sold his drug store to L. J. Lehman, and the consideration is said to have been $5,000. Mr. Borton has now gone into the law business at Room 211, Temple Building, and is a member of the firm of Fensky & Borton. Mr. Borton is unable to see why he should in any way be held responsible for Avery's shortcomings, as he had the checks cashed simply as an accommodation to the latter.

Thirty-two pages each week, 52 weeks, 1,664 pages a year of the freshest and most reliable information on matters pharmaceutical is what the Era gives you for $2.

Mr. Bromwell's National Food and Drug Bill.

Cincinnati, Oct. 5.—The question of a national food and drug law is commencing to assume a definite and decidedly bright aspect. Congressman Jacob A. Bromwell, of this district, who is taking an active interest in the matter, has, after consultation with prominent local druggists, grocers and manufacturers, drafted a bill which he believes will, if enacted as a law, entirely cover the situation and make intentional adulterations a very unprofitable business. The measure will be introduced at the opening session of the next Congress. There are many technical features in the bill, but its fundamental principles are based upon the standards specified by the United States Pharmacopœia, and it is Mr. Bromwell's wish to have the food and drug laws so constructed as to prohibit the manufacture or sale of any drug not recognized in the U. S. P. or other standard work. Mr. Bromwell's measure makes provision for the appointment of inspectors, who will be required to periodically visit establishments where articles of food, drink or drugs are handled, and examine the merchant's stock. If an article of a questioned purity is found the dealer is notified accordingly and instructed to replace it with one of the proper standard. With the exception of a few minor points the bill resembles the enactments now in vogue in France and Germany.

In speaking on the subject of national food laws Mr. Bromwell said: "I feel that I have undertaken a worthy matter and only hope my efforts will be successful. Food adulteration is becoming a serious matter and requires prompt attention. It is difficult for individual States to successfully combat the evil, and from observation I believe that national legislation is the only effective remedy. I anticipate considerable opposition to my bill from unscrupulous manufacturers throughout the country, but I hope with the assistance of honest dealers to triumph and restore foods and drugs to their proper nutritious and health-preserving condition. I am anxious to have manufacturers and dealers communicate to me suggestions regarding the requirements of a national food and drug law, so that I may be guided by the advice of practical business men."

Mr. Bromwell speaks enthusiastically of the measure and will use every means possible to have the law enacted.

Exhibits of Interest to Druggists.

Boston, Oct. 7.—Among the exhibits made at the fair just opened by the Massachusetts Charitable Mechanic Association to commemorate its centennial are the following, which are likely to be of special interest to druggists: Augier Chemical Co., soaps, etc.; C. J. Bailey & Co., rubber goods; Joseph Burnett & Co., perfumes, etc.; Campbell Chemical Co., toilet articles; J. H. Flagg, inks, mucilage, etc.; Hecla Compressed Gas Co., liquefied carbonic acid; Horlick's Food Co., malted milk. There will, of course, be many others, but those mentioned are already in place.

Substitution Agitation in St. Louis.

St. Louis, Oct. 5.—Pharmaceutical circles in this city are considerably stirred up at present over the renewal of the substitution agitation. Not long since Dr. Louis A. Turnbull, editor of the St. Louis Courier of Medicine, came out with a bold editorial in which he charged that over 50 per cent. of the druggists not only in St. Louis, but all over the United States, were guilty of substitution. Dr. Turnbull followed this up with the assertion that substitution "had to stop or there would be trouble." The physicians throughout the city and country took up the matter and heartily indorsed the movement. Dr. Turnbull when seen by your correspondent discussed the matter freely. "This is purely a doctor's movement," said he, "and not backed by any chemical company or anybody else. When I say that 50 per cent. of the druggists of this country substitute, I know whereof I speak. Substitution has got to stop, and some druggists are going to be hit hard. We have now several men out on the road whose business it is to get positive evidence, and when this evidence is secured the name of the druggist who is guilty of substitution will be published and all physicians warned against patronizing them. I can conceive nothing more horrible than a druggist who is guilty of substitution. It is murder for a dime, pure and simple. A patient's life may hang on a thread, and if he does not secure the right medicine prescribed by the physician, it may terminate fatally. No reputable druggist will, I believe, substitute. It is only those who hope to make a few cents by so doing. Of course, there are some medicines, such as liquids and tinctures, where the druggist ought to be allowed to decide of his own accord which should be furnished. There are perhaps a dozen or more different liquids of the same kind, and I don't think a druggist ought to be required to keep every liquid in stock. As to tinctures, they vary in strength, and I believe the United States Government should make some regulation with regard to the strength of tinctures. But substitution proper must stop, and unless this is done, the physician will be compelled to put up his own medicines."

The druggists of St. Louis were somewhat dazed at Dr. Turnbull's bold statements. While it is admitted that substitution exists in a mild form, the doctor's assertions were pronounced greatly exaggerated. Every druggist seen was loud in his denunciation of those who substitute, and they promise to give hearty support to any movement that will wipe out substitution.

Druggist J. W. Fernow, Broadway and Market streets, when seen said: "It is gratifying to those of us who are practicing legitimate pharmacy to see substitution forced to an issue and to bring the so-called substituters to answer for the gross injustice heaped upon suffering humanity. Stealing the copper from the dead negro's eye is saintly compared to prescription tampering. The dead cannot be injured, and the living sick should have what is demanded by the physician, and the best and purest at that. Every legitimate and conscientious pharmacist does not extort, as many think, but only asks a fair profit on prescriptions. The chronic substituter is always ready to go a few cents lower, and the innocent sick gain a benefit financially, but are fleeced medically."

Druggist M. W. Alexander, on Olive street, said: "I do not believe substitution is carried on as extensively as Dr. Turnbull and some of his associates seem to think. That it exists, of course, we do not deny. In fact, it exists in all large cities. As to the best mode of exterminating it, that is rather a difficult question to answer. The best plan, I believe, is for physicians not to patronize any druggist who is known to be a substituter. I do not think it would be well for physicians to put up their own prescriptions. That would be a step backward instead of forward."

Druggist J. H. Allen, of Seventh and Olive streets, said: "Substitution is not a good thing, to be sure, but I am rather surprised that some of the more prominent druggists should put all the blame on the smaller ones. I think the smaller druggists are just as honest as the large, and, in some cases, which I could cite, it was rather fortunate for the physician and the patient that substitution was made. Some physicians show a surprising lack of the knowledge of pharmacy, and druggists are continually compelled to call their attention to mistakes. Substitution should not exist, and I favor any plan which will put an end to it."

Rudolph S. Vitt, a South Broadway druggist, said: "I do not believe a reputable druggist will substitute, but am compelled to admit that it exists to a certain extent. It is a dangerous step for any druggist to take, and I am unable to see how any druggist could stoop so low as to tamper with a prescription, and substitute something that may be a few cents cheaper. I believe a vigorous campaign will wipe it out."

What Does Baby Say?

Here is a druggist who is also a poet. He is J. H. Redsecker, of Lebanon, Pa. A hitherto unpublished effusion is this:

What does little baby say
When he wakes at peep of day?
What a little speck am I,
Like a star up in the sky,
But I'll grow some, by and by.

What does little baby say
As he lies and cooes all day?
Though I'm but a little mite
Mamma loves me, this I'm quite
Sure of, for she hugs me tight.

What does baby's mamma say
To her babe at close of day?
Hush, my baby, gently sleep,
Angels watch and ward will keep,
While they guard thee, baby sleep.

What does baby's papa say
As he works and toils all day?
What though cark and care annoy,
I forget them with my boy,
Who's my life, my hope, my joy.

What shall I, a poet, say
To this trinity, to-day?
May you daily learn to bear
Mutual burdens, mutual care,
And life's joys and blessings share.

Send in your vote on Handsomest Advertisement in this issue.

Warning Against a Swindler.

Boston, Oct. 4.—There is in Calais, Me., a corporation known as the Knowles Medicine Co., and there was until recently a man who was taking advantage of this fact in a way which probably put many dollars into his pocket. But the Post Office inspectors having headquarters in this city have stopped the game. They say that somebody passing as "H. C. Knowles (which may be his right name), manufacturing chemist," has been ordering drugs and various other goods on a large scale and sending in payment drafts of no value. Dealers appear to have been deceived by the similarity in the names, supposing that the orders probably came from the head of the Knowles Co. After a while H. C. Knowles moved to St. Stephens, N. B., which is just across the river, directing the postmaster to send his mail to him there. This has at last been stopped by orders from Washington, and a marshal is provided with a warrant for the arrest of the man on complaint for fraudulent use of the mails, if he should ever be found on this side of the Canadian line.

St. Louis Druggist Swindled.

St. Louis, Oct. 2.—A clever but seedy-looking individual has been cutting quite a swath in pharmaceutical circles in this city lately, and a number of druggists have been victimized. Last Tuesday the fellow entered Fernow's drug store, at Broadway and Market street, and made purchases amounting to $2.33. He drew out his money as if to pay for the goods, when he stopped and said: "By the way, I wish you would put me up a 15-grain sulfonal powder." The clerk went behind the prescription counter to put up the preparation, when the fellow picked up the goods he had purchased and coolly walked away without stopping at the cashier's window. Saturday the same fellow dropped into Allen's pharmacy, at Seventh and Olive streets, played the same trick, and got away with $2 worth of goods. Quite a number of other pharmacists, it is said, have also been victimized, and they would be pleased to see the fellow connect with the calaboose. He is described as being a tall, slim, red-faced, shabby-looking individual, with his left eye looking in a different direction from his right. He is thought to the the person who worked the same racket on St. Louis druggists about five years ago. If caught, the fellow will be given the full extent of the law.

Failure of Dealers in Druggists' Sundries.

Boston, Oct. 1.—Announcement is made to-day of the assignment of Chas. E. Haley & Co., dealers in druggists' sundries 71 Franklin street. Their liabilities are estimated to be about $75,000, and the assets are nominally the same. Serious illness of the managing partner is the reason given for the assignment. The business was established ten years ago. Mr. Haley's partner is his mother, a widow.

Arrested on Complaint for Robbing a Druggist.

Boston, Oct. 4.—There was told in the Era about a month ago a story of the robbery of the drug store of W. E. Nichols & Co., 697 Center street, Jamaica Plain, $600 being taken one night. Now comes the sequel in the arrest of Nathan Cloutier, a missing clerk who is accused of the crime. As Cloutier had brought fine recommendations from several persons it was supposed by his employers that he was honest, and as they had suffered in the past at the hands of clerks, Mr. Nichols and his partner were pretty careful in making up an opinion in regard to his integrity before they told him the combination to the safe. Indeed, it was only on account of the sickness of one of the partners that they told him at all. One day Cloutier complained of being ill, and the next morning when one of the proprietors reached the store at 9:30 he was not wholly surprised—certainly not alarmed—to find the door locked. In a short time, when he had occasion to go to the safe he discovered on opening it that the drawers which it contained had been forced open and $600 taken. A little deliberation satisfied him that Cloutier was the thief. In a few weeks the police caught one of the clerk's companions against whom they had some evidence of complicity, and from this man they obtained information that Cloutier was in Chicago. By corresponding with detectives in that city the Boston police secured his arrest and now he will be brought back for trial.

Ohio Food Commission Active.

Cincinnati, Oct. 4.—Advices received from Lima, O., state that the Food Commission visited that city to-day and caused a number of arrests of druggists on the charge of selling adulterated paregoric and oil of lemon. Several of the druggists pleaded guilty and were fined $25 and costs. The commission's inspectors have been collecting samples at Toledo, Wapakoneta and Sidney, and arrests are expected at these points. Inspector Rentrop returned from Hamilton Saturday after securing specimens of oil of cloves, ground mustard, paregoric and Seidlitz powders. Hamilton is the city where the commission was politely, yet forcibly, invited to leave by the indignant merchants about three months ago.

St. Louis Druggist Injured.

St. Louis, Oct. 5.—Anthony Cary, the druggist at 2216 Montgomery street, was severely injured this morning while driving in a buggy at Broadway and Olive street, by being run into by a Broadway cable car. The buggy was not upset, but Mr. Cary was thrown out, and sustained a fracture of two ribs on the right side and severe contusions on the right leg and face. Mr. Cary was taken to the Dispensary in an ambulance, and after his wounds were dressed was sent to his home. Mr. Cary's injuries, while painful, are not considered dangerous. A ten-year-old girl who was with him in the buggy at the time escaped uninjured.

St. Louis Druggist Exonerated.

St. Louis, Oct. 2.—W. E. Reames, the night clerk at the City Hall drug store, is highly indignant over the way in which his name was dragged into print in connection with the alleged attempted suicide of Mrs. Joe Cafferata, who resides at 1101 Chestnut street. Mrs. Cafferata was found the other day in an unconscious condition suffering from an overdose of chloroform. It was generally regarded as an attempt at suicide, but when she recovered she proceeded to charge Druggist Reames with giving her a stronger compound than she had called for. Mr. Reames denies this. "She came into store about 1 o'clock Thursday morning," said Mr. Reames to your correspondent, "and asked for 25 cents worth of chloroform. She said nothing about having it diluted, and claimed she wanted it for neuralgia and pains in the head. The law permits us to sell such things, provided we are satisfied that the purchaser wants to use them for legitimate purposes. After registering her name and address, as required by the law, I put up the chloroform, and am positive that I put a poison label on. The word 'chloroform' was written in red ink. I understand that after she secured it she went to another drug store and inquired whether it was really chloroform. When she was found the label on the bottle had been soaked off. This is usually done by persons who contemplate suicide." The authorities place great reliance on what Mr. Reames says, and hold him entirely blameless.

"Packer Mfg. Co., Edward A. Olds, Proprietor."

A simple little notice in the daily press about a legal matter concerning the Packer Manufacturing Co., of 81 Fulton street, caused proprietor Edward A. Olds considerable bother recently. The company has for a long time consisted only of Mr. Olds, while it retained its corporation name. Recently Mr. Olds decided that it would be better to have the corporation dissolved, and to do business as a proprietary concern, so he applied to the Supreme Court. Judge Barrett appointed Mr. Olds receiver for the company. Persons who read the report of this appointment and saw the words "in proceedings for a voluntary dissolution," knew nothing was wrong, but those who failed to notice them have written to Mr. Olds, asking if anything is the matter. The above statement shows the facts in the case.

Mr. Olds is just now finding out what a hard thing it is to even voluntarily dissolve a corporation. There is more red tape and bother about it than any one has any idea. The change, however, is only in adding the name "Edward A. Olds, proprietor," to "Packer Mfg. Co.," and business will suffer no change or delay.

Subscribers to the Era may make full use of the extensive facilities of the Question Box for the solution of prescription and dispensing problems, and all difficulties encountered in practical pharmaceutical work.

William Henry Kirby.

Great and widespread sorrow has been caused by the painfully sudden death of William Henry Kirby, late assistant general manager of Burroughs, Wellcome & Co., of Snow Hill Buildings, London.

Toward the end of the autumn Mr. Kirby went away with his wife to Norway for a short holiday. In 1888 he had married Miss Ellen Howard, whom he had known for many years, and has two children, a boy of three years and a girl of six years of age. On his return he settled down to work again, relieving Mr. R. Clay Sudlow, the general manager, who started for his usual holiday. On Saturday, Sept. 14, Mr. Kirby went with his wife and niece to the Crystal Palace, and returned to his residence, 40 Wilberforce Road, Finsbury Park, about 10:30 P. M. On his return he was surprised to find the house in darkness, and was told by his servants that a gaselier had fallen in the kitchen, and that one of them had turned off the gas at the meter. On entering the kitchen he found a candle burning on the table, but to make assurance doubly sure, he carefully threw open the windows and door so as to remove every trace of escaping gas. As it was impossible to get a gasfitter at that time of night, he took off his coat, mounted a pair of steps and prepared to replace the gaselier. He no sooner examined the broken pipe with a candle, however, than a deafening explosion occurred, caused probably by an accumulation of coal gas between the ceiling of the kitchen and the floor of the room above, and the occupants were thrown to the ground. Mr. Kirby, who was at the very center of the explosion and was enveloped with flame, shouted out to the children and servants to run into the garden. This they did promptly. Mrs. Kirby, hearing the explosion, ran quickly to the kitchen, and finding the room in flames and thinking that the house was on fire, hurried upstairs to save a child sleeping on the top floor. It thus happened that Mr. Kirby was left for some minutes without assistance, and he probably lay unconscious during the interval while the clothing about his body continued to burn. The pain probably brought him round, and he seems to have dragged himself out of the kitchen to a sofa in the adjoining room before assistance arrived. He was at once put to bed and medical aid summoned. Although in intense agony from the pain caused by his injuries, he maintained his excellent spirits and consistent unselfishness. He minimized his sufferings to his friends and relatives, and dispatched such modified messages to the firm that no fear of serious consequence was entertained, and he was soon expected back again at his desk. As an instance of his thoughtfulness for others may be mentioned his special request that on no account should his old friend and colleague, Mr. R. Clay Sudlow, be recalled from his holiday, and his great care that no account of the explosion should get into the papers, whereby that gentleman would be ap-

prised of the sad accident and prompted to break off his vacation.

Grave reports, however, soon reached the office, and Mr. Wellcome, who was taking a short vacation on the sea, was communicated with, and returned immediately. He went over to Finsbury Park at once, and the extreme gravity of the case soon became apparent. He obtained a specialist at once to meet the local practitioner in consultation, and everything that medical science and careful nursing could effect was done to relieve and help the sufferer. Mr. Wellcome remained at the bedside until midnight on Tuesday night, and it gave great satisfaction to the sufferer that his chief had come so far to do what lay in his power to render assistance. Mrs. Kirby and her sister were devoted in their care of the patient, and were in night and day attendance upon him from the time of the accident up to the moment of his death. Early on Wednesday morning, Sept. 18, 1895, however, Mr. Kirby became unconscious and passed away at 6 o'clock. The suddenness of his death came as a great shock not only to his widow and children, but also to his many friends and to that large circle of business acquaintances which had learned to appreciate his sterling qualities of head and heart.

The Drug Trade Club.

ITS FIRST ANNIVERSARY CELEBRATED LAST THURSDAY NIGHT.—THE NEW OFFICERS.

The first anniversary of the New York Drug Trade Club was celebrated by a dinner at the club rooms, 52 Cedar street, last Thursday evening. About forty members were present, and had a capital time. The following officers for the year were elected: President, J. H. Stallman, of Stallman & Fulton; vice-president, Thomas P. Cook, of the New York Quinine and Chemical Works; secretary, Hugh C. Peters, of the Oil, Paint and Drug Reporter; treasurer, Frank E. McDermott, of the Nichols Chemical Co.; board of governors, David E. Green, Jr., Edward Hammer and C. G. Euler.

The club is in a splendid financial condition. Ever since its formation it has paid its way, and now it has what may be considered a handsome surplus for such a young institution. The membership is increasing steadily, and better than all, the new members as well as the old ones, are of the right sort. The club's friends feel sure that by the time it gets into its new quarters, which will be in the near future, the organization will be even stronger, both in members and surplus, than it is now. It is not a costly club to belong to at present, but later on the initiation fees and dues will be increased.

While nothing definite can be said about the club's new quarters yet, it is reasonably certain that all the rooms will be on one floor, and much more agreeable than the present ones. Two places are now under consideration. An effort will also be made to have the prices on the menu cards lower without any loss of quality, and if this is done the only possible chance for criticism will be swept away.

Noled in St. Paul.

St. Paul, Minn., Oct. 4.—A former well-known pharmacist of this city has met with a dreadful fate. It was E. A. Kleve, whose body was found in the woods near St. Louis Bay, West Superior, Wis., where, it is thought, he died from an overdose of morphine, to the use of which he was addicted. The body was terribly decomposed when found and fell to pieces. He had certificates from the Minnesota State Board, as well as in Wisconsin and a number of other States. During the past five years he had been in Duluth, St. Paul, Tacoma, Wash.; Grafton, N. D.; Lisbon, N. D.; Chippewa Falls, Chetek, Wis.; Hallock, Minn., and Minneapolis. Kleve was from an aristocratic family of Norway, his father being organist to King Oscar.

As a further indication of the satisfactory way the drug business is "picking up" in this section, one of our leading wholesale houses reports having at one time recently twenty-four applications from the customers for clerks, the largest list in the past two years. Still, they are able so far to supply the demand and have a few left over.

W. S. Morrill, formerly of this city and not lately in this business, seems to be "hankerin" after his old love, pharmacy, and may yet be found with a pestle and a mortar making making a vigorous struggle for a living.

E. W. Fish is said not to find North Dakota to his liking and is about to return to pill-rolling in this vicinity.

W. W. Noble, who has opened at different times four drug stores in this city, all good ones and doing well, is now opening a fifth at the corner of Fourth and St. Peter streets. Every time he gets out of the drug business for a time he seems to be unhappy and to inevitably drift back into it again. There is no more popular or deserving gentleman in the business than Mr. Noble.

Philadelphia Drug Trade.

Philadelphia, Oct. 7.—The dry weather of the past several weeks has had a discouraging effect on the drug trade throughout the country. The drug business was just taking a boom and all houses were reporting better business, but now things have changed, and certain sections of the country have dried up and there are very little inquiries made for goods. Many of the houses, however, are busy getting ready for their winter trade. Their representatives in the Northwest report that business there is better than it has been for three years.

——Druggist May, at Charles City, Ia., has been found guilty of violation of his liquor permit, and the whole thing has cost him a court fine of $300 and $85 in costs, plus $150 attorney's fee.

——F. W. Chenoweth, Monticello, Ill., intends to thoroughly remodel his drug store.

Send in your vote on Handsomest Advertisement in this issue.

NEW YORK AND VICINITY.

——Charles W. Snow, of Syracuse, spent a few days in New York City last week.

——S. H. Wagener, of San José, Cal., has been here the past week. It was his first visit here in sixteen years.

——George H. Jorgensen, N. Y. C. P., '95, is to resign his position with C. S. Erb, Sixty-fifth street and Amsterdam avenue.

——Thomas H. Powell, class of '94, Ontario College of Pharmacy, has accepted a place with Frank H. Baxter, South Norwalk, Conn.

——Max Wirth, a prominent retail druggist of Duluth, stopped over in New York last week for a few days on his way back from Europe.

——Albert W. Urquhart, a graduate of the Ontario College of Pharmacy, class of '95, is now with H. C. Roth, at 255 Sixth avenue, this city.

——E. M. Weed, head of the sundries department of Schieffelin & Co., has gone to Connecticut on his vacation. He has many friends up Darien way.

——Edward Ancelin, who was formerly with L. T. Perkins, the Brooklyn druggist, is now with the Northern Dispensary of this city as pharmacist.

——Several drug trade men went to Boston to attend the funeral of Mr. Carleton, of Carleton & Kissam. Among them were Joseph Toy and John Cox.

——H. S. Courson, Philadelphia College of Pharmacy, class of '86, has resigned his position at Falkiner's pharmacy, Eighth avenue and Fifty-second street.

——E. B. Stevenson, a graduate of the Ontario College of Pharmacy, class of '94, has taken a position with H. A. Dupee, Fairchild avenue, Bridgeport, Conn.

——Joseph Aquaro, a graduate of the New York College of Pharmacy, class of '95, is now in charge of Dr. D. A. Casillas' pharmacy, at 507 Pearl street, this city.

——Adolph Kroll, formerly in business at Forty-second street and Tenth avenue, this city, has accepted the position as manager of Post's pharmacy, Passaic, N. J.

——Henry Sasse, formerly at Knipe's pharmacy, in Brooklyn, is now with Frank A. Gundlach, 106th street and Columbus avenue. Mr. Sasse is an N. Y. C. P., '93, graduate.

——Lowe & Hofmeyer have opened their new drug store at the corner of Eighty-eighth street and the Boulevard. The establishment is one of the finest of its kind on the west side.

——Kirby & Burckett's affairs are now in such shape that it is a question only of a few days when the assignee will be discharged. The firm's mills in Brooklyn are running on full time.

——Mr. Massey, of Camp & Massey, Watertown, N. Y., has been in this city for a short stay previous to his leaving for Old Point Comfort. He called on a number of friends in the trade.

——Robert Moffatt, who has been manager of Mrs. N. S. Thompson's pharmacy, at Chester, N. Y., has resigned that position to take a course at the New York College of Pharmacy.

——R. C. Faulkner, N. Y. C. P., '91, who was obliged to leave his position with R. J. Westermayr, Portchester, N. Y., on account of sickness, has recovered, and will shortly take a city position.

——Ernest Molwitz, at 2707 Eighth avenue, and Frank Yager, at 303 145th street, have two of the best patronized stores in the upper Eighth avenue section. No amount of competition seems to affect their trade.

——George J. Duerr, N. Y. C. P., '95, has resigned his position with Dr. Snow, of East Forty-second street, to accept a situation at B. Bracker's pharmacy, on Eighth avenue, between Fifty-third and Fifty-fourth streets.

——The latest drug trade visitor from abroad to register at the Drug Trade Club was Charles Rayner, of Tientsin, China. The visitors' book bears the signatures of several gentlemen who do business in that country.

——Edward Ude, formerly with Herman Graeser, at 40 Stanton street, has accepted a position with Goeman & Traeger, of Hoboken, N. J. Mr. Ude will be one of the students at the New York College of Pharmacy this winter.

——V. Albrecht has resigned his position at J. A. Carpenter's pharmacy, 123d street and Eighth avenue, this city, and has been succeeded by Edward Murray, a graduate of the New York College of Pharmacy, class of '95.

——Even as the druggist kicketh at the department store, so may the dog fanciers complain of the druggist nowadays. A Sixth avenue pharmacist has a big sign in his window which announces, "Prize poodle dogs for sale within."

——P. L. Flick, formerly with H. A. Cassebeer, at Columbus avenue and Seventy-second street, has accepted a place with R. Eschmann, Ninth avenue and Fifty-first street, in this city. Mr. Flick is an N. Y. C. P. graduate, class of '95.

——James Shillinglaw, of the firm of Shillinglaw & McNulty, of Malone, N. Y., was in town for a few days last week to make purchases for the holiday trade. He is an N. Y. C. P. man, class of '87. He reports business as having been very good during the past summer.

——Henry Miles, a partner in the house of Lyman, Sons & Co., Montreal, and for years their manager, is to retire from the firm on Dec. 31. Mr. Miles has been connected with the house for twenty-five years, and is well known in this city, as he came here often on buying trips. His friends here hope to see him enter business in this city.

——B. M. Magill, a graduate of the Philadelphia College of Pharmacy, has been engaged as manager of the Park Pharmacy, at Rutherford, N. J., of which Frank E. Hatch is proprietor. Mr. Magill was in charge of the Tuxedo Pharmacy for a year, and for some years before that was connected with Hegeman & Co.

——A. Herrmann's pharmacy, at 138th street and Eighth avenue, is the only drug store between 135th street and 142d street on that busy thoroughfare. It has an excellent trade in consequence, drawing patronage from the blocks of King model houses that occupy all the land between Seventh and Eighth avenues and 138th and 140th streets.

——Andrews & Manney have sold their store at 78 Seventh avenue, Brooklyn, to F. H. Pamphilon, who contemplates moving his stock from his present store at 201 Fourth avenue to that on Seventh avenue. Mr. Pamphilon is a graduate of the New York College of Pharmacy, class of '85, and is also president of the Kings County Pharmaceutical Association.

——The most recent incorporation of interest to the drug trade is that of the Chemical Construction Co. to manufacture and deal in drugs and chemical products in New York City. The capital is $50,000, and the directors are William H. Hoes, William B. Aitken and John F. Dempsey, of New York City; Walter Ferguson and W. T. Wilson, of Stanford, Conn.

——J. T. McLaughlin, the well-known salesman for Schieffelin & Co., who recently underwent an operation at a hospital for a peculiar trouble with his stomach, caused by a blow or a fall when he was a child, has come out much improved and has gone to his home down East. It is said that his case was either the first or second of its kind ever treated in this city.

——Owing to the death of Mr. Joseph Morel, hitherto chief of the house of Lautier Fils, Grasse, France, the business of the firm will hereafter be continued under the direction of his son, Alphonse Morel, assisted by L. Naumann. The widow of the deceased sends out this notice, which is supplemented by a card from George Lueders & Co., the New York representatives.

——James Wagner, who has been conducting a drug store on 145th street, between Eighth and Bradhurst avenues, sold his stock at auction last week and is now working for George Foster, on Lenox avenue. There is considerable competition in that vicinity and all the other stores are old established stands, which accounts for the short life of Mr. Wagner's little pharmacy.

——"George Bronson," the swindler of druggists, has gone out West again instead of East, and when last heard from was in Ohio. McKesson & Robbins now get letters addressed to Bronson, apparently from dupes of the clever rascal. The druggists of this section of the country knew all about this man, so he could not work them as easily as he has the Western and Southern people.

——Felix A. Oettel's West Side pharmacy at 142d street and Eighth avenue has been established about a year and is the newest drug store in that section, now that James Wagner's has been sold out. Mr. Oettel is a New York College of Pharmacy graduate. He has an assistant, Emil Traugott, who formerly owned the Third avenue store that was sold out to Hermann Schmitt & Co.

The Era is mailed every Thursday and reaches you promptly, bringing news and market reports while fresh and valuable. No waiting a whole month for your drug journal.

——Albert Meyer, a Summit avenue, Jersey City, druggist, has been convicted in the General Sessions Court in that city of practicing medicine without a license. The sign over his pharmacy read "Dr. Meyer, Apotheke." A number of witnesses testified that Meyer prescribed medicines, while he was only licensed to put them up. Physicians in the neighborhood brought about the prosecution.

——One of the things that make Peter R. Lance so popular is his enjoyment of a joke at his own expense. They say the latest squib on him simply made his sides ache from laughing. Somebody was telling about Mr. Lance, giving a little bit of his history in a sort of encyclopedia style, and the wind-up came as follows: "And he has the proud distinction of having been the first white child born in the State of Ohio!"

——Arthur D. Parker, with L. N. Brunswig & Co., New Orleans, has been in town for a few days. He was present at the Drug Trade Club meeting last week and dined at the club later on with George Wasson, the drug broker of John street. Mr. Parker says trade is better in the South than for several years past. Another New Orleans drug trade man in town recently was R. D. Bowen, general manager for E. J. Hart & Co.

——This seems to have been an excellent hunting season, according to reports made by gentlemen in the drug trade who were fortunate enough to get a sight at game. W. H. Wickham, of McKesson & Robbins, found excellent sport near Blue Mountain Lake, in the Adirondacks, and his son, who was with with him, shot two very fine bucks. He is having the antlers mounted, one pair being in velvet and the other hard, and both first-class specimens.

——Dr. William Jay Schieffelin and H. S. Clark, of Schieffelin & Co., returned last week from the Adirondacks. All the members of the firm belong to the Caughnawanga Club, on whose preserves they find excellent shooting and fishing. Mr. Clark will soon be able to show his friends a particularly fine specimen of deer's head and antlers, the result of his latest trip. The antlers measure twenty-two and a half inches between tips. They are being mounted.

——J. L. Hopkins & Co. are settled in their new quarters at 86 John street and have a complete drug house in all particulars in that building. The Platt street building will be vacated just as soon as the merchandise there can be accommodated at the John street house. A recent addition to the firm is Charles A. Holmes, who for ten years was secretary of the William S. Merrell Co., of Cincinnati and New York. Mr. Hopkins is extremely well pleased with his new quarters.

——Albert Plaut, of Lehn & Fink, was called up on the 'phone one day this week and told that a man was going around the neighborhood where Mr. Plaut lived, asking people what his habits were, whether he paid his bills, kept sober, came home early nights, etc. Mr. Plaut didn't worry much over the information, but just to find out what the

man was up to, he started an investigation. Before the inquiry had gone far, however, Mr. Plaut called the sleuths off. He suddenly remembered he had just applied for a life insurance policy.

——The Era reporter ran across a bit of human nature this week that showed how much some druggists love other druggists. One apothecary who failed to make his store a "go" sold out. To get an item abont it the reporter called on the nearest competitor for trade. "Oh, yes, let me see. I did hear there was another drug store near here for a while, a very short while, I think," said the only clerk in the store. "But I never knew the owner and it was such a small store I seldom noticed it." The air of perfect indifference was worthy of an actor. The other drug store was only 100 feet away.

——Otto Odendahl, fourteen years of age, died in this city Saturday after taking a dose of Epsom salts bought at an East Side drug store. Dr. Donlin, the coroner's physician, examined the glass in which the dose was mixed and said the crystals found were unlike those of Epsom salts. The salts left in the package are said to have the appearance of having been affected by oxalic acid, but a chemical analysis will be made to determine just what was the cause of death. So far no reflection has been made on the dispensers of the salts, and the boy may have spilt acid on the package accidentally.

HERE AND THERE.

——Druggist Otto C. Kurrasch, of Kankakee, Ill., suffered a stroke of paralysis Sept. 26.

——Charles E. Hires Co. have taken up their new quarters in the Bourse Building, Philadelphia.

——J. R. Walker, druggist at Azle, Tex., left all his account books on his desk and a thief stole them one night.

——J. H. Davis has purchased the drug store of H. Andrews at Fenton, Mich., and will continue the business.

——Dr. Miller, of Aschenbach & Miller, Philadelphia, has returned from a visit to his old home in the Southwest.

——William J. Walker, of the wholesale drug firm of Walker & Gibson, Albany, N. Y., is a candidate for mayor of the city.

——The wife of Druggist J. E. Devine, Augusta, Me., committed suicide last month. She had been deranged for some time.

——Barna A. Clark, a retired merchant of Brattleboro, Vt., once engaged in the drug trade, died on Sept. 30, aged sixty years.

——Druggist Alfred Mesnager, of Chicago, is made the defendant in a divorce suit in which his wife alleges cruel treatment.

——Injunctions have been issued against two drug stores in Des Moines, Ia., restraining them from maintaining liquor nuisances.

——F. F. Cook's drug and jewelry store at Taylor, Tex., was robbed of $500 worth of goods during a circus parade on Sept. 26.

——Dr. M. B. Eaton, a well known physician and proprietor of a drug store at LeRoy, N. Y., died Sept. 25, aged sixty-five years.

——Charles F. Hicks, clerk at Woodard & Payne's, and Fred R. Graves, clerk at Perry Weed's, both of Pontiac, are off on vacations.

——F. M. Dowdna, druggist at Shawnee ,O., fell from the porch at a friend's residence, and sustained injuries which will probably prove fatal.

——Andrew Yernsen, druggist of Christine, N. D., was robbed by highwaymen of $160 cash while crossing the bridge from Fargo to Moorhead.

——A correspondent at Port Huron, Mich., writes: "We have done up the cutter in our city and now have full prices on all patent medicines."

——Lightning struck the roof of Lyman's drug store at Manistee, Mich., and toppled over a chimney. The damage done was not discovered for several days.

——Druggist Frank E. Jones, of Saginaw, Mich., while waiting on a customer, knocked down a large show globe and was severely cut in the face.

——A druggist at Terre Haute, Ind., is said to have invented a reversible shirt. He will find large sale for it without doubt among his brother pharmics.

——James C. Crane, in the retail drug business at Toronto, Ont., and a graduate of the Ontario College of Pharmacy '91, was a caller at the Era office Oct. 1.

——B. H. Bacon, a patent medicine manufacturer at Le Roy, N. Y., has moved his factory to Rochester, where he has secured ample space in the Mutual Life Building.

——The drug stock of Hollis & Co., Baroda, Mich., under the management of J. C. Knight, has been moved from the Shafer to the Brown Building, so as to be more centrally located.

——Two Chicago druggists have been fined for selling liquor in violation of the law. They are George Young, 418 East North avenue, and Henry J. Bate, 126 North Clark street.

——A boy in a Woonsocket, R. I., drug store had a good chance to help himself to what he thought were marshmallows. He swallowed several moth balls before he discovered his mistake.

——D. A. Hagens, of Monroe, Mich., has established a branch drug store at Ida. It is in charge of William Lutz, a recent graduate of the pharmaceutical department of the Northwestern University.

——A traveler for Weeks & Potter, Boston, while stopping at a hotel in Schenectady, became violently insane from over-indulgence in cocaine, and was taken to hospital, where later he died.

——Druggist and City Councilman John Tomlinson, Marion, O., is reported missing. His position on the council has been declared vacant, and he is wanted to answer to indictments for selling liquor illegally.

——The clerks and others in the drug store of J. L. Crick, 1700 Pennsylvania avenue, Washington, D. C., had a narrow escape the other day when two pressure tanks exploded, doing considerable damage.

——Druggist W. L. Robinson, of Gallipolis, O., had a pen behind his ear, and in walking out of the door in some way the pen was driven into his ear, bursting the drum and entirely destroying the hearing.

——The Police Commissioner of Lansingburgh, N. Y., has issued an order prohibiting patrolmen from entering any drug store or ice cream saloon for the purpose of drinking soda water. He says it looks bad.

——Reports from Niles, Mich., state that the large peppermint marshes east of that city have been destroyed by fire, the loss amounting to thousands, as many tons of peppermint hay ready for market were destroyed.

——James H. Vollar, an Evart, Mich., druggist, has been bound over to the Circuit Court for violation of the liquor law. Henry Hanson and Clarence Menold, Fenville druggists, have suffered the same fate at Allegan.

——At Atlantic, Ia., Wiley Harrison has left the employ of F. Parsons & Co. to resume his studies at the Medical School at Iowa City, and Harry Calkins, recently of Carson, Ia., has been selected to fill his place in the store.

——Some one in the drug store of Anderson & Orth, Midland City, Mich., while attempting to liquefy carbolic acid, left his task temporarily, and during his absence an explosion occurred, causing damage of $2,000 to the handsome store.

——Charles W. Nolan, Philadelphia, a large dealer in imported drugs and olive oil, recently suffered a loss from $10,000 to $15,000 by fire. The fire originated in the wool house adjoining, and the heat and water caused Mr. Nolan's goods to suffer.

——Druggist A. H. Sprowles, Elgin, Ill., was driving near the railroad, when his horse became frightened and backed the buggy over an embankment against a passing train. Mr. Sprowles had one foot crushed under the wheels, rendering amputation necessary.

——The coroner has found that the death from poisoning of Marks Faber, at New Haven, Conn., was due to a mistake committed by one of the clerks in A. F. Wood's drug store, who dispensed an aconite preparation in place of a cholera mixture, as called for.

——Andrew G. Weeks, of the Weeks & Potter Co., of Boston, who has heretofore exhibited shrewdness in purchases of real estate, has bought a building on Congress street in that city, the assessed valuation of which is $76,000 and the real value very much greater.

——The drug store of Anderson & Orth at Midland, Mich., was burglarized the night of Sept. 26. The thieves were evidently very anxious to secure something, but had to be content with something less than $5. The safe was blown open and valuable papers thrown all over the floor.

——At last it is settled that big sleeves must go; at least one pair has gone a-

Send in your vote on Handsomest Advertisement in this issue.

ready. A woman entered a drug store in Haverhill, Mass., and her large balloon sleeves came in contact with a gas jet used for a cigar lighter. The woman was badly burned before the flame was extinguished.

——The Elam Drug Co., Anniston, Ala., offered the entire profits for one day from the sales in the retail department to the Ladies' Aid Society. On Oct. 1 the ladies took charge of the department, and did everything in the line of selling, except to dispense prescriptions and medicines.

——The proprietor of Easton's drug store at Rockland, Mass., offered a free trip to New York and up the Hudson to the person purchasing the largest number of glasses of soda at that store during the summer months. A certain Judge Kelly has won the prize. Law is proverbially "dry."

——A druggist of Kansas City, Mo., last month was made defendant in a suit brought by a servant girl, who claims he owes her $450 for wages, at the rate of $4.50 per week. One hundred weeks seems a long time to keep a servant waiting for her pay, and the ordinary individual would have made trouble long before.

——Dr. St. Julian Yonge, a well-known druggist of Savannah, Ga., was cutting some paper, when a bug flew in front of his face. He threw up his hand and struck himself in the eye with the points of the scissors which he was holding. One eye was terribly cut, and it is feared that he may lose the sight of the other as well.

——A clergyman of Roanoke, Va., recently made a statement in a sermon that a druggist had told him certain tales regarding the use of whisky, opium, etc., by women in that city. Now the druggists are out with a card in the paper, entirely repudiating the clergyman's assertion, and branding it as slander and an untruth.

——Benj. F. Binswanger, a well known young druggist at Sixth and Felix streets, St. Joseph, Mo., was horribly mangled by a switch engine in the railroad yards at Atchison, and died thirteen hours later. He had been to Atchison to attend the Corn Carnival, and lost his life while trying to find a train on which to return home.

——Elliot F. Rogers, an expert chemist and an instructor at Harvard University, committed suicide the other day by taking cyanide of potassium. He was to be married in a short time. Mr. Rogers had received the degrees of A. B., A. M., and Ph. D. He had spent some time in Leipzig in chemical research. His parents live in Chicago.

——A druggist's life is not altogether monotonous. B. B. Davis, of Chadron, Neb., while out wolf hunting the other day chased a wolf into an old well; he jumped in after it, then could not get out. He escaped just as the neighborhood was preparing to hang some one for his murder. We do not know whether he got the wolf or not.

——A drug clerk in Dorchester, Mass., is being sought for by the Boston police, who have good reason to think that he has been in collusion with two women engaged in stupefying men by putting into their liquor what is known as "knock-out drops," and then robbing them. The chief ingredient of these "drops" is chloral, and it is believed that the drug was supplied by the missing man.

——That the people of Southboro, Mass., will never forget the late Joseph Burnett, the veteran druggist and extract manufacturer, is indicated by the fact that a memorial lectern of carved oak has just been placed in St. Mark's Church in that town, with which he was long connected. It is inscribed: "To the glory of God and in fond memory of Joseph Burnett. Given by loving friends in Southboro."

——Baltimore wholesale druggists report some improvement in business. It is not very marked, but none the less gratifying on that account. The increase in the volume of transactions is not confined to any particular article, but is pretty general along the line. Retailers, too, have experienced a slight augmentation of sales, but the causes which militate against the prosperity of the dispensing pharmacist lie too deep to be overcome.

——Geo. L. Wilcox, Hinchman & Sons' (Detroit) popular traveling man, was very much surprised to be met at the train by a large number of his friends when he reached his Eaton Rapids home after his week's trip. They took him in tow to his own house, where he found a banquet spread and where he was presented with a Knight Templar charm set with diamonds and a gold watch chain, the occasion being his thirty-first birthday.

——Manistee, Mich., citizens all stopped to look twice into the windows of the City Drug Store last week. The window dresser had lavished a display of his art upon the progress and vicissitudes of the national game as confined to that city. The home team were represented as bull-frogs, with plenty of green about them and with an undercoloring of pink. The characteristics of the different individuals were so truthfully delineated that there was but little need for them to be christened.

——It looks as if peppermint for drug uses would be a light crop in Michigan this year. The early frosts destroyed a considerable per cent. of the crop. Of late, hay being so scarce and so high-priced, farmers have been feeding their horses and cattle on peppermint hay. And now the peppermint marshes near Niles have been set on fire, and the prospects are that all will be burned. It is very discouraging for those who thought they were solving the problem of existence by raising peppermint instead of wheat.

——Talking about the lower prices which prevail now in all lines, and comparing them with values ten years ago, a licorice manufacturer whose goods are staple in every city in the country, said to an Era reporter the other day, that "years ago our stick licorice sold for 38 cents a pound to the jobber, and we gave them the best goods we knew how to make at that price. Now we get but 18 cents a pound, and give them better goods, which improved methods of manufacture make it possible for us to supply."

——A Chinaman up in Westchester County, N. Y., tired of the laundry business, went into the manufacture of what he called "The Tonic of Life," and advertised it as a medicinal preparation which would cure all human ills. Now the police have rounded him up on the charge of maintaining an illicit distillery. There are a good many people who would agree with the Chinaman that whisky and similar beverages are really "The Tonic of Life," but the authorities require a little better proof than this.

——At Pittsburg, Sept. 27, suit for $5,000 damages was entered against Chas. L. Walther, an Allegheny druggist. The plaintiff claims to have presented last July a prescription calling for one ounce of buchu, and asserts that a mistake was made by the druggist's clerk, who dispensed one ounce of extract of belladonna. The plaintiff claims that upon taking a dose of the medicine he became blind and unconscious, and it was only with the greatest exertions of physicians that his life was saved. He asserts further that he was severely ill for a long time, and his physical system and his mind were greatly affected.

——There is one big Eastern manufacturer who thinks that New York has seen its best days as a distributing point. He does business in Philadelphia, and his goods are in every drug store in this country. "I have been forced to this conclusion," said he. "There was a time when everybody had to sell their goods from New York, when every druggist, no matter how far away, looked to New York as his base of supply. But that has all changed. Manufacturers are beginning to find out that they must carry stocks in the West, and goods are now made there and sold through branch houses in the East." Whether or not the party quoted above is correct in his conclusions, our Western friends will certainly agree with him.

——In the United States Circuit Court in St. Louis final decrees in favor of the complainants have been entered in the suits instituted some time ago by the Wells & Richardson Drug Co., of Vermont, and Charles I. Hood, of Massachusetts, against the Allen-Pfeiffer Manufacturing Co., of St. Louis, for infringment of trade marks. The defendants, is will be remembered, were charged with selling preparations known as "Hodd's Sarsaparilla" and "Haine's Celery Compound," put up in bottles calculated to make purchasers believe that they were getting Hood's Sarsaparilla and Paine's Celery Compound. The cases were practically settled some time ago by the defendant allowing judgment to be taken against it by stipulation on the payment of nominal dam-

If you want a position or are looking for a clerk, use a "Want Ad," two cents a word.

ages, and the final action now taken was merely a matter of form.

——On page 439, last issue of the Era, was an item referring to druggist J. C. Perry, of Philadelphia. We are informed that the statements there made were incorrect in some particulars, and accordingly desire to make proper correction. Mr. Perry writes: "In my window I displayed a lamp that was given with the purchase of ——, and I gave a free guess to any one on the number of seeds in a watermelon, the one guessing the nearest getting the lamp. During the counting of the seeds a number of people gathered in front of my store, and the police of the Sixteenth District considered that I was doing wrong, and had me before Magistrate Hughes for carrying on a lottery for illegal purposes and for disorderly conduct. The magistrate said in disposing of the case that he had known me for some time, and had found me to be an upholder of the law instead of a breaker of it, and admired my business ability." The druggist was discharged, fully exonerated.

——The Philadelphia Commercial Museum has taken up its new quarters on Fourth street, below Walnut, which were formerly the general offices of the Pennsylvania Railroad Co. The object of this bureau is to make a special study of foreign commerce, compiling all data relative thereto, and make it valuable to the American manufacturer in as concise and definite a form as possible. The bureau will study and collect all information concerning the state of the foreign market from which products are imported, such as wool, fibers, dye stuffs, etc. All natural products of the world, samples of which reach the museum, will be made known. Constant communication with all export markets will be maintained, and the data thus collected will be published in a brief and concise form for each and every manufacturing line or enterprise. This museum has a number of collections relative to the drug business, many of which were exhibited at the World's Fair. It is claimed that some of the exhibitions will later on become the property of the Philadelphia College of Pharmacy.

——The Stonebraker Chemical Co., Baltimore, Md., which was incorporated some five or six months ago to manufacture Stonebraker's Liniment and other proprietary articles, has made an assignment for the benefit of creditors to J. Alexander Preston, trustee, who gave bond in the sum of $4,000, which indicates assets of half that amount. It is stated that the assignment was made to wind up the business, and that all liabilities will be met in full. The company had a laboratory on Pratt street, near Charles, and started with excellent prospects ahead. One of the members was Mr. Frank Hall, formerly of McGlennan & Hall, druggists on Madison avenue. He had some differences with his former partner and applied for a receiver, but the matter was amicably adjusted, Mr. McGlennan continuing the business, which he has since sold. Another Baltimore assignment recorded is that of Ernest H. Dryden, a druggist at 2200 North Charles street. The assignee is W. Burns Trundle, Mr. Dryden's attorney, who filed a bond for $5,000. The place was considered a good stand, and Mr. Dryden has conducted the store for some years.

——In many of the Detroit drug stores the soda fountains have gone into winter quarters, and the young man and his best girl pass by without a glance toward the high stools on which they sat so often such a short time ago. But in other stores the stools are as crowded as ever, and orders for "Hot chocolate with whipped cream," "Hot beef tea," "Hot soda" are given in place of the familiar "Ice cream soda" or "Ginger beer." It seems to be just as necessary on a cold night to take a hot drink as it was refreshing on a hot night to take a cold one. Thermometers have a good deal to do with soda fountain trade. A big one hangs in a conspicuous place in front of one of the big stores. Whatever has been done to that thermometer it would be hard to tell, but in summer it always registers at least 5° more heat than any other thermometer on the street, and in winter it is always 5° colder by it than by any other. A glance at it gives a man a fever or a chill, as the season may be, and he never fails to "take something" for it then and there at the very handsome fountain in the store. Rival druggists are understood to be experimenting with mercury.

——Thirty-three hundred and forty-one prescriptions have been put up for the city poor of Detroit during the last three months. The city owns a stock of drugs and conducts a regular pharmacy at the municipal building. Detroit is divided into three sections for convenience in handling the sick poor, and each section is in charge of a city physician. At certain hours of the day these physicians are in charge of the pharmacy at the municipal building, and there the patient comes for advice and medicine. The rest of the day the pharmacy is in charge of Dr. Kenning, who puts up prescriptions ordered by the other three, and prescribes for sick people who come directly to him, and who are either known to him personally to be of the city poor, or who bear orders from Superintendent of the Poor Martin. Two senior medics are in charge of the pharmacy by night, and they put up such prescriptions as may come in, and also attend to transient calls for the city physicians. Prescriptions written by other than the city physicians are not honored, for the reason that to do so would hurt the regular druggist, and also because it is believed that the patient who can afford to have his own physician can afford to pay for his own medicine. No liquors or wines are kept in stock, neither are there any patent or proprietary medicines.

Send in your vote on Handsomest Advertisement in this Issue.

ASSOCIATIONS,
CLUBS, SOCIETIES.

New York Branch of the League.

The regular monthly meeting of the New York branch of the Interstate Retail Druggists' League was held at its rooms, 64 Madison avenue, Oct. 4. The first subject taken up was the discussion of the proposed poison law. The following is a draft of this law, which was adopted unanimously:

"It shall be unlawful for any person to retail or deliver any poisons enumerated in Schedules A and B without first ascertaining that the purchaser, who must be known to the seller, is aware of their poisonous nature; that they are to be used for a legitimate and stated purpose, and distinctly labeling, with a 'poison' label bearing the name and address of the proprietor of the store in which they are sold, and the name of the poison delivered, the bottle, box, vessel or packet in which it is contained, and, as to the poisons included in Schedule A, besides complying with the foregoing, an entry shall be made, or caused to be made, in a book kept for that purpose, stating the date of sale, the name and address of the purchaser, the name, quantity and quality of the poison sold, the purpose for which it is represented to be required, and the seller's name; said book to be always open for inspection by the proper authorities, during business hours, and to be preserved in said store for at least five years, or, in case of abandonment or removal of store from the jurisdiction of the city, town or county wherein it is located, deposited with the authorized board of pharmacy of that locality.

"Any person violating the provisions of this section shall be guilty of a misdemeanor, and, upon conviction thereof, be fined in a sum not exceeding $25 for violating the provisions of Schedule A, and not more than $10 for violating those of Schedule B.

"None of the provisions of this section shall apply to the dispensing of poisons, in not unusual quantities or doses, upon the prescriptions of practitioners of medicine.

"Schedule A.

"Arsenic and its preparations; corrosive sublimate, white precipitate, red precipitate, iodide, biniodide and cyanide of mercury; cyanide of potassium; hydrocyanic acid; cobalt and its salts; cantharides and its preparations, except the collodion and the cerate made therefrom; creosote; carbolic acid in crystals, or solutions of same containing more than 10 per cent. of the acid; chloroform; chloral hydrate and croton chloral hydrate; croton oil; cocaine and its salts; essential oil of bitter almonds; tansy and pennyroyal; oxalic acid; coumin, curare, cocculus indicus, cotton root, ergot, savin, belladonna, calabar bean, St. Ignatius bean, the hellebores, the henbanes, Indian hemp, nux vomica, aconite, opium (excepting Dover's powder and the syrup or other equivalent preparations, liquid or otherwise, of the same; also those preparations containing not more than 9 grains of opium to the ounce), stramonium (except the leaves), and their oils, tinctures, extracts, alkaloids and the salts of same, and such preparations into which any of the above-enumerated drugs enter in poisonous quantities.

"Schedule B.

"All other drugs, chemicals and pharmaceutical preparations not enumerated in Schedule A and ranked as poisonous in standard works on materia medica."

In discussing Schedule B, President Rontey said that it was "somewhat novel in feature, self-adapting, as it were, and would include new poisons as fast as they became known, the only further legislation required in the future under this law being but supplementary, and would simply consist in transferring from Schedule B to Schedule A such poisons as experience or policy would place there." A request to the Legislature to impose penalties on those misrepresenting the purpose for which poison was

purchased by them, or giving fictitious names and addresses, will accompany the bill. Copies of this bill were directed to be sent to the various pharmaceutical organizations and boards of pharmacy in the State.

The alcohol question was discussed, but in the absence of the committee nothing new was evolved. Two new members were accepted, Mr. Ulman and Mr. Giese.

Another $100 purchase on the co-operative plan was ordered, and $90 was subscribed towards a general purchasing fund. Adjourned to meet Nov. 1 at 3 P. M.

The Work of the New England Retail Druggists' Union.

Reports from New England attest the fact that F. W. Reeves, the agent of the Retail Druggists' Union, is doing good work. In Vermont, which Mr. Reeves visited, the active co-operation of 100 per cent. of that State was promised. In the large cities of Maine he had about the same success as in Boston and vicinity, 95 per cent. of the trade promising co-operation. Similar encouraging results attended his work in Worcester, Springfield, Fall River and New Bedford, Mass. In all of this work Mr. Reeves found no new men who would not agree to enter a schedule of prices, the only two who refused to do so were found in Boston. Every manufacturer so far visited by Mr. Reeves has signed the agreement to co-operate with the union, and a revised list of such firms has been prepared for publication by the president of the union, F. M. Harris, of Worcester. In his open letter accompanying this list Mr. Harris says that it has been demonstrated that the pharmacists of New England, by uniting in the organization of the union, are able to decide on measures that must eventually give deliverance from the damaging effects of indiscriminate cutting. Ninety-six per cent. of the 650 druggists visited by Mr. Reeves have joined in the work and the union is a strong and influential body. The Executive Committee have secured the support of all but four of the jobbing drug firms of New England. He regrets that certain wholesale firms are endeavoring to throw discredit upon the work of the union, but he believes that intelligent pharmacists will not approve of such dishonorable attacks. The reputation and purposes of the officers and agent of the union will bear the fullest investigation. Following is the enlarged and official list of the wholesale dealers who will assist the union in its work:

Massachusetts—Carter, Carter & Kilham, Gilman Bros., Rust & Richardson Drug Co., Smith, Benedict & Co., E. L. Patch Co., B. O. & G. C. Wilson, Dean, Foster & Co., John A. Webster & Co., Fox, Fultz & Co., B. W. O'Neil & Co., F. M. Keeler & Co., Charles W. Badger, A. G. Smalley & Co., Seth W. Fowle & Sons, all of Boston; J. C. Ayer & Co. and C. I. Hood & Co., Lowell; Bush & Co. and Pheuyo-Caffeine Co., Worcester; C. P. Alden, Springfield.

Maine—Cook, Everett & Pennell, John W. Perkins & Co., E. L. Stanwood & Co., A. S. Hinds, Geo. C. Frye, Schlotterbeck & Foss and H. H. Hay & Son, all of Portland; Auburn Drug and Chemical Co., Auburn.

Vermont—Burlington Drug Co and Wells & Richardson Co., Burlington.

New Hampshire—A. Perley Fitch and C. H. Martin & Co., both of Concord.

Connecticut—Apothecaries' Hall Co., Waterbury; F. S. Calhoun & Co. and C. W. Whittlesey & Co., New Haven; Nicholas & Harris, New London, T. Sisson & Co. and Talcott, Frisbie & Co., Hartford, and Lee & Osgood, Norwich.

Rhode Island—Blanding & Blanding, Chambers & Calder and George L. Claflin & Co., of Providence.

New York Section Society of Chemical Industry.

President Tyrer, of the Society of Chemical Industry, arrived in this city last Sunday on the steamship Paris and was received by Chairman Alfred H. Mason, of the New York Section. Mr. Tyrer spent Monday seeing friends in town and in the evening attended the dinner and meeting of the local section. It was a matter of regret that the foreign secretary of the society, Ludwig Mond, found it impossible to attend the meeting, although he will later on not only attend one of the sessions, but will address the members. He will be heard at the meeting on Nov. 11 and will speak on the chemical industries of this country.

The dinner of the society last Monday night took place at the Hotel Empire and was a purely informal affair. Among those present besides President Tyrer and Chairman Mason were Professors Austen, Hart, Coblentz, Chandler and Elliot, Dr. Wainwright, and Henry Hemingway, proprietor of "London Purple." About sixty were present. After dinner the members and guests went to the College of Pharmacy. Chairman Mason introduced President Tyrer, who responded briefly.

Among the papers of the evening were the following: "Utilization of the Waste Acid from Gold and Silver Refining," by John Enequist; "On the Chlorination of the Gold Ores of the Cripple Creek District," by J. D. Hawkins; "The Determination of Caffeine in Tea," by E. H. Gane; "The Correct Iodinumber of Oils and Fat," by Emil E. Lungwitz; "American Phosphates in 1895," by Samuel Peacock; "Brown Stains After Steaming in Cotton Goods," by F. T. Walsh; "Laboratory Tests on Gold Ores," by A. W. Warwick; "Extraction of Tannin from Raw Materials," by J. H. Yoonm.

The meeting of the Lehigh Valley section of the American Chemical Society takes place to-day. A special car is to be attached to one of the morning trains for Bethlehem, Pa., and a party will go from this city in it. Other guests will be picked up along the route and it is possible that Ludwig Mond will be among the number. The first place to be visited will be the Bethlehem Steel Works. From there the party will go to Easton. The delegation from the New York section of the Society of Chemical Industry will consist of Chairman Mason, Professor Coblentz, Dr. Schweitzer, E. G. Love, Dr. Wainwright, Dr. Endemann and James Hartford.

The date of the Society of Chemical Industry's banquet to President Tyrer and Ludwig Mond is Nov. 1, but all other details rest with a committee appointed by Chairman Mason, on which are S. W. Fairchild, Thomas F. Main, Dr. Wainwright, Dr. Doremus and several others.

Kings County Pharmaceutical Society.

The regular monthly meeting of the Kings County Pharmaceutical Society was held in the lecture room of the Brooklyn College of Pharmacy, 329 Franklin avenue, Oct. 8. In the absence of presiding officer F. H. Pamphilon, the meeting was called to order by William Muir, L. F. Stevens acting as secretary. Chairman Muir stated that among the objects of the meeting were the inspection of the college by the members of the society, and the discussion of the question of forming a "druggists' club." He thought the idea of forming a club having social features a good thing. Kings County Pharmaceutical Society had now 285 members and this membership would form a good nucleus for a club from among the 480 druggists in Brooklyn. "Other organizations of business men have their clubs, and the druggists should have theirs." He was followed by L. T. Perkins, who said "that any organization which should bind men together would be a good thing. The society had done a good thing in its way. If we could only get our druggists interested it would do a great deal for them and that too, after the fashion of a club." Mr. Zellhoefer and others spoke on the subject, but nothing was decided to be done. Dr. Brundage here took the chair, and the minutes of the previous meeting were read and approved. Six applications for membership were received and D. Master, Jr., and Herbert E. Hall were elected members. L. F. Stevens reported that the first floor of the society's building had been rented for $2 per night to a political organization, and he thought it would occupy the room about sixty nights. This will represent to the society over $100 clear gain. Treasurer Ray reported a cash balance of $80.05. Mr. France, chairman of the Legislative Committee, told of the efforts of that body to defeat the renomination of Messrs. Scanlan and Wieman as candidates for members of the Assembly from Kings County and who, he thought, were to blame for the non-passage of the so-called "telephone" bill in the Legislature last winter. The caucuses in their districts were to be held Oct. 9 and 10, and he wanted the druggists to do something to defeat these men. Mr. Muir talked upon this subject at great length, and he wanted the name of Assemblyman Frank F. Schulz from the 10th district defeated in the same way. Mr. Perkins took a hand in the discussion. He thought that druggists who had telephone "pay stations" were losing nothing by the present law. This subject

The only weekly pharmaceutical paper in the United States is the Pharmaceutical Era. Comes 52 times each year, with latest information from professional, news and trade circles. Subscription $2.

came up later when it was disposed of by a resolution addressed to the opponent of Mr. Wieman in the caucus stating the opposition in the society to the latter candidate. The Board of Trustees recommended that sundry bills for printing, etc., and which were properly audited, should be paid.

The resignation of Wm. M. Davis as a member of the Kings County Board of Pharmacy was accepted. It is understood that Mr. Davis will leave the retail drug business to engage in manufacturing pharmacy. O. A. A. Rouillion, druggist at 1 Gates avenue, Brooklyn, was introduced, and he made some practical remarks on the filtration of viscid solutions, "liquor gutta percha," syrup of ipecac, collodion, etc. He also told how syrup hydriodic acid may be conveniently clarified by filtration through bone black, and presented samples for inspection of a satisfactory cold cream he had made by the following formula:

White vaseline	18 ounces
Spermaceti	4 ounces
White wax	1 ounce
Water	8 ounces
Attar of rose	6 drops
Watery soap solution saturated with benzine	4 drams

Watery soap solution is an aqueous saturated solution of white Castile soap to which has been added a quantity of benzine, and the mixture well shaken to start emulsification. It is then allowed to stand until the benzine separates, when the latter is poured off and the clear solution of soap only is used. The quantities are to be weighed.

In discussing the filtration of syrup hydriodic acid Mr. Stevens said that he had tested a number of samples of syrup which had been "clarified," and there was a loss of iodine. This loss was very slight, but still it was a loss. Messrs. Pfeiffer, Cameron and others made remarks on the preparation of cold cream. It was decided to heat the college building this year by means of stoves, instead of steam. Ten members of the society signed a petition to elect a successor to Mr. Davis on the Board of Pharmacy, and a special meeting was ordered called Oct. 22 to fill such vacancy. The society then adjourned.

——The Androscoggin County Pharmaceutical Association held their regular monthly meeting at the City Hall, Lewiston, on Oct. 1.

——The annual meeting of the New York section of the American Chemical Society was held last week at the University Building. These are the officers elected: Chairman of section, Peter T. Austen, of Brooklyn; secretary and treasurer, Dr. Durand Woodman, of New York; executive committee, A. H. Labin, A. C. Hale and A. R. Leeds; delegates to council of the Scientific Alliance, P. T. Austen, A. C. Hale and C. F. McKenna. A committee was appointed to draw up a resolution of sympathy and regrets for the loss of Dr. Pasteur, to be sent to the Society of French Chemists. After the election there was an interesting programme of readings.

BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

MEETINGS OF BOARDS OF PHARMACY.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Little Rock, Nov. 13.
California (John H. Dawson, Valencia street, corner 25d, San Francisco)—San Francisco —.
Colorado (C. H. Wells, Pueblo)—Denver, Dec. 6.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Dec. 3.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington.
Florida Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Nov. 5.
Kansas (W. C. Johnston, Manhatton)—Junction City, Dec. 11.
Kentucky (Wiley Rogers, Louisville)—.
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Dec. 11.
Maryland (J. F. Hancock, Baltimore)—Baltimore.
Massachusetts (Freeman H. Butler, Lowell)—Boston.
Michigan (F. W. R. Perry, Detroit)—Lansing, Nov. 6.
Minnesota (E. G. Webster, Minneapolis)—Minneapolis, Oct. 15.
Mississippi (J. C. Means, Natchez)—Jackson.
Missouri (F. W. Sennewald, St. Louis)—St. Louis.
Montana (G. W. Shoemaker, Billings)—
Nebraska (M. E. Shultz, Beatrice)—Lincoln, Nov. 13.
New Hampshire (George F. Underhill, Concord)—Manchester, Oct. 23.
New Jersey (Albert S. Elwell, Bridgeton)—.
New Mexico (W. C. Porterfield, Silver City)—.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburg, Rochester, Syracuse and Yonkers, Nov. —.
North Carolina (Wm. Simpson, Raleigh)—.
North Dakota (W. S. Parker, Lisbon)—.
Ohio (W. R. Ogier, Columbus)—Cleveland, Oct. 15.
Oklahoma (C. P. Wickmiller, Kingfisher)—.
Oregon (Dan J. Fry, Salem)—Albany.
Pennsylvania (Charles T. George, Harrisburg)—.
Rhode Island (William E. Cates, Providence)—Providence, Nov. 4.
South Carolina (H. W. Hummel, Charleston)—.
South Dakota (J. A. Keith, Lake Preston)—.
Tennessee (J. O. Burge, Nasbville)—Chattanooga, Oct. 16 and 17.
Vermont (J. G. Bellrose, Burlington)—.
Virginia (E. R. Beckwith, Petersburg)—Richmond, Oct. 22.
Washington (W. H. T. Barnes, Seattle)—.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Heimstreet, Janesville)—Milwaukee, Dec. 11.
Erie County N. Y. (C. O. Rano, Buffalo)—Buffalo, Nov. 2.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn)—Brooklyn, Oct. 15.
New York City (William Balser, M. D., 218 East 13th street)—College of Pharmacy building, Oct. 14.

——Of the thirty-six persons who took the examinations held Oct. 2 and 3 by the Massachusetts Board of Registration in Pharmacy only three passed, namely, William G. Kidder, of Somerville, and Martin C. Roos and George T. Teele, of Boston.

If you want a position or are looking for a clerk, use a "Want Ad," two cents a word.

A Year's Work of the Massachusetts Pharmacy Board.

Boston, Oct. 4.—Perhaps the most interesting parts of the annual report of the State Board of Registration in Pharmacy, an abstract of which has just been made public, are those relating to the traffic in liquor. The document in full would probably fill, say forty columns of the Era; so it is evident that Chairman Whitney has worked hard to prepare it for presentation to the Governor, and it will be strange if some of the statements do not furnish his Excellency with ideas for future action.

After describing the condition of affairs in 1875, when a license to sell liquor cost a druggist $50, the board passes on to 1878, when the law was so changed that the fee was reduced to only $1. This new law required the registration of the name of the buyer, his residence, the date of the sale, amount of purchase, price, use proposed, and, finally, the signature of the customer. "Drug stores," says the report, "were increasing in number far beyond the needs of the people. Ignorant, inexperienced men, mere pretenders, without the slightest knowledge of pharmacy, or regard for honesty, opened stores so hazardous to the interests of the people that the Legislature, in 1885, established this board to check, if possible, this increase of fraud, deception and crime, and to protect the people from the reckless and ignorant dispensing of drugs, medicines and poisons." The statute of 1885 provided for the issue of certificates to those already in business on their own account, or who had had three years' experience. This was supplemented in 1887 by a further rule that certificates should be issued only to those passing a satisfactory examination in pharmacy. The board goes on to say:

"This legislation was the beginning of good work, but as the cause of temperance, or control of liquor sales advanced, the efforts to hide illegal sales of liquor behind the sign of the mortar and pestle continued to increase, and in some cases were most pronounced. To meet this condition, the stringent laws of 1893, giving this board power to suspend or revoke certificates of registration in pharmacy were passed. Under this act the board have suspended seventeen certificates and revoked eight. Strange and inexplicable as it may appear, the progressive efforts of temperance workers to control the sale and abuse of intoxicating liquor, particularly in the line of closing the saloon, was an additional incentive to make the gilded mortar and pestle a sign not of drugs and medicines, but of the 'schooner' and 'toddy stick.' It is with much regret that we are forced to record the fact that some authorities have ruled that there was no limit under the sixth-class license to the number of sales, or the quantity, under five gallons, at any one time. This elastic interpretation of the privileges of the $1 license is beyond our comprehension, and is surely strong evidence that the privileges should at once be clearly defined."

During the year, out of 1,282 applications for liquor certificates 287 have been refused. One hundred or more "rum drug stores" have been closed. Several proprietors have paid heavy fines, some so-called druggists have been imprisoned, and many who had been of doubtful character, have become reputable, law-observing, and so improved in reputation as to be in line for favorable action another year.

The condition of pharmacy to-day in this State as compared with 1885 is, in the opinion of the board, "a long stride in the direction of a higher and special education, a more thorough, practical knowledge and experience, advanced skill and ability to test, select, compound and dispense; a much wider range of therapeutic information; greater familiarity with minimum and maximum doses, antidotes, and the many and peculiar conditions which will always environ the pharmacist. The cloud which so seriously shadowed the universally accepted resort of all classes and conditions for aid, assistance and comfort; a refuge for immediate relief of accident or injury, the repository of all medical and surgical appliances, has by wise and judicious legislation been rent. The fear and apprehension of the pessimist, that 'the coming saloons, or the licensed bar rooms of the State, would be the drug store of the future,' has passed. Massachusetts does not progress that way. To make the drug store as is proposed by some in certain localities, the only place where intoxicating liquors can be had, may be wise a hundred or thousand years hence, should pharmacists become angels, or temptations be removed, and people become total abstainers. As this board formulates its opinions from actual facts and recorded experiences of the past, they unhesitatingly and confidently assert, that with wise, conservative legislation, holding full control of this branch of public service, judicious enforcement of the laws by the Board of Pharmacy, the close of the second decade of its work will place pharmacy among the most healthful and beneficent professions of this Commonwealth, and in due time, this line of work will be adopted and followed by every State in the Union."

Concerning the suspension or revocation of pharmacists' certificates, the board has this to say:

"Two certificates were suspended for one month; one for three months; one for four months; six for six months; three for twelve months, and four were revoked altogether; one case was dismissed with a reprimand; two cases dismissed, as the charges were not sustained; three were severely reprimanded and placed on file; two were continued for another trial. One case of suspension for six months was removed at expiration of four months; one man was granted a hearing upon petition to be reinstated, but was refused; in four cases, where in all probability the certificate would have been revoked altogether, the men have left the State, and notice cannot be served upon them. We have now nine cases waiting the action of the board."

"Some cases brought to the attention of the board," says the report, "exhibit very strongly the necessity of re-registration to avoid the certificates of those deceased, bought or stolen, being used by a depraved villain, who for a consideration will induce some weak, foolish person (in one case a colored boy), or victim of misfortunes to assume the name upon the certificate of registration thus obtained, then open a drug store, deceiving the public, defying the law and trying to cheat this board and the License Commission. We note with much satisfaction one case where the principal and tool were each fined $100 and imprisoned three months for the fraud, and upon the charge of keeping a liquor license the principal was fined $100, with three months' imprisonment, and the assistant $65."

It is not a matter for special wonder that the board has paid so much attention to the liquor question when such testimony as the following is found in the record of hearings. A druggist was asked:

"Do you do any manufacturing business?"

"Make some remedies of my own."

"Not at wholesale?"

"No, sir."

"Your liquors amount to about $10,000 to $15,000 a year?"

"About $10,000."

"And do you mean to say to this board, with those purchases of liquor, you make less than one sale on an average per day?"

"Yes, sir."

"What quantities do you sell when you sell liquor?"

"About half a pint."

"Now, Mr. ——, I have computed the number of one-half pints of liquor you swear you have purchased, and I make it 3,984. Will you please tell the board what became of the thirty-six hundred or more half-pints, as you swear you sold only 365?"

"I must have it on hand."

In the agent's statement, which forms a part of the report, these facts are found:

Visits to cities and towns, 271; drug stores inspected, 1,484; criminal complaints made to local authorities, 44; druggists complained of and convicted, 41; fines imposed, $3,925; number in prison, 11; months served, 33; licenses revoked, 13; complaints investigated, 262; drug stores closed, 103; formal complaints made to the board, 31.

Here is an interesting recapitulation of the examinations of would-be pharmacists during the last ten years:

	Examined.	Passed.	Rejected.
1886.....	101	22	79
1887.....	167	70	97
1888.....	213	89	124
1889.....	276	135	141
1890.....	279	123	156
1891.....	315	115	200
1892.....	488	147	341
1893.....	544	129	415
1894.....	661	126	535
1895.....	494	103	391
Totals.....	3,538	1,059	2,479

"It will be noticed," says the report, "that there has been a gradual increase each year in the number of examinations until the last, when the corner seems to have been turned. Why this sudden and large decrease in the number of applications to become registered pharmacists in this commonwealth? The answer is obvious, viz.: The legislation of 1894, placing the control of the sixth-class license in the hands of this board. To emphasize this view we quote: 'I have attended the college and worked hard to pass the board, and now they are going to kill the best part of the business. I am out of it.'"

Among the suggestions made by the board in the way of future legislation are the following: Compulsory re-registration (not examination) once in two years at an expense to the applicant, not exceeding $1; a clear exposition of the rights and privileges conveyed by a sixth-class license, or the right and duty of the board to determine its limits as occasion demands in individual cases; the right and duty of the board to examine records of liquor sales, and for neglect to make full and proper record, with signature of purchaser, the positive duty to revoke the liquor certificate, which shall at once revoke the liquor license; that all certificates of registration in pharmacy suspended or revoked by the board shall, upon demand, be placed in the custody of the board, a failure to comply with the demand to be punished by a fine of $50 or imprisonment for thirty days; finally, an appropriation to secure such additional attendance at the office of members of the board as exigencies may demand, and the employment of one or more special officers invested with due authority to secure evidence and bring suits as the board may direct.

—The Ohio State Board of Pharmacy vs. Robert Wotke case in Cincinnati has been continued until the 8th inst. It is probable that Wotke's former partner, Miller, will liquidate the expense of Wotke's hearing.

Nebraska Board of Pharmacy at a meeting last month examined five candidates and granted certificates to F. C. Hemple, Clinton, and James Gregerson, Harlan.

The Druggist Sundryman for September is chockfull of things which every druggist will read with appreciation, because the information it contains has a tendency to swell his pocket book. If you haven't received a copy, send to Fox, Fultz & Co., 52 Park Place, New York, for one. It is free.

Peacock's Bromides and Chionia are two preparations which physicians often want, and their demand for them is growing. The announcement of the Peacock Chemical Co., St. Louis, Mo., is a reminder to the druggist that the literature and prices of this firm should be at hand for ready reference.

Sixteen hundred and sixty-four pages of reading matter each year in the Era. No other drug paper gives you even half as much. Carefully selected, reliable and well-digested material. A whole library for the pharmacist.

COLLEGES
AND SCHOOLS OF PHARMACY.

Philadelphia College.

The quarterly meeting of the Philadelphia College of Pharmacy was held Sept. 30, at 4 P. M. Minutes of previous meeting were read and adopted. The committee on delinquent members stated that they had not a full report to make at this time. Mr. Beringer, the chairman of this coamittee, did not arrive until later on. In the meantime Professor Remington gave a brief sketch of the work done at the meeting of the American Pharmaceutical Association in Denver. He said there was great interest shown on all topics and many discussions took place, the most important of which was that on the education of the future students of pharmacy. He said the members who attended were nearly a unit in agreeing that while it was expected that they should have four years' experience in the store, still they should not certify to that effect on the diploma issued to the graduate. The Maryland College of Pharmacy was more strongly in favor of this than any of the others; they said, however, that they adhered to the belief that drug store experience was required for graduation, but did not believe in certifying to it, as above stated. Professor Remington stated that this was only a wedge to make an opening for doing away entirely with this exaction. He said by all means that this college should fight against eliminating the drug store experience from the graduates' certificates, because, he maintained, it was absolutely necessary in order to give the student practical experience, so that when he left the college he could start in any store and turn out good work. Professor Remington also stated that at the meeting it was asked by the various universities that the Boards of Pharmacy of the various States require drug store experience, and that they were the legal bodies to certify as to their (the graduates') competency when the applicants were examined. After a full and thorough debate by the various representatives of all the universities and colleges it was voted to throw it out, as they were not prepared at this meeting to consider the advisability of the subject; therefore, that matter is "in statu quo."

The next important debate held at the Denver meeting was in regard to the alcohol matter. They were not prepared to do anything but sustain the action of the A. Ph. A. at Asheville. Professor Remington stated that he introduced a resolution to the effect that the A. Ph. A. should stand up for the interest of the retail druggist and suggested that a copy of the resolution should be sent to Secretary Carlisle. That if any action should be taken in regard to the rebate all parties who had alcohol claims against the Government, whether they had prosecuted them or not, should be reimbursed. This debate was late in the meeting, the West had larger numbers, but were very dilatory, and therefore nothing was done in the matter, and the resolution, although vigorously pushed by Professor Remington, did not pass. He said that no doubt all knew that James M. Good was elected president, and, while not a Philadelphian, he attended the Philadelphia College of Pharmacy one term.

The chairman requested Professor Remington to make a full report in writing in order that the American Journal of Pharmacy might publish it for the benefit of those not present.

Mr. Beringer came in at this moment. He introduced the following resolution: "That any graduate of the Philadelphia College of Pharmacy or any manufacturing pharmacist of the United States only, whose conduct conformed to the by-laws of the Philadelphia College of Pharmacy may become associate members by paying $3 annual dues. This would give him the use of the reading room and library subject to such rules as may be adopted, he may participate in scientific meetings in the college, and, in fact, have every privilege that the active member has, with the exception that he has no right to vote or hold office. When registered and nominated and so elected it was proposed to give him a certificate." The chairman stated that he was not in favor of this because many of the present active members would pay $3 instead of $5 and have all the privileges they now enjoyed with the exception of voting, and as many of them did not attend these meetings the voting privilege was no advantage to them. Half a dozen other members spoke in turn, all of whom seemed to be in favor of its adoption, as they stated that no member who enjoyed the unqualified conditions of an active member would for the sake of $2 reduce his certificate to that of associate membership. It was stated that 15 per cent. of the entire membership of the College of Pharmacy was delinquent and the College of Pharmacy thereby was out to the amount of about $1,000. One member asked if the income derived from this associate membership was regarded as a pecuniary help to the college or to increase its membership. That if it was for the extra money it would bring he was not in favor of it, because he did not think it would pay. He was informed that such was not the case, that the more members added the more interest and the more advantageous to all members the college would be. He stated that all associate members would get a copy of the American Journal of Pharmacy each month, and many could be members outside of the city and, getting this journal, be in touch with the college. He said that the Maryland College of Pharmacy has issued a circular to the effect that they intend to introduce an associate membership.

As the by-laws of the Philadelphia College of Pharmacy would have to be amended to admit of the associate membership list, this matter had to be laid over to next meeting, as the members desired to consider it.

The question now came up as to electing three members to occupy the positions vacated by Messrs. Robbins, Beringer and French, and also for the unexpired term of Edward C. Jones, who recently died. A member nominated the same three members of the Board of Trustees whose terms had just expired. Nomination seconded and carried unanimously. For the unexpired term of Mr. Edward C. Jones Mr. Cliff was nominated, but at once stated that he could not fill the position. His declination was not received, however. Another member nominated M. N. Kline. It was moved that the nominations be closed. By a ballot vote Mr. Kline was elected by a majority of seven votes, the total being seventeen to ten. The meeting then adjourned.

Chicago College.

The Chicago College of Pharmacy expects soon to inaugurate a series of lectures upon various topics of interest to druggists. To this end a Lecture Committee, composed of Messrs. J. C. Borcherdt, I. H. Fry and Herman Fry, has been appointed.

In connection with the regular course of instruction, which begins Tuesday, Oct. 8, it is proposed to inaugurate a series of supplementary lectures, to be delivered in the evening on practical subjects directly related to pharmacy, such as "Bacteriology and Its Relation to Health and Disease," "Antiseptic Medical and Surgical Appliances," "How to Secure Prescription Trade and How to Hold It," "How to Advertise a Pharmacy," "Window Display and Window Dressing," "Perfumery and Toilet Preparations," "Electricity, Apparatus and Appliances," "Photography and Photographic Material," and a number of other similar subjects of practical interest and value.

Believing that there are druggists in this city thoroughly competent and willing to contribute their experience on practical subjects, the college extends a hearty invitation to such as may desire to aid in the work.

The lecturers have not, as yet, been selected. This will be done, however, as soon as possible. Your representative was courteously invited to attend and report the lectures.

The year's work in the Chicago College of Pharmacy will begin on Tuesday, Oct. 8. Prof. James M. Good, president of the American Pharmaceutical Association, will deliver the address. In the evening it is proposed to give a dinner for the distinguished visitor.

New York College of Pharmacy.

The roster of the New York College of Pharmacy at the beginning of the session showed over 170 students in the senior class and about 185 in the junior class. There will undoubtedly be over 200 students in the latter class when the session is a few weeks old. Besides these, seven students are already enrolled in the post-graduate class and four more have sent notice of their intention to join.

The senior class is consequently very much larger than ever before in the history of the college. The junior class is also larger, but not in the same degree. Some of the seniors were juniors in oth-

er classes than that of last year, others were juniors in other colleges. There are five young women in the junior class and three in the senior, a record breaker. Four was the highest number up to this session.

——The prospects for a good year at the Maryland College of Pharmacy are very gratifying. Up to Oct. 4 the aggregate of the senior and junior classes is 125. Applications are coming in daily and by the time the classes may be said to have attained their full strength the total number of students is expected to be about 165 and perhaps more, or fully 30 in excess of last year. All parts of the country are represented. Last season the college had on its roll a student from Siam, Mr. McFarland, who, unfortunately, died in Pennsylvania during the summer. This session it will boast of one from Syria. The lectures are going on uninterruptedly. The microscopical laboratory has been put into use with several thousand dollars' worth of new instruments. By the next German steamer a consignment of apparatus for the chemical laboratory is expected. In analytical chemistry the classes are divided into six sections, receiving instruction alternately. The members of the college speak very encouragingly of the outlook.

——The Philadelphia College of Pharmacy opened its doors Oct. 1 for the 1895-96 course. During the day the Actuary was busy taking in the names of the new members, and the junior class is as large as any in the history of the college. The three years' course seems to be well received and the students are greatly in favor of it. Some of the studies which were usually taken in the first year are now changed to the second. For instance, the freshmen do not take the chemical laboratory course the first year, but take up the microscopical and pharmaceutical laboratory work. The number of students in the chemical laboratory is far in excess this year of any time in the history of the college, as many of the old graduates have returned to practice up in this branch.

——This has been a year for the druggists in Everett, Mass., to remember pleasantly, for the mayor has taken a liberal view of the Sunday law, and no arrests have been made for alleged violations. For this reason the druggists are likely to take an active part in securing his re-election. In recent years Everett has been a city of "blue laws."

——Druggists in Malden, Mass., received an unexpected call from the police last Sunday, and at one place 150 bottles of lager beer and a jug of whisky were seized. "No license" is the rule in that city.

Lazell, Dalley & Co., New York, make a special offer on perfumes in this issue which is unusually interesting because all the goods are new—new combinations of odors, new style boxes, new style cut-glass bottles, etc. In fact, a line which customers will examine with interest because it is new and novel.

Practical Hints and Suggestions for Advertisers are two Era departments which readers find of much financial value. A single hint is often worth more than the subscription price, $2.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Adress, THE PHARMACEUTICAL ERA.
Box 1483, New York.

CALIFORNIA.

Alameda.—A. M. Prosser, filed petition in bankruptcy.
Brentwood.—E. R. Layne, burned out; insured.
Long Beach.—Welborn & Wahlgenmuth, sold to E. Bacon.
Perris.—O. R. Johnson, burned out.
San Rafael.—Malone & Cody, damaged by fire.

CONNECTICUT.

Middletown.—D. Fessenden, will open a new drug store on Main st.
New Haven.—R. N. Searles, president Athlophoros Co., deceased.
Norwalk.—Frank H. Baxter's drug store on South Main st., damaged $200 by fire.
Wethersfield.—G. B. Smith, deceased.

ILLINOIS.

Belleville.—The Central Pharmacal Co., organized.
Chicago.—J. F. Brabrook, 160 W. Harrison, slightly damaged by fire, resulting from explosion of chemicals.
J. B. Frohn, 876 Clybourn ave., burned out.
Louis Lehman, will remove to Halsted and Wrightwood ave.
Clinton.—G. W. Corder, now Corder & Hensley.
Fisher.—W. M. Nichols & Co., and I. Chamberlain, sold to Palmer & Fisher.
Mascoutah.—Louis Dauber, will retire from business and will be succeeded by his son, Henry Dauber.
Newhern.—Jno. Gill & Co., new store.
Oneida.—C. E. Hamilton, new store.
Peoria.—C. A. Strathman, sold to J. H. Strathman.
Springfield.—North End Drug Store (C. M Bowcock, propr.), removed to N. Grand ave. and Peoria.
Graser & Fitzgerald, dissolved; Charles Graser, Jr., continues.

INDIANA.

Alexandria.—Pugh & Dickey, now E. L. Dickey.
Argos.—Isaac Reed, sold to D. C. Parker.
Brookston.—B. Thompson, sold to J. Kneale.
Elkhart.—Jones & Pontius, damaged by fire.
Huntington.—Bush & Lukins, dissolved.
Indianapolis.—Mrs. N. G. Lambur, sold to Malpas & Lomax.
Logansport.—J. E. Erwin, sold to J. W. Eidson, who removed stock to Bourbon, Ind.
Mishawuka.—Cass Drug Store, burned out.
Montpelier.—F. M. Lincoln, sold to Jacob Reinard.
Mt. Vernon.—M. Croubach & Bro., retired from business.
Osgood.—S. M. Smith, burned out; partially insured.
Portland.—Hartman & Walker, new store.
Princeton.—Jones Bros.' store sold to F. Biggs.
Terre Haute.—T. B. Glazebrook, 7th and Oak, sold to J. B. Cook.
Wolf Lake.—Dr. E. J. Luckey & Bros., new store.

IOWA.

Atkins.—G. F. Garrison, sold to J. J. Johnson.
Bradgate.—Burns, Bennett & Co., sold to Smith & Co.
Council Bluffs.—George Hansen, 209 Main st., new store.
Davenport.—Chase & Co., slightly damaged by fire.
Iowa City.—Graff & Kettlewell, sold to W. H. Graff.
St. Charles.—H. P. Anderson, sold out.
Sigourney.—J. E. Graff, sold to Wells & Co.

KANSAS.

Olathe.—I. H. Legate, sold to L. W. Snepp.

KENTUCKY.

Louisville.—Buschmeyer Bros., damaged slightly by water.
Morehead.—William Parker, deceased.

MAINE.

Deering.—H. L. Stinson's drug store, reopened.
Portland.—C. S. Cole, 68 Oxford, will open new store.

MARYLAND.

Baltimore.—E. H. Dryden, assigned.
Loveland Bros., Equitable Bldg., discontinued.

MASSACHUSETTS.

Boston.—C. E. Haley & Co., wholesale drug sundries, assigned.
D. R. O'Laior, discharged from insolvency.
Chelsea.—H. H. Little, Broadway, will open new store Oct. 15.
Clinton.—J. F. Bergman, now Jessie M. Bergman.
Holyoke.—Thos. F. Cody, manager of Cabot St. Drug Store, removed to Main st.
Randolph.—W. G. Brown, sold to J. T. Pierce.
Ware.—Dr. Jno. Yale, sold to W. M. Kennedy & Co.
Warren.—J. W. Hastings, deceased.

MICHIGAN.

Allegan.—Tripp's drug store, damaged $1,200 by fire.
Ann Arbor.—Bassett & Mason, sold to W. G. Palmer.
Ewen.—John Gardner, burned out.
Fenton.—Andrews' store, sold to J. W. Davis.
Ida.—D. A. Hagans, of Monroe, Mich., opened branch here.
Kalamazoo.—Charles Young, sold to P. H. Loedler.
Midland.—Anderson & Orth, slightly damaged by fire.
Webberville.—Sherwood & Foster, sold to Turner & Harvey.

MINNESOTA.

Goodhue.—Howard & Co., burned out; partially insured.
Sacred Heart.—E. O. Lyders, new store.
St. Paul.—Williams & Graves, now G. H. Williams.
Wheaton.—J. R. Regner, new store.

MISSOURI.

Chula.—A. Howard, removed to Excelsior Springs.
Hannibal.—William Degarris, has admitted H. Kahl to partnership.
Kansas City.—Frank Price, 105 Union ave., slightly damaged by fire.
St. Joseph.—B. F. Benswinger, fatally injured at Atchison, Kan.
Sedalia.—J. F. Stephens, sold out.

NEBRASKA.

Chappell.—G. W. Ferguson, closed on attachment.
Cozad.—J. W. Barnard & Son, sold to A. T. Gatewood.
Madrid.—Blackmore & Co., removed to Gothenburg.
Marquette.—R. K. Hughes, sold to J. J. Luff.
Stella.—Malone & Davis Co., sold to J. G. Lambert.

NEW HAMPSHIRE.

Charlestown.—Drug store of the late Dr. M. N. Roote sold to C. N. Dodge.

NEW JERSEY.

Orange.—L. Hoernle, sold to J. E. Saunler.

NEW YORK.

Ballston Spa.—Ten Eyck & Viele, now J. S. Ten Eyck.
Buffalo.—C. Rodenbach, sold out.
Leroy.—B. H. Bacon, will remove to Rochester, N. Y.
M. B. Eaton, deceased.
Lyons.—Scott Bros., dealers in essential oils, incorporated under name of Scott Bros. Co.
N. Y. City.—Sanador Medical Co., incorporated.
Valley Stream.—G. A. Koch, of Woodsburgh, will open branch here.

NORTH DAKOTA.

Bowesmont.—C. P. Trepanier, new store.
St. Thomas.—Kermott Bros., now G. E. Kermott.

OHIO.

Cambridge.—J. R. Downar, burned out; loss, $2,500; no insurance.
C. A. Moore, burned out; loss, $2,000; insured.
Mansfield.—H. E. Courtney, deceased.
Mt. Sterling.—C. A. Clark, sold to George Ridgeway.
Toledo.—Charles Hohly, deceased.
Wilmington.—Alexander Lawie, assigned.

PENNSYLVANIA.

Allegheny.—J. L. Swearer, Grant and Western ave., sold to D. C. Yellig.
Charleroi.—O. T. McDonough & Co., in sheriff's hands.

Hadley.—A. C. Leonard, sold to R. W. Kempner.
Philadelphia.—Dr. John R. Angney, deceased.
Harry Lee Barber, 24th and Norris, sold to F. E. Genther.
C. W. Nolen, damaged by fire; insured.
Rochester.—Caroline Purdy, sold out.
Smithport.—F. R. Foster, will remove to Bradford.

RHODE ISLAND.

Central Falls.—F. H. Jones, damaged by fire.
Cranston.—A. S. Goldthwaite, new store.
Pawtucket.—Jones, Dexter & Cross, damaged $1,000 by fire; insured.

SOUTH DAKOTA.

Hot Springs.—C. E. Sawyer & Co., sold to E. C. Bennett.
Scotland.—C. B. Lawton & Co., sold to Jacob Serr.

TENNESSEE.

Clarksville.—C. L. Bradley, now Bradley & Hodgson.
Milan.—A. M. Bigham, sold to J. H. Richardson.

TEXAS.

Austin.—F. H. Raymond, deceased.
Fort Worth.—Howe Drug Co., increased capital stock to $20,000.
Kyle.—G. D. Hargis, filed deed of trust.
Lockhart.—McDannald & Duve, now C. E. McDannald.
Pittsburg.—R. F. Lockett, sold to T. E. Russell.
Post Oak.—T. T. Haney and Haney & McRoberts, succeeded by Haney & Taylor.

VIRGINIA.

East Radford.—Radford Drug Co., sold out.
Petersburg.—A. E. Morrison, 123 Sycamore, will open new store.

WISCONSIN.

Fond du Lac.—M. W. Marshall Medicine Co., burned out; partially insured.
Kewaunee.—J. A. Roberts, sold to Westenhaven & Hurlbut.
La Crosse.—C. Gorder, Horner Bldg., new store.
Milwaukee.—Charles Brehm, succeeded by L. Schuldnecht.
Reeseville.—E. B. Fisher, sold to A. F. Dukerscheln.

QUEBEC.

Sherbrooke.—D. C. N. Stevens, new store.

Book Reviews.

MANUAL OF ORGANIC MATERIA MEDICA: A guide to Materia Medica of the Vegetable and Animal Kingdoms. For the use of Students, Druggists, Pharmacists and Physicians. By John M. Maisch, Ph. M., Phar. D., late Professor of Materia Medica and Botany in the Philadelphia College of Pharmacy. Sixth edition. Revised by Henry C. C. Maisch, Ph. G., Ph. D. 285 illustrations, 526 pp. $3.00. Philadelphia: Lea Bros. & Co.

Previous editions of this work as they appeared have been reviewed in these columns, and the majority of readers are already familiar with the plan of the book, which is used as a textbook in nearly all of the colleges of pharmacy in the country. The last edition was issued late in 1892, but the subsequent publication of the U. S. Pharmacopœia necessitated some additions and alterations. This revision was undertaken by the son of the late author, and he has practically followed the same plans employed by his father. The changes introduced are those made necessary by the revision of the Pharmacopœia before referred to. Specific names have been changed to correspond with those officially recognized. Articles that have received official recognition now appear in large type, while those that have been dropped are put in small type. Quite a number of new illustrations have been added, including photomicrographs of some of the official barks. The size of this edition as compared with previous ones has been reduced by condensation and slight enlargement of the pages, but the matter has been somewhat increased. It is not too much to say "it is a standard work."

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

PHARMACY IN AUSTRALASIA.

Sydney, Sept. 2, 1895.

"Eucalyptus Kruseana" is the name given by Baron Von Mueller, K. C. M. G., M. Ph. D., LL. D., F. R. S., to a new species of eucalyptus recently discovered in Southwestern Australia. The Baron writes: "This encalyptus is offered as a phytologic tribute to Mr. John Kruse, a Victorian leader in the chemical and pharmaceutic profession, on the further rising of which he has during forty years exercised amongst us a vast influence; but this offering is made at a time of great sadness, when our genial friend is prostrated hopelessly on his sick bed, yet when also his days are still brightened by the filial attachment of his illustrious son, Professor Kruse, violinist, who has already youthfully won his laurels on the fields of the sublimest of all arts, he having advanced to a position of renown which but few mortals are occupying within the range of musical science." Professor Kruse is now giving a few grand concerts in Sydney after a magnificent reception in Melbourne. He had no desire to appear in public, but yielded to very strong pressure.

Retributive justice has overtaken a young chemist, Richard Thomas Butler, of Sydney, who by means of a foul conspiracy with a private detective, Charles Davis, and a woman, Susannah Peake, got a divorce from his wife six months ago. The wife protested her innocence all through, but the conspiracy was so well hatched that her adultery looked undoubted in the eyes of Justice Windeyer—who by the way has made some fearful mistakes in his judicial capacity of late—and he pronounced the decree nisi unconscious of her innocence and likewise sent her brother to prison for three years for perjury in respect of the evidence he gave on behalf of his sister. Since then complete evidence has been furnished of the conspiracy and Butler and Davis have received seven years each of the severest gaol life, inclusive of long terms of solitary confinement, and the woman Peake four years. Johnson, Mrs. Butler's brother, will probably be released from prison very shortly.

The members of the Pharmacy Board, of New South Wales, are losing heart over their bill owing to the indifference of the Reid Government, who promised so much last year in the direction of bringing the Pharmacy Bill before Parliament. There is but small hope of anything being done until the next session.

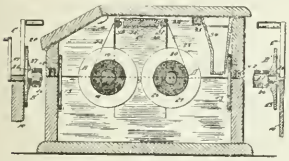
New Zealand pharmacy legislation is decidedly lagging and promises fair to be abandoned for this year. The Pharmacy Bill appeared this session as a Government measure and for a time looked favorable toward its early passing. Objections were listened to by the Government and compliance with the wishes of the board promised, but so strong an opposition has been made by unqualified men, herbalists and storekeepers that the Government is fairly afraid to proceed any further. As New Zealand is under democratic rule the Government is bound to listen to every objector, and must be careful to offend nobody, for that means losing votes. In this way the public weal is sacrificed to political expediency. Every effort will be made to combat the objections raised. If it happens that the bill does not pass this year it will in the ordinary course of events be the last effort of the present Pharmacy Board, sitting in Wellington, in that direction, as the next board will be located in Auckland. A petition signed by 1,833 business men of Christchurch protesting against the Pharmacy Bill as calculated to interfere with the legitimate trade of storekeepers and herbalists and throw large quantities of dead stocks on their hands has been received. A large number of Government members are opposed to the bill, which will doubtless be blocked in committee.

The new tariff in New Zealand came into force on Aug. 1 last. As usual, drug wares do not escape revision, and in this instance an unwelcome one. Tinctures are to be burdened with a duty of 1s. per pound if containing 50 per cent. and over of proof spirit, and 6d. per pound when under that strength. Other drugs and sundries are loaded with an additional 5 per cent., making now 20 per cent. in all. The privilege of making tinctures, essences and perfumes in bond is to be withdrawn, consequently all such lines will either have to be imported or made with duty paid spirit in the colony. During the last recess a Tariff Commission visited most of the commercial centers of the colony and in their report to Parliament stated that the loss of this bond privilege was traceable to the malpractices of two firms, one in Auckland and one in Dunedin, neither of whom is connected with the drug trade, who have systematically and extensively "had" the customs department. The tincture of larch trick is exposed in the report; a very little larch bark to a lot of spirit, sometimes hardly enough to give color and taste, and even if too much, it paid to cleanse the spirit when removed from bond. Other questionable practices are also made apparent. The following is now the tariff: Acid acetic, 1d per pound for every 10 per cent. of acidity; drugs not otherwise enumerated, 20 per cent. ad valorem; tinctures and medicinal spirits containing more than 50 per cent. proof spirit, on and after Jan. 1, 1896, 1s. per pound; tinctures and medicinal spirits containing less than 50 per cent. proof spirit, on and after Jan. 1, 1896, 6d. per pound; druggists' sundries and apothecaries' wares, not otherwise enumerated, 20 per cent. ad valorem; chemicals not otherwise enumerated, 20 per cent. ad valorem; baking powder, 20 per cent. ad valorem; essences, flavoring, spirituous, 16s. per gallon; glycerin, refined, 20 per cent. ad valorem; saccharine (except in the form of tabloids or tablets), 1s. 6d. per ounce; perfumed spirits, £1 10s. per gallon; printed matter relating to patent or proprietary medicines, trade catalogues, and price lists for firms or persons in the colony, 25 per cent. ad valorem.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS
Issued October 1, 1895.

547,122—Richard G. Latting, Jr., Brownwood, Tex.—Purifying vegetable oils.
547,173—Carl A. Mayer and C. De la Harpe, Basle, Switzerland, assignors to L. Durand, Huguenin & Co., Basle, Switzerland, St. Fons, France, and Hüningen, Germany.—Leuco compound and making it.
547,202—Jas. M. Brooks, Molena, Ga.—Turpentine still.
547,276—Ludwig Mond, Winnington, England.—Process of and apparatus for obtaining ammoniacal products.
547,292—Ernst Ruppertz, Brooklyn, N. Y.—Artery forceps.
547,332—Frank W. Clark, assignor to Frank W. Clark & Co., Ltd., London, England.—Distillation and breaking up of liquid hydrocarbons and apparatus therefor.
547,364—Albert M. Stanley, assignor of one-half to D. Miser, E. M. Whitaker and T. Hays, Springfield, Colo.—Prescription file.



Claim.—In a file, the combination, with a casing and a reel located therein adapted to receive a filing tape, of standards connected with the casing, means for holding the standards in a predetermined position, a rod adapted to be passed through the said standards, and means, substantially as described, for supporting the rod upon the casing when not in use, as specified.

TRADE-MARKS
Registered October 1, 1895.

27,113.—Sirups. Towle Syrup Co., St. Paul, Minn. The words "White Rose."
27,118.—Remedy for Diphtheria. Christian Snesrud, Minneapolis, Minn. The words "Snesrud's Positive Cure for Diphtheria" and a figure having substantially the outline of the frustrum of a cone and inclosing short lines representing the bacteria peculiar to the disease of diphtheria.
27,119.—Remedies for Dyspepsia. The Dyspepsia Cure Syndicate, London, England. The word "Haburwrine."
27,120.—Remedy for Consumption. Homer E. Maclian, Des Moines, Ia. A portrait of the registrant.
27,121.—Soothing Sirups. George A. Simard, North Adams, Mass. The word "Anisa."
27,122.—Certain Named Medicines. The Malthie Chemical Co., Buffalo, N. Y. The word "Zomakyne."
27,123.—Liniments. Edgar Redman and Charles W. Sands, Pawtucket, R. I. The letters and word "R. and S." and the figures of two arcs partially inclosing the words "Quick Relief" immediately below.

Some of the finest lithographed, embossed and printed labels which were ever stuck on bottles have been made by the Chicago Label & Box Co., Lake and Franklin streets, Chicago. Their catalogue showing specimens is quite convincing on this point. It is sent free upon application.

The goods of the Grand Rapids Brush Co., Grand Rapids, Mich., are in the hands of the jobbing drug trade, and by looking over the illustrations in the firm's advertisement in this issue, and procuring their list, the retailer will find many articles which it will pay to specify on brush orders.

But One.

My credulity has, along with the general public's, been severely imposed upon by the advertisements of the wonderful properties of the medicinal and toilet soaps of our day.

There is good soap, bad soap and very bad soap. I am glad to know that the New York College of Pharmacy, one of the most celebrated institutions of its kind in this country, through its class of '95 has been investigating the soap question. These young pharmacists took it into their heads to buy a cake of each of the leading soaps in open market, to ascertain if the claims of the manufacturers would be sustained by analysis as to their reputed medicinal virtues and purity. I learn from reliable authority that but one soap of the lot so analyzed was really pure, and was all that was claimed for it, and that was Ricksecker's Skin Soap. The President's baby is daily bathed with this soap. It is good enough for me.—Knickerbocker, September, 1895.

The Era Dose Book.

The Era Dose Book is full of things which the pharmacist has a hard time remembering. It is a necessity at the prescription table. It gives full information about doses, incompatibles, solubilities, percentage solutions, metric system, thermometric equivalents, poisons and antidotes, etc. It is one of the best 50-cent investments the druggist can make.

One of the best and cheapest commercial travelers carrying samples is the mailing case made by the United States Mailing Case Co. of Boston. Even the postal authorities recommend the reliability and safety of this traveler. Hundreds of towns can be visited in a day, and the expense is fully explained in the circulars and price lists sent out by this firm.

The Chr. Hansen Laboratory, Little Falls, N. Y., turns out a line of products which ought to have the attention of the drug trade on account of their excellence. A list of these is presented in this issue, and a further acquaintance with these products through the medium of the firm's literature will well repay the effort of making a simple request for it.

Dundas Dick & Co.'s capsuled medicines are put up in blank boxes containing thirty capsules of 10 minims each. The box wrapper is easily removed, so that the preparations can be properly and conveniently dispensed on physicians' prescriptions. Send for full list of preparations to Dundas Dick & Co., New York.

T. J. Hamilton & Co., of Indianapolis, whose advertisement appears in this issue, manufacture only high grade cigars, which are so well liked that over 120 druggists in Indianapolis handle them. This speaks well for their brands, and indicates that they are the right kind for other druggists to handle.

Manufacturers and jobbers when in need of good salesmen will find that a "Want Ad" in the Era will bring them many good replies. Try it, two cents a word.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 61 of this issue, in the back part of the journal.

Advanced: Citric Acid, Cacao Butter, Cream Tartar, Camphor, Gamboge, Ipecac, Galangal Root, Gum Kino, Jamaica Ginger, Oil Anise, Oil Cassia, Oil Bergamot, Oil Lemon, Santonin, Tartaric Acid.
Declined: Caffeine, German Ergot, Menthol.

New York, Oct. 8, 1895.

It has been claimed that under the conditions which have recently prevailed there is some temptation to take an over-bright view of the situation, in the hope of promoting confidence, and so helping to bring about increased activity. The same claimant states that this temptation does not seem to be strongly resisted. Such a statement is not confirmed by a careful canvass of the leading representative firms in the drug and chemical trade, and it must be admitted by the most interested observer that business in this department has for a long time been conducted on very conservative principles. That there is a strong undertone of confidence is not denied, but the feeling seems to be fully warranted by the general improvement which has been gradually developing for several weeks. Consuming channels are absorbing a liberal amount of stock, and values in the majority of cases are as firm as at any time since the autumn season began; in fact, a large number of leading commodities which have been steadily advancing still show a strong upward tendency. Cream tartar and tartaric acid are materially higher than a week ago, Jamaica ginger has changed decidedly for the better, gum kino shows a marked advance, also camphor and citric acid; anise oil, cassia oil, the Messina essences, have further improved, cacao butter has advanced in sympathy with the primary markets, and all varieties of gelatine are held at higher figures. Other articles showing improvement in values include galangal root, ipecacuanha, santonin and cumin seed; the few which are easier in tone are caffeine, German ergot and menthol. A new feature of noteworthy importance is a change in the general terms of manufacturers of chemicals, all having agreed on the basis of thirty days net, or 1 per cent. off for cash within ten days from date of invoice. Some chemicals are not included in the new terms. Exceptions are made of yellow prussiate of potash and cyanide of potash, for both of which the cash discount continues at ½ per cent. for cash in ten days; also pyrogallic acid, salicylic acid, hypophosphites, chloral hydrate and salol, which have an extra discount of 1 per cent.

OPIUM.—Dealers and consumers are alike perplexed by the erratic course of this article, and the uncertain outlook has a tendency to keep the volume of business within narrow limits, buyers showing a disinclination to operate in excess of visible requirements. On the

other hand, the larger holders here are not anxious sellers, and appear to have considerable confidence in the opinion that future values will be higher. Reports of Armenian disturbances in Turkey are influencing a firmer tone to the market, and while some business has been done at the prices ruling on the date of our last report, other transactions were subsequently completed at an advance of 2½@5c. per lb. There is, however, such a wide difference between the views of those interested in the article that the market is in a very unsettled condition and changes are looked for in either direction at any time.

MORPHINE. — There is no quotable change in manufacturers' prices, but the market seems to be somewhat sensitive owing to the unsettled condition of opium, and the consuming trade is operating cautiously.

QUININE. — The active inquiry previously noted shows no abatement, and all brands of domestic and foreign are sharing in the distribution. The agent of one of the leading German makers has been unable to fill fresh orders, and outside holders have taken advantage of the temporary scarcity by demanding an advance of 1 per cent. per ounce for that brand. Otherwise business has been moving along smoothly and there is yet no intimation that any change in prices is contemplated.

ALCOHOL.—Quotations for grain are unchanged and the market remains in the same unsettled and irregular condition heretofore noted. Rumors have been circulated that an understanding had been reached by the various distilling interests and distributing companies, but they are positively denied by those in position to know, and the claim is made that no efforts are at present being put forth to bring about an amicable settlement. The rumors probably emanated from the fact that a financial matter had been adjusted by the former managers and receivers of the old combination.

ACID TARTARIC.—As anticipated in our last report, manufacturers have again advanced their quotations, and both crystals and powdered are 1½ cents per lb higher; holders offer with considerable reserve and the tendency is still upward.

ACID CITRIC—Is quoted 2 cents per lb higher in all sized packages, the improvement being wholly in sympathy with the advance in cost of raw material.

BALSAMS.—All varieties are ruling steady at unchanged prices, and the general jobbing demand continues moderately active. The only noteworthy feature is increasing scarcity of tolu, the principal holder of which declines to sell except in a small way.

CACAO BUTTER.—At both the London and Amsterdam sales on the 1st inst. higher prices were realized, and holders of the limited stock here have advanced their quotations 1@1½ cents per lb.

CAFFEINE—Is in better supply and easier, with current quotations showing a decline of 50c.@$1 per lb. The demand is rather light and a quiet feeling prevails throughout the market.

CREAM TARTAR. — Manufacturers' prices have been further advanced 1 cent per lb and the tendency is still upward, with only limited quantities offering.

COD LIVER OIL—Is unchanged but firm, with a continued active movement in progress.

ERGOT. — The German variety is easier and about 1@2 cents per lb lower, owing to free offerings of goods damaged by fire and recently sold by auction. Spanish is unchanged.

OIL OF ANISE—Has again started on its upward course, and values are 25 cents per lb higher than a week ago. Several fair-sized lots have changed hands, and the spot stock is closely concentrated. Primary markets have also advanced.

OIL OF CASSIA—Is moving upward in sympathy with primary and European markets, and prices are 10 cents per lb higher, with fair jobbing sales reported at the advanced figures.

MESSINA ESSENCES. — Cable advices to hand have stimulated a stronger feeling among holders, and all varieties are hardening, but the principal changes are in bergamot and lemon, leading brands of the former having been marked up 40 cents per lb and the latter 15 cents. The advances are all attributed to short crops.

GELATINE. — All leading varieties have been advanced 3@5 cents per lb owing to scarcity.

CAMPHOR. — The demand has been unusually good for this season of the year and the market retains a decidedly strong undertone, with city refined 4 cents per lb higher. The stock of Japanese in 2-ounce cakes is practically exhausted, but 1-ounce tablets are yet available, although holders ask an advance of 3 cents per lb.

GUM KINO. — Holders of the small and closely concentrated stock have added $1 per lb to the price of whole, and 75 cents to powdered, the advance being due to scarcity abroad and export orders at about the parity of the improved figures.

GAMBOGE—Is cabled higher abroad and an early advance is expected in values here.

MENTHOL—Is quiet and easier, with sellers at 10 cents per lb under previous quotations.

IPECACUANHA. — The tone of the market is firmer, and all desirable grades show an advance of about 5 cents per lb.

GALANGAL ROOT—Is about 1 cent per lb higher in sympathy with a corresponding advance in London.

JAMAICA GINGER—Has undergone a remarkable change, the result of an active movement in London, where considerable stock had been held for American account and recently sold at extreme prices. When the news was received here an attempt was made to secure everything available, and the eager buyers secured fully 300 bbls. Values have since been advanced 4@5 cents per lb for both natural and bleached, and holders are decidedly firm in their views.

SANTONIN. — The higher cost of crude material has influenced an advance of 25@50 cents per lb in manufacturers' prices.

London Market Report.

London, Sept. 28, 1895.

Business generally continues to improve, and although demand has not been so active this week several articles are dearer.

ACID CITRIC—Is dearer at 1s. 3d. per lb for prompt delivery, while 1s. 3½d. per lb is asked for forward contracts.

ACID TARTARIC—Has quieted down slightly, but price is steady.

CAFFEINE—Can be had on the spot at 20s. 6d. per lb, perhaps 20s. per lb; forward deliveries as before quoted, except that 19s. has been paid for December.

CAMPHOR—Has been quiet, with a few sales of crude at lower prices. Refined is very firm.

CARAWAY SEED. — Dutch is advancing; present value 25s. cwt. f. o. b.

CHLORATE OF POTASH—Is quiet and unchanged at 4½d. per lb f. o. b.

COD LIVER OIL.—With the commencement of the consuming season prices have hardened considerably. Stocks in Norway are very low and up to 180s. per bbl. is now asked for finest oil.

GLYCERINE.—Tending higher. Makers ask from 55s. to 60s. per cwt. in tins and cases, while second-hand holders are firmer at 53s. to 54s.

MENTHOL.—Firmer, 13s. having been paid, and now 13s. 3d. to 13s. 6d. is asked.

OILS (Essential).—Cassia continues firm at 7s. 9d. per lb. Bergamot, 10s. per lb is asked f. o. b. Messina. Lemon, decidedly dearer at 4s. to 4s. 6d. per lb. Peppermint, Japan oil is dearer, 5s. 9d. being asked for dementholized, while 40 per cent. can still be got at 7s. 6d. per lb.

OPIUM.—The bears both on your side and in Smyrna are working hard to bring about reduced prices, but orders sent out at quotations are not executed. Whether the large arrivals at Smyrna of the new crop will cause a break in prices remains to be seen, but in the meantime prices certainly remain steady.

ORRIS ROOT.—Telegrams from Leghorn advise a rising market and quoting 79s. per cwt. for picked. A short crop is given as the cause of the rise, and anticipations of a further rise are mentioned.

PERMANGANATE OF POTASH—Is scarce on the spot and holders ask 60s. to 62s. 6d. per cwt.

PHENACETIN.—One maker has reduced his price to 5s. 4d. per lb.

QUININE—Is active and not very plentiful; 1s. 1½d. per oz. paid, and there are but few sellers at this price.

SANTONINE.—One of the makers offered early in the week at 5s. 3½d. per lb, and took large orders thereat. Waking up to the fact at last that his competitor was short, he has now declined to sell further under 6s. per lb.

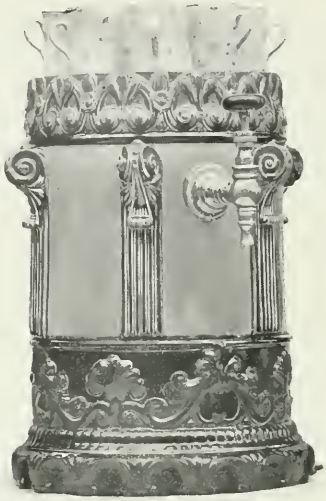
SUGAR OF MILK—Is rather scarce, and 60s. to 62s. 6d. per cwt. is asked.

TONKA BEANS.—Firming up all round.

Send in your vote on Handsomest Advertisement in this issue.

TILE
Soda Fountains
MADE BY
The Low Art Tile Company.
CHELSEA, MASS.

NOT IN THE TRUST



Hot Fountain, No. 23.

HEIGHT 20 INCHES. DIAMETER 15 INCHES.

THE above Hot Fountain is less expensive than No. 24, shown on opposite page.

The automatic heater is placed inside, thereby saving the room under the counter that is required for the heating apparatus of other makes.

Intending purchasers of either a hot or a cold fountain should thoroughly investigate our goods.

The Low Art Tile Soda Fountains are acknowledged by everyone to be superior in every way to those made of any other material.

THE LOW ART TILE CO.,
952 Broadway,
Chelsea, Mass.

SALESROOMS:

BOSTON, 51 Portland St.
NEW YORK, 31 Church St.
CHICAGO, 154 Fifth Av.

NOT IN THE TRUST

Hot Fountain No. 84.

HEIGHT 35 INCHES; DIAMETER 15 INCHES.

THE hot fountain above illustrated is the handsomest we have ever made.

No metal to clean.

Automatic heater inside the urn.

Water is delivered at any desired temperature as fast as it can be drawn.

The supply of water and gas is perfectly automatic.

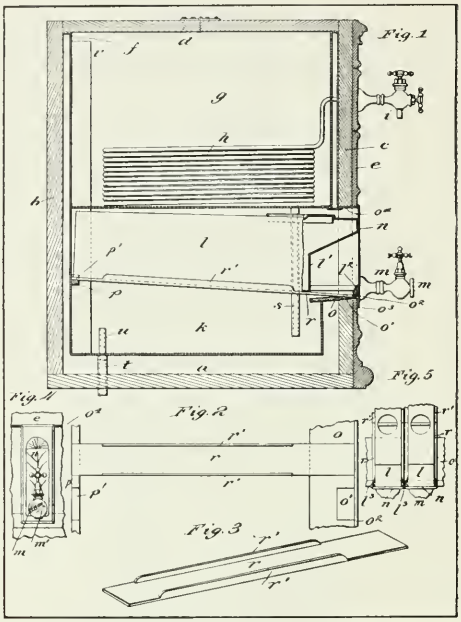
Intending purchasers should correspond with us or call at one of our salesrooms before buying.

THE LOW ART TILE CO.,
952 Broadway,
Chelsea, Mass.

SALESROOMS:

BOSTON, 51 Portland St.
NEW YORK, 31 Church St.
CHICAGO, 154 Fifth Av.

NOT IN THE TRUST



A CAREFUL examination of the above cut will demonstrate that we have the simplest and at the same time the most practical draw can system ever made.

The cradle *r* on which the can rests and slides, is as easily removable as the can itself, thereby giving access to the lower ice chamber *k*. It has been almost impossible to draw cold soda from any draw can fountain previously made. If our lower ice chamber *k* is iced we guarantee ours will deliver colder soda than any other draw can fountain in the market.

Catalogues sent to intending purchasers.

THE LOW ART TILE CO.,
952 Broadway,
Chelsea, Mass.

SALESROOMS:

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NEW YORK, 31 Church St.
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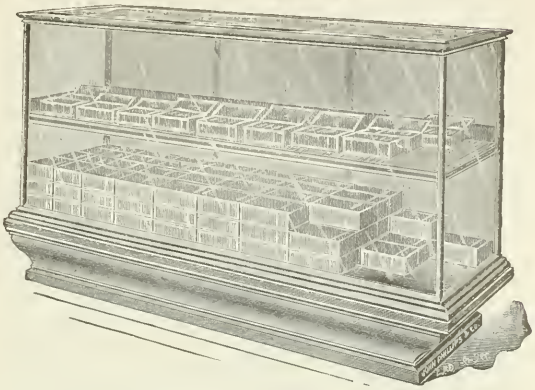
Silent Salesman
TRADE MARK

DRUGGISTS' CIGAR CASES.

Show Cases,

Store Fixtures,

Store Stools.



THE QUALITY OF OUR WORK IS KNOWN THROUGHOUT AMERICA.

SEND FOR
DESCRIPTIVE CIRCULAR.

FIG. 70. A SILENT SALESMAN, fitted with moisteners, keeps CIGARS in PRIME CONDITION.

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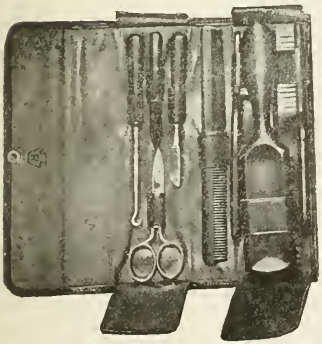

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POCKET BOOKS,
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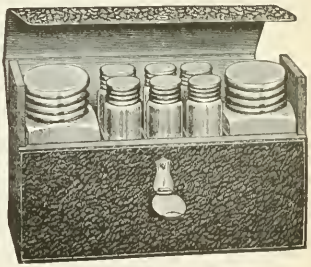
CARD CASES,
PHOTO FRAMES,
MUSIC ROLLS,
CIGAR CASES,
POCKET FLASKS,
WRITING CASES,
JEWEL BOXES, Etc., Etc.,
STERLING SILVER
MOUNTED GOODS.



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Made entirely of Bronze and cast in Japan from special designs furnished by me. The heating arrangement, which contains a newly patented Automatic Heater, is located entirely above the counter.

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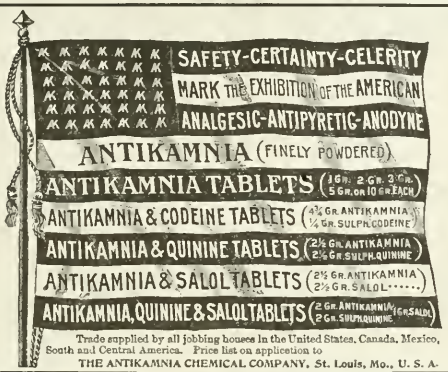
It is Stronger and Better than any other.

ASK YOUR WHOLESALER FOR AN ORIGINAL 4-OUNCE BOTTLE.



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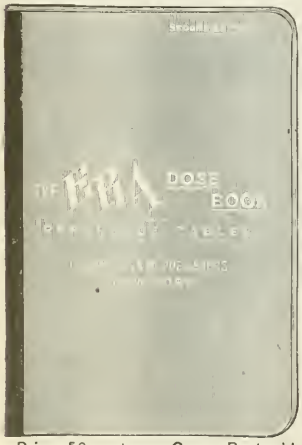
A GOOD DOSE BOOK is one of the most useful and convenient books of reference a druggist can have. No pharmacist can be expected to remember the doses of all drugs, and a handy book which gives the minimum and maximum doses is more convenient than a large text book. Besides the doses, this book contains a number of REFERENCE TABLES of special value to dispensers of drugs and medicines.



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PART 8.—DROPS IN A FLUIDRAM. This table shows the number of drops in a fluidram, with corresponding weight in grains and grams, for each preparation named.

PART 9.—THE METRIC SYSTEM. A comprehensive view of the Metric System for practical use, with equivalents and complete tables, showing the equivalents of Avoirdupois weight in grams, relation of Troy weights to Metric, etc., etc.

PART 10.—TABLE OF PERCENTAGE SOLUTIONS Being a table of the more common percentage solutions, calculated approximately for sufficient distilled water to make one pint.

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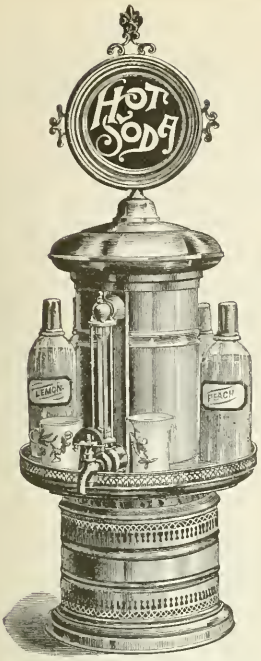

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SOFT AS VELVET.

We take pride in submitting these corks for inspection, because we know them to be far superior to any ever offered. They are "the cream of the cream," selected from those cut from the very best wood imported. They are not only *longer than extra long*, but the ends of these corks are *perfectly smooth*. A good cork is a better advertisement than a good bottle.

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For September.

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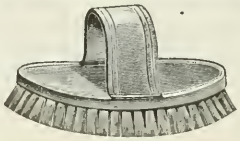

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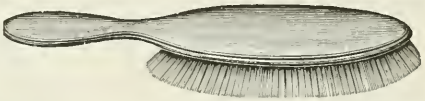

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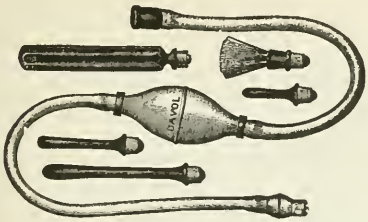

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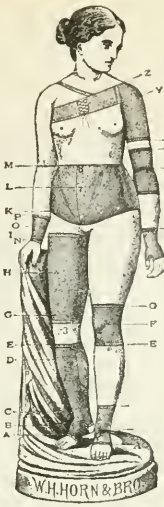

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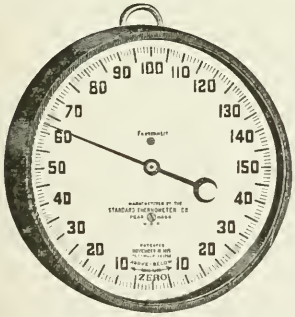

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On Fluid Extracts, Pills, Tablet Triturates, Hypodermic Tablets, Compressed Tablets, Lozenges, Tinctures, Elixirs, Syrups, Wines, Powdered Extracts, Solid Extracts, Concentrations, Capsules, Cordials, Glyceroles and Granulated Drugs.

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Our principal competitors have made a **desperate effort** to interest the **trade direct at 40 per cent.** discount, while jobbers are compelled to invoice **same lines at 25 per cent.** We are giving **all druggists** the benefit of our **40 per cent. discount,** and have placed **Wholesale Druggists** in position to **supply our products** at a fair profit and give the **same discount.** It is, therefore, to your interest to **specify "Lilly's."** Any jobber will supply and thank you for your order.

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(S. P. 2.

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Enormous sales that are recorded day after day must signity that in merit and popularity

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FRONT VIEW OF LABORATORY.

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THE science of preparing medicines in the elegant forms which characterize modern pharmacy requires special apparatus, which, owing to its costly nature, can only be employed on the larger scale. This has resulted in the concentration of the manufacturing interests and the establishment of the large manufacturing houses which distinguish pharmacy of modern times. The result has been a revolution, in which the manufacture of medicines has passed from the hands of the retail druggists, and the old-fashioned apothecary shop has become a thing of history.

Among the great manufacturing houses of the United States, Frederick Stearns & Co. of Detroit occupies a prominent position. To obtain any idea of the great magnitude and diversity of the business of such an institution, with its economy of labor and elaboration of product, a visit to the extensive laboratories of this great corporation would be necessary. This establishment is one of the largest of its kind in the world and is situated on 21st street, in the western part of Detroit. The building occupies an entire square, with a frontage of 300 feet and a depth of 150 feet. It is three stories high, rectangular in shape and encloses two different courts, reached by an arched entrance on the 21st street side. The Kola of Africa, the Coca of Bolivia, the Eucalyptus of Australia, the Opium of India and China, the Cinchona of the Andes, enter through this archway and are converted into preparations, which, after passing the rounds of the building, emerge from the same portal, to be dispensed by physicians and pharmacists in every clime. To conduct such an immense business as this requires a division into departments, each one of which is sufficiently extensive in itself to form a separate establishment. All of these departments are necessarily under one management, requiring executive ability of the highest type.

FOUNDING THE HOUSE.

Frederick Stearns & Co. is a corporation organized under the laws of the State of Michigan, and managed by officers and a Board of Directors. Its president is Mr. Frederick K. Stearns, a son of the founder of the establishment, Mr. Frederick Stearns, a disguished scientist and traveler, who, although a stockholder in the business, has had no official connection with it since his retirement in 1887. Mr. Stearns, Sr., came to Detroit in 1855 to engage in the drug business, and his sucessful experience of over thirty years as retail and wholesale druggist, and finally as the head of the great business which he did so much in creating, forms a record of which he may justly be proud. Although he still manifests great interest in the affairs of his chosen profession, his later labors have been mostly those of a citizen of the republic of letters. He has traveled extensively in foreign countries, and his knowledge of the history, customs and manners of some of these, especially China and Japan, has earned for him much favorable notice as a collector of curios and as a lecturer and writer upon the latter countries. The Stearns' collection of Japanese and Corean art objects, numbering some sixteen thousand pieces, which was presented by him to the Detroit Museum of Art, of which he is now president, has been pronounced the most carefully selected, typical and complete collection of its kind in this country.

LABORATORY.

Not including the Executive Department, which itself is sub-divided, the various departments of the laboratory number forty-eight, the principal ones being under the direct supervision of registered graduate pharmacists, so that all the operations of manufacturing receive that careful attention which only a thorough knowledge of all the details of the science of pharmacy can give. Space will not permit a detailed description of all of these departments. Reference to a few of them, however, will give some idea of the nature and scope of the work.

SCIENTIFIC DEPARTMENT.

The Scientific Department of the house is composed of the heads of departments already mentioned. This department is under the immediate supervision of several chiefs, who are experts in their lines, several of them holding professorships in the Detroit Medical College. The department is under the directorship of F. E. Stewart, M. D., Ph. G., a graduate of the Philadelphia College of Pharmacy and the Jefferson Medical College. Dr. Stewart has devoted himself for many years to the founding and working of scientific departments in connection with the large manufacturing houses, the idea having originated with him in 1879. He has been a teacher of pharmaceutical science in its various branches in the Philadelphia College of Pharmacy, Women's Medical College of Pennsylvania, Medico-Chirurgical College of Philadelphia, and in the Jefferson Medical College, where he held for some years the position of Demonstrator and Lecturer on Materia Medica and Pharmacy. He is also author of a "Compend on Pharmacy," published by P. Blakiston, Son & Co. of Philadelphia, and is Chairman of the Section on Materia Medica and Pharmacy of the American Medical Association, and also of the Special Committee on National Legislation of the American Pharmaceutical Association. The monographs of the Scientific Department are published under his direction and are distinctively scientific in their intent, all commercialism being eliminated therefrom. The importance of such a department, devoting itself to the perfection of the method of manufacturing medicine and publishing the results of

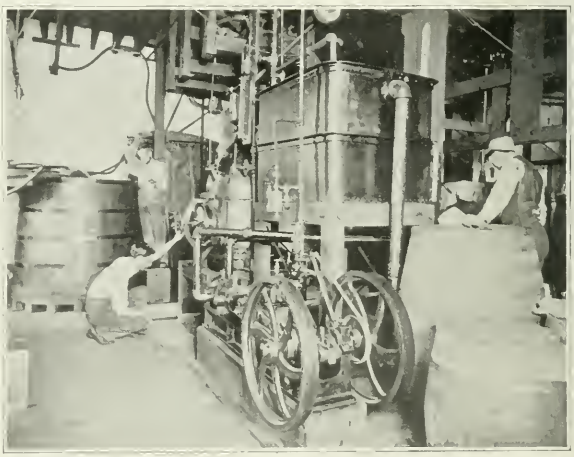
A VIEW FROM THE ROOF, SHOWING ONE OF THE COURTS.

original investigation for the benefit of science and the profession, can hardly be overestimated. Departments of this kind, with men chosen on account of their superior knowledge and skill in their respective lines of pharmaceutical work, concentrating their attention on the improvement of the methods by which medicine is manufactured, and aided by improved machinery, abundant capital and working in co-operation with the highest business talent, are certainly capable of raising the practice of pharmacy, as carried on by the larger manufacturing houses, to a higher plane than is possible under the antiquated systems of the past.

CHEMICAL AND ANALYTICAL DEPARTMENT.

This department is under the charge of Charles C. Sherrard, Ph. C., a graduate of the University of Michigan and Professor of Chemistry in the School of Pharmacy of the Detroit Medical College. Prof. Sherrard's special duty consists in examining and assaying the crude materials employed in manufacturing and in standardizing each lot of fluid extracts, etc., before they are bottled and sent out from the establishment. He also devotes a certain portion of his time to original research. He is assisted in his work by J. L. Tegarden, Ph. C., a fellow alumnus of the university, who devotes himself to pharmaceutical assaying. Prof. Sherrard was one of the members of the commission sent by Frederick Stearns & Co. to investigate the methods of manufacturing cod liver oil at the New England fisheries. The object of this commission was to verify the work of the celebrated French chemists, Messrs. Gautler and Mourgues, who announced their discovery of the alterative principles of cod liver oil, which have baffled chemists since 1822. Bouillot subsequently demonstrated that these principles existed in the liver itself and were only taken up by the oil in proportion to their solubility therein. Prof. Sherrard, assisted by Prof. J. O. Schlotterbeck of the University of Michigan, were able to prove the correctness of the claims of the French scientists referred to. They personally visited the cod liver oil manufacturers, went with the fishermen in their expeditions to the fishing banks, undergoing the hardships and exposure of the fishermen on the wintry seas. They obtained the livers directly from the living fish, extracted from them the active principles referred to and then shipped fresh livers to their respective laboratories in Detroit and Ann Arbor for further investigations. These livers were preserved in alcohol and arrived at their destination in a perfect condition. Upon examination the results already mentioned were verified and arrangements made to ship large supplies of liver to Detroit for the purpose of manufacturing the now well-known preparation, "Stearns' Wine of Cod Liver Oil." Two large rooms are devoted to the manufacture of this preparation, and there may be seen the process of disintegrating the liver by machinery, extracting its virtues by the aid of appropriate menstruum, and evaporating the extract in a costly vacuum apparatus worth several thousand dollars. Other expensive machinery is used, including immense power agitators; a mixing tank with capacity of a thousand gallons, with an attachment of air force pumps, etc., and a pipe line for conveying the finished material to a storage room upon the next floor above. The other room is devoted to finishing this preparation, and here can be seen in operation automatic bottling machines, capping machines, and a force of thirty girls busily engaged in labeling and finishing the goods. The storage room for Wine of Cod Liver Oil contains four long rows of 100 tanks, each containing 120 gallons of the finished product. These tanks are always full. As fast as one is emptied it is immediately refilled, so that the stock on hand always aggregates at least 10,000 dozen, and the orders from the jobbing trade are frequently for round five or ten gross lots. Large shipments are also made to India, Australia and other English colonies, and likewise to the Spanish-speaking countries of South America and the West Indies. The success of this preparation, now so deservedly popular with the medical profession, is a fair illustration of the improvement in pharmacy and therapeutics during the present decade. Cod liver oil therapy is now robbed of its greatest terror, the active principles of the oil being substituted for the oil itself. These principles, taken in conjunction with a properly selected diet, stimulate the processes of assimilation and nutrition, so that the food is more rapidly utilized in the building of healthy tissue. The manufacture of Wine of Cod Liver Oil forms a separate department by itself. The work of the commission cost more than $5,000 and required a period of more than nine months. The results of the work have been embodied in papers read before the American Medical Association and American Pharmaceutical Association, and will appear in the transactions of these societies for 1894 and 1895. This instance has been related to show the importance and value of scientific departments connected with these large manufacturing houses. When the United States Pharmacopoeia is next revised the Committee on Revision will profit by this work, which, except for such a department, would probably have been locked up in trade secrecy for the commercial advancement of one house, instead of being published for the advancement of medical science.

Specimens of medicinal plants and of crude drugs are constantly sent to the Scientific Department for identification.



DEPARTMENT FOR EXTRACTING ACTIVE PRINCIPLES FROM FRESH COD LIVERS.

This requires special knowledge of botany and pharmacognosy. Moreover, such knowledge is in constant demand in the selection and purchase of supplies. Three chiefs of the Scientific Department have this work of identification and selection under their special charge. Profs. L. H. Gardner, Franklin F. Frazee and W. G. Rankin, the former two being graduates of the University of Michigan, with the degree of Pharmaceutical Chemist, and the latter holding his degree of Ph. G. from the Ontario College of Pharmacy, and each holding a chair in the Department of Pharmacy in the Detroit College of Medicine.

CASCARA DEPARTMENT.

Another department of the laboratory is devoted to the manufacture of the famous specialty "Cascara Aromatic" —Stearns'. Cascara Sagrada, which is another name for the bark Rhamnus Purshiana, was introduced as a medicinal agent by Dr. Bundy of Calusa, Cal., about twenty years ago, since which time it has been made official in the British and United States Pharmacopoeias. "Cascara Aromatic" is an elegant aromatic preparation of the drug, from which all bitterness has been removed. As this department has a capacity for turning out more than a thousand pounds of Cascara Aromatic per day, and as the force is kept constantly busy in its manufacture, the popularity of this preparation is evident. In its manufacture only two-year-old bark is employed, to obviate the griping qualities which new bark has. To it is added aromatics which still further insure it against griping, and at the same time adding a grateful cordial and stimulating effect upon the mucous membranes, increasing the secretion of the digestive juices and improving the peristaltic action of the bowels. Since its advent the sales of the old-time fluid extract, Cascara Cordials, etc., have rapidly decreased, which has caused jealous competitors to leave no stone unturned to abuse the house.

KOLA DEPARTMENT.

The enormous demand during the past year for preparations of Kola has been the means of creating a special department for manufacturing them. At the present time more than two tons per month of the famous Kola nuts are imported by this house directly from Africa. From time immemorial the Kola has been used by the natives of Western Africa as a stimulant to the muscular and nervous systems. It was brought to the attention of the European nations as early as the twelfth century, but it was not until the investigations of Heckel and Schlagdenhauffen, who published a comprehensive monograph of 400 pages on Kola in 1883, that it obtained rank in scientific medicine. The nuts were furnished to these French chemists by Thomas Christy of London, one of the most extensive dealers in rare drugs in England who at the same time sent samples to Mr. Frederick Stearns in Detroit, knowing him to be very much interested in medical curios. Mr. Stearns sent for a further supply of the nuts and in his NEW IDEA for 1881 offered them for sale. The experiments with the drug undertaken in Europe received a setback upon the discovery of caffeine as one of its leading constituents. It has been demonstrated more recently, however, that Kola owes its virtues, which exceed those of the ordinary caffeinic stimulants such as tea and coffee, to a peculiar principle found in the fresh (undried) nut, which is in a great part decomposed when the nuts are dried. This peculiar principle is a glucoside named Kolanin. It was the discovery that the fresh (undried) nuts must be employed to secure the valuable effects of Kola that has caused its immense popularity at the present time. It is now in demand on every side and is employed by the medical profession as a remedy in debilitated states of the system; by the United States and European armies in their experiments on emergency rations; by mountain climbers and athletes to prevent the feeling of fatigue due to prolonged exertions, and by bicyclers to enable them to make "century runs" and win in closely contested races. It has even been used for stimulating horses on the race track and several of the more important races of the past year are said to have been won by its employment.

As Frederick Stearns & Co. were the introducers of Kola to American commerce, and as they were the first and only house to import the fresh (undried) nuts, and, furthermore, as they were the first to manufacture palatable preparations of Kola, they soon became leaders in this line of work. Their prestige has been greatly increased by the publication of a handsomely illustrated monograph of 78 pages on Kola. The result of all this is that their preparations of Kola now have an enormous demand. The leader is "Kola-Stearns," a delightfully flavored, aromatized, fluid extract of Kola to be employed where the full effects of the drug are desired. "Kolavin-Stearns" is a delicious Wine of Kola, useful in those cases where a mild alcoholic stimulant in combination with Kola is indicated. Kolacyls consists of sugar-coated cylinders of fresh Kola, each representing thirty grains. They also manufacture Kolabon, a chocolate confection of Kola for children and delicate invalids, and several preparations from the dried nut, such as Fluid Extract of Kola and Kola Tablets, to meet a certain demand.

HÆMOFERRUM DEPARTMENT.

Of late years a great deal of attention has been given to the subject of organic iron preparations, and a number of al-

STORAGE TANKS FOR WINE OF COD LIVER OIL.

DEPARTMENT FOR FINISHING WINE OF COD LIVER OIL

buminates of iron and haemoglobins containing the iron of the blood have been placed on the market, both in this country and Europe. Among these preparations "Haemoferrum-Stearns'" takes the lead, being the purest form of haemoglobin yet introduced. This is amply demonstrated in the monograph on "Oxyhaemoglobin and Allied Products," published by their Scientific Department. The spectroscope has settled this claim of Frederick Stearns & Co. in regard to the superiority of Haemoferrum beyond all controversy, as the beautifully colored frontispiece of the monograph referred to will show.

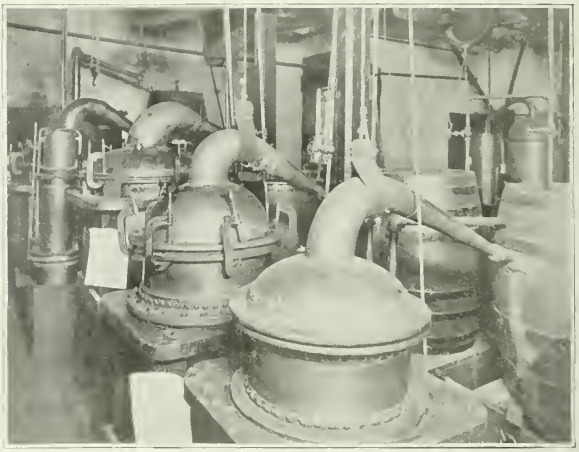
DEPARTMENT OF DIGESTIVE FERMENTS.

The department for the manufacture of digestive ferments has been carried to a high degree of perfection, resulting in the introduction of Duke's Pepsin, an article of superior excellence. This preparation may now be considered as a standard.

Papers on the subject of Pepsin have been contributed to the transactions of the American Pharmaceutical Association by members of the Scientific Department. A paper by Prof. Sherrard entitled "Estimation of the Digestion or Solubility of Hard Boiled Egg Albumin with 2 per cent. HCl with Pepsine alone, with Distilled Water and with Artificial Gastric Juice" is a very valuable contribution. Prof. Sherrard and Mr. Tegarden also united in answering Query 6—"What percentage of the United States Pharmacopeial Pepsins of the market come up to the Pharmacopeial requirements?"

FLUID EXTRACT DEPARTMENT.

This department is divided into three rooms. The first contains immense screw presses, with two hundred tons pressure, for thoroughly exhausting the drugs, and large vats and tanks where drugs undergo the macerating process. The second room contains the stills, evaporating pans, kettles, etc., and one especially large still for recovering alcohol. The third room is devoted to the process of percolation, and presents an imposing array of copper and stoneware percolators of from five to fifty gallons capacity. In connection with this department are the podophyllin works, located in a separate building in the alley. Here are several large percolators of 160 gallons each, also drying closets, straining frames, drying racks, etc., used in making this important resin.



PORTION OF DEPARTMENT FOR MAKING SOLID EXTRACTS.

SUGAR-COATED AND GELATINE COATED PILL DEPARTMENT.

The second floor of the middle building is devoted entirely to the manufacture of pills. In the Pill-cutting Department is found a plant which consists of a complete double outfit of the Colton pill-cutting machines. This plant includes machinery for making the strips or pipes, as well as that for cutting them into pills. The pill mass is fed into a machine in small chunks about the size of one's thumb, which are carried by means of wide rubber bands running upon two cylinders, between the latter, and rolled into pipes of the required dimensions. These are collected in trays and fed a dozen at a time into the second machine, which cuts them. All that is necessary is to furnish the mass and the machines do the rest. A complete set of such machines, with the aid of six girls, easily does the work of thirty-six girls with the ordinary method of pill-making by hand.

The adjoining pill-massing room is fitted with a complete line of rollers, varying from three inches to twelve inches in diameter, and constructed of steel and porcelain, the latter being necessary for chemicals, which would be damaged or altered by contact with metals. The gelatine-coating room is supplied with a complete set of apparatus, the process used having been patented by the superintendent of the department, Mr. Albyn D. Stearns. This apparatus does away with the use of needles, using instead hollow tubes, from which the air is exhausted, with the pills held in place by atmospheric pressure during the process of dipping in the gelatine solution. There is also one complete set of Colton gelatine-coating apparatus, by which two girls are able to coat and furnish more than 100,000 pills per day. Twenty girls are employed in this department. The gelatine-coated pills of F. Stearns & Co. are noted for their beauty of finish and were favored with a special award at the World's Fair. The sugar-coating pill room is well equipped with ten large revolving copper pans, and turns out a product beautifully finished and very soluble.

PILL CUTTING DEPARTMENT CUTTING PILLS BY POWER MACHINES

ELIXIR DEPARTMENT.

This department is a growth, resulting from the demand for palatable medicine. Here are made the various Elixirs, Medicated Wines, Syrups, Glyceroles, and similar products so extensively prescribed by the medical profession. Although the work of this department is such that its success depends upon the formulae and skill employed, yet the appliances and conveniences are of the best which ingenuity can suggest, and the popularity of the goods of this sort turned out is evidence of the care and skill employed in their manufacture.

PERFUME DEPARTMENT.

The production of perfumes was referred to by the firm as one of their "side lines," but the many admirers of Stearns' Fine Perfumes will be loath to regard them in anything but the light of products of great importance, and a glance through the department, which adjoins those already referred to, will convince the observer that "specialty" would be the better designation. The Perfume Department embraces a mix-

PILL MANUFACTURING DEPARTMENT. THE GELATINE COATING ROOM

ing room, freezing room, filling room, finishing room and large fireproof vaults for the storage of the costly materials, such as musk, ambergris, oil rose, etc., which enter into the manufacture of perfumes. The mixing room contains several large machines for washing pomades, copper agitators and machines for mixing the perfumes. That the perfumes manufactured by this firm possess those characteristics which should distinguish a fine article, such as fragrance in abundance without disagreeable "loudness," delicacy, with sweetness, freedom from sharpness, with permanency and lasting qualities, is quite evident from the great demand which has arisen for them, and that there is a demand for them is further evidenced by the fact that their aggregate sales amount to over $75,000 per annum.

CRUDE DRUG DEPARTMENT.

This department consists of large storerooms containing the stock of crude drugs and chemicals to meet the requisition of the other departments for the various drugs and chemicals used in the establishment for manufacturing purposes. From 75,000 to 100,000 pounds of cascara sagrada bark is always kept in stock, and the firm state that, so far as they are able to learn, they are the largest users of this bark in the world. Immense quantities of mandrake, sarsaparilla, etc., are always in store, and on this floor are also found the large stock of glassware which an establishment of this magnitude is always obliged to have on hand.

DRUG MILLING DEPARTMENT.

The drug milling department also occupies two floors of this building, the machinery upon the first floor being used for powdering. Chaser mills are used for this purpose, each consisting of two large millstones set upon edge and revolving upon an inclosed circular bed of the same material. They are inclosed in tight, wooden boxes or houses, and as the material becomes reduced to an impalpable powder the greater part arises as dust and settles upon the space outside the inclosed stone bed and within the walls of the boxes. The second floor is equipped with machinery for grinding and includes three disintegrators, turning at the rate of 3,000 revolutions per minute, each having a grinding capacity of one ton per day of ordinary drugs. This department is also well equipped with root cutters, sifters, ball mills, grist mills, etc.

NON-SECRET DEPARTMENT.

The idea of furnishing domestic remedies of approved formulae, the contents of the bottles to appear on the label, to take the place of secret nostrums, was originated by Frederick Stearns & Co. in 1876. The fact that every bill presented before the national and State legislatures for a number of years past has embodied a similar idea shows that it is a reform measure worthy of the indorsement of every physician in the land These non-secret preparations are carefully compounded from the best materials by competent chemists, and are put up in liberal sizes and handsomely dressed. They are not advertised to the laity and do not imitate or simulate remedies made by others for similar purposes, whether they be patented or not. They are not offered to be "just as good as," or "quite the same as" any secret nostrums, for they are not, but are better in every way than any patents or their "scientific substitutes," and must be sold entirely upon their own merits.

In all instances where the plan has been properly explained to physicians it has met with their hearty approval, as they readily recognized the fact that a demand existed for ready-made preparations of some kind, and it certainly seemed to them more reasonable to have this demand met with medicines whose composition was open, rather than with nostrums of secret formulae. The "National Formulary" of to-day is but a further elaboration of the non-secret idea of eighteen years ago. That the plan has filled a long-felt want is assured by the numbers of competing concerns who have followed it. The enormous sale of non-secret preparations has exasperated two classes of manufacturing houses: namely, the patent medicine manufacturers themselves and those quasi-pharmaceutical manufacturing houses who loudly "preach ethics" for the sake of "pulling the wool" over the eyes of the medical profession, yet who "practice patent medicine" by manufacturing carloads of nostrums for such patent medicine houses who prefer to have their goods made for them rather than manufacture themselves. This non-secret department is equipped with mixing tanks, hydraulic filters, strainers and pumps for conveying liquids into the adjoining bottling department, where are found automatic filling machines, the ordinary gravity fillers and special force pump fillers for thick liquids, such as syrups, emulsions, etc. The bottle washing room is an interesting department, even to those who have passed the period of apprenticeship. Automatic bottle washers (the invention of the firm), bottle dryers, etc., make up a plant for the rapid cleansing of bottles, which, for rapidity and effectiveness of work, is hard to excel.

SHIPPING DEPARTMENT.

The first floor of the southern portion of the building, frontage on 21st street, is devoted to the storage of filled stock; the non-secret finishing room, 120x30 feet in extent, in which forty girls are employed, and the packing and shipping department. In these latter rooms all the different items of a customer's orders are assembled and got ready for

THIRD FLOOR OF DRUG STOCK DEPARTMENT SHOWING CENTRE AISLE

ONE OF THE FINISHING DEPARTMENTS.

shipment. Sawdust is the packing mostly used, and is brought to the works in wagons and conveyed to huge bins on the third floor by means of blowers. As the packers arrange the different articles in the packing cases a slide is opened at intervals as the packing progresses and the sawdust is allowed to slide down a chute and fill the spaces between the articles being packed. After being marked the packages are then ready for shipment, and the directions upon some of the cases show that their journey is to be a long one. Among the orders ready for shipment were noticed cases of goods for Rangoon, Burmah; Cape Town, Cape Colony, South Africa; Honolulu, Hawaiian Islands; Bombay, India; Calcutta, India; Colombo, Ceylon, India; Sydney, N. S. W., Australia; Melbourne, Victoria, Australia; Dunedin, New Zealand; Havana, Cuba; San Jose, Costa Rica, Guatemala, Leon, Nicaragua, Mayaguez, Porto Rico, San Salvador and many others in as equally remote corners of the earth.

OTHER DEPARTMENTS.

One large room is devoted to the manufacture of compressed lozenges, tablets, tablet triturates, etc., eight large power machines being employed in this class of work. The department for the manufacture of Effervescent Granular Preparations is well fitted with complete apparatus in the shape of porcelain steam kettles, dry racks, etc.

OINTMENT AND SUPPOSITORY DEPARTMENT.

The ground floor contains a department with its machinery for making ointments, suppositories, cosmetics, etc., and specially constructed centrifugal churns for the manufacture of emulsions.

FOLDING BOX DEPARTMENT AND BINDERY.

Upon the second floor is found the department, with special machinery, for the manufacture of cartons and folding boxes, the paper stock room and the bindery, where the work of folding and stitching the various publications of the firm is done, mostly by machinery, only the gathering of the printed sheets being done by hand.

SEIDLITZ POWDER DEPARTMENT.

The Seidlitz Powder room upon this floor contains new and ingenious machines, devised by F. Stearns & Co., for weighing and measuring the powders. These machines work automatically and insure the highest degree of accuracy in the powders which they deliver. This firm has always been favorably known for the high grade of the material used in their seidlitz powders and the attractive form and original sizes in which their goods in this line are put up, their latest attraction being a large envelope, with the powders each in a small envelope, these latter being wrapped in waxed paper.

CACHET DEPARTMENT.

In another room twenty-five girls are employed putting up Stearns' Instant Headache Cure. This preparation enjoys a remarkable sale, considering the fact that its formula is not secret, and not a dollar has been spent in advertising it to the general public. It is put up in cachets, which are imported, but the work of making the preparation and of filling is done in Detroit. The foreign factory furnishing these cachets states that F. Stearns & Co. are the largest consumers of its goods in America, their orders sometimes exceeding 2,000,000 cachets a month. This preparation is handled by all the prominent jobbers, and it has had wonderful success wherever introduced.

TOOTH AND INSECT POWDER DEPARTMENT.

An adjoining room, made dust-tight, is used for the handling of powders, such as tooth powder, insect powder, etc., and goods of a similar light character.

Among remaining departments is a large room devoted to the packing, labeling and finishing of pills for shipment, and another room devoted to the work of getting out agents' samples and keeping their traveling outfits supplied.

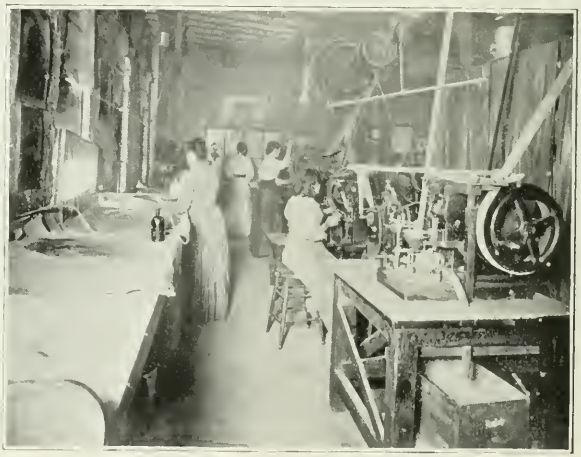
PAPER BOX DEPARTMENT.

Almost all the entire top floor of the front building, which is 220x30 feet, is devoted to the manufacture and storage of paper boxes. It is equipped with the most modern and improved machinery, employs fifty hands, and turns out every kind of paper box used in the institution, excepting the folding cartons previously mentioned. Frederick Stearns & Co. have the reputation of putting out the handsomest packages of any house in their line of business, and an inspection of the work done in this department seems to prove it.

HEATING, LIGHTING AND MOTIVE POWER.

The boilers and engine which furnish the power for this great establishment are in an isolated building, in one of the courts. This location affords a great protection against fires. Two large boilers supply steam for the engine and for heating the buildings. In the engine room is located a dynamo, which generates the electricity for lighting all those departments of the establishment where alcohol or other easily inflammable substances are used. The other departments are lighted by gas made on the premises by means of a Michigan gas machine, which supplies about 400 jets. As there are 300 electric lights in the building the firm may well claim to have one of the best lighted laboratories in the world.

Adjoining the engine room is a well equipped machine shop, where an experienced machinist is kept constantly employed in making new appliances or repairing old ones. Much of the ma-



CORNER OF COMPRESSED LOZENGE DEPARTMENT

PILL FINISHING DEPARTMENT.

chinery used by Frederick Stearns & Co. was made in this shop, such as their gelatine pill plant, centrifugal emulsifiers, seidlitz powder and bottle-capping machinery, etc.

Over the boiler room is an extensive dry room, fitted with iron racks, blowers, etc., where all green drugs in bales are stored before being ground in the millroom, which is close at hand.

PUBLICATION DEPARTMENT.

The south building, or that portion of the main building shown upon the right in the illustration, is simply devoted to the printing office and publication department of the establishment. The former consists of a composing room, where the typesetting for all the labels, wrappers and circulars used by the firm is done, as is also that for the neat little publication issued by the firm, called the "New Idea." This sprightly journal occupies a unique position in pharmaceutical journalism, as it sails under its own colors as a professed organ of the business in which its publishers are engaged, but at the same time it has made many valuable contributions to the literature of pharmacy since its inception in 1879. The printing department is equipped with fifteen printing presses, four of them large cylinders, power paper cutters, folding machines, wire stitchers, ink grinders, etc.; in fact, all the appliances necessary to turn out a bound book. The typographical excellence of the printed matter issued by this firm is especially noteworthy, and they take considerable pride in the fact that they can turn out as fine color work upon their own presses as they can obtain anywhere in the country. Here are also printed the monographs of the Scientific Department, which are now in demand in scientific circles in all parts of the world.

LABEL STOCK DEPARTMENT.

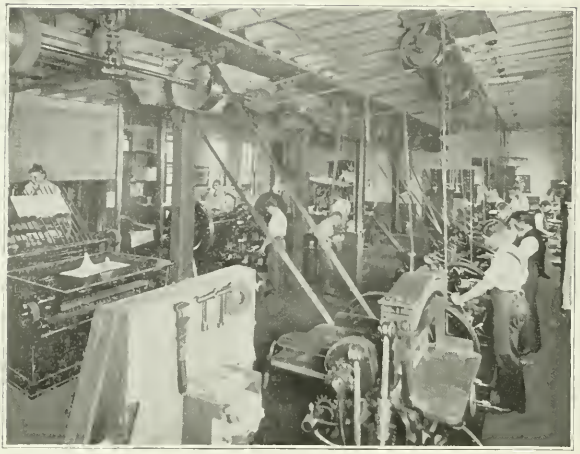
The label stock room adjoining the printing department is filled with pigeonholed cases containing many thousand different kinds of labels, the total stock of these numbering several millions.

EXECUTIVE DEPARTMENT.

The executive offices are situated on the first floor, facing 21st street, and extend from the main entrance, near the middle of the building, to the north end, a distance of 180 feet. Owing to the fact that this space is divided up into fifteen offices, including those on the second floor, the effect is not so imposing as it would be were they all in one large room; but for retirement and transaction of business the arrangement has decided advantages. Entering the front door one comes into the reception office, where a clerk is in attendance to wait upon visitors and convey messages to the persons whom they wish to see. Adjoining this office is the city or telephone office, where all the city telephone business is done and where telegraph messages are sent and received. In this room is a circulating library, donated by the firm for the use of all its employees. The next office is that of Assistant Supt. Prof. W. G. Rankin. In there is found the formula department, from which every formula used in the laboratory must be obtained by proper requisition. Such a perfect system of checking is observed in this department that mistakes are almost, if not entirely, out of the question. The general office is the next in rotation, and is presided over by Mr. N. A. Tabor, who has charge of orders, collections and claims. Here the mail is opened and distributed, orders entered and priced, drafts sent out, letters copied, etc. This office employs twenty persons, including four or five stenographers, and is an exceedingly busy place. Off from the main office is a large fireproof vault, 10x30 feet in extent. Next adjoining the main office is that of the vice-president and treasurer, Mr. F. C. McLaughlin, who, with his secretary, is pleasantly located. Mr. McLaughlin, in addition to looking after the finances of the firm, attends to the buying, which in itself is enough to keep any man busy the better part of his time. The next room is occupied by the assistant treasurer, Mr. W. I. L. Stearns. Directly across the hallway is the office of the acting superintendent and assistant general manager, Mr. W. D. Stearns, who, in addition to his other duties, has charge of the advertising of the house and also of the private formulae, estimating, etc. Next in order is the bookkeepers' office, where four experts keep the accounts only, all the other clerical work being done in the main office. Next comes the office of the secretary, Mr. Thomas Bennett, who is assisted by two clerks and a stenographer. Mr. Bennett has entire charge of the foreign business, which takes up the greater part of his time, although he also attends to the correspondence of inquiry and makes quotations on goods.

Returning to go upstairs one passes through the letter file room, where are stored away the thousands of letters and orders received during a single year only. The stairway in this room leads up to the agents' reception room and office of Mr. D. M. Gray, manager of the traveling department. It is here that the "traveling boys," some fifty in number, meet and compare notes, do their correspondence, etc. Adjoining Mr. Gray's office is that of Mr. E. M. Gatell, manager of the Spanish department, who attends to all the correspondence, making out of orders, arranging for the printed matter for same, invoicing, etc. The physicians' department, in charge of Mr. S. C. Stearns,

PAPER BOX MAKING DEPARTMENT.



PRINTING DEPARTMENT.

is a very interesting one to visit. By means of the card index system account is kept of the work of the detail men and the general correspondence with physicians. The card index cabinet already numbers more than 100,000 cards, and contains memoranda relating to the calls made by the detail men upon physicians and subsequent correspondence with them.

PRESIDENT'S OFFICE.

This extensive plant, with its enormous detail, is presided over by Mr. F. K. Stearns, whose office is located away from the noise and bustle of the laboratory and the business offices of the establishment, but connected with all the departments by means of electric bells, whereby he can summon the chief of any department he desires in a moment.

BRANCH HOUSES.

In addition to the Detroit laboratory the firm has another establishment at Windsor, Canada, in charge of Mr. Irving H. Taylor. This branch has charge of the firm's trade in the Dominion, and is fully equipped for the manufacture of everything in the pharmaceutical line. The New York office, at 1 Platt street, is in charge of Mr. N. T. Pease. The London, England, office, at 25 Lime street, is in charge of Mr. W. A. Richardson, resident manager. The Australian business is looked after by Mr. R. H. Roe, who has an office at 37 Pitt street, Sydney, N. S. W. The Mexican branch, located in the City of Mexico, is in charge of Mr. A. M. Slack, resident manager. The maintenance of these offices is necessary on account of the firm's extensive foreign trade, which they estimate is about one-fifth of their output. They enjoy the distinction of being the first American manufacturing house to engage extensively in foreign trade, having commenced in South and Central America in 1882, and in Australia, India and South Africa in 1885; and their elegant publications in the languages of these foreign countries have been important factors in the development of the trade. In addition to the executive staff mentioned, the firm employs between 400 and 500 persons and has a force of fully fifty travelers, including detail men, who are kept busy the year round informing the medical and pharmaceutical world of the superiority of the firm's manufactures and calling their special attention to Stearns' Wine of Cod Liver Oil, Cascara Aromatic, Stearns' Haemoferrum, Stearns' Kola preparations and Dike's Pepsin, and in this connection it is quite pertinent to state the first two mentioned each received an award at the World's Columbian Exposition, 1893, the total number of awards received by the firm being fifteen.

CODE OF ETHICS.

The Code of Ethics of the American Medical Association is clear in its denunciation of the secret nostrum business. Unfortunately for the interests of scientific medicine and the financial condition of the medical profession, the nostrum business has attained enormous proportions in this country. This is in part due to the respectability gained by it through the adoption of the proprietary system by many of the leading pharmaceutical houses and very generally by retail druggists as a means of protecting their trade interests. The system is the same that has been popular for many years with the so-called patent medicine business. The bars between the patent medicine business and manufacturing pharmacists having been broken down in this manner, the larger proportion of newer remedies, both simple and compound, prescribed by physicians are marketed under this system of protection. A reform is demanded all along the line. It should commence with the medical profession (for physicians are greatly at fault in this matter) and work outward into every branch of medicine. It is useless for a pharmaceutical house to pretend that it does not supply the demand for proprietary medicines when they are ordered by its patrons. It is a notorious fact that the largest manufacturers of proprietary medicines in this country, who make all kinds of remedies for nostrum dealers, to the extent of hundreds of tons annually, is the house which prates the loudest on the subject of ethics. When physicians cease to prescribe remedies whose working formulae are not published it is time for the manufacturer to stop making them. The adoption of the non-secret idea, so strongly advocated by Frederick Stearns since 1876, would do much to educate the public against secret medicines. A proper rendering of the patent and trade-mark laws by the Patent Office and by the courts, whereby the Government shall refuse to grant a monopoly of a medicinal agent unless the same shall be proved a new and valuable invention, and then limiting the monopoly to a specified term of years, in exchange for the publication of full knowledge of such inventions upon the expiration of the time limit, would do much to effect a desirable reform. Ethical rules for the guidance of physicians and pharmacists in their relations with one another and with the public at large should be formulated and enforced. By the adoption and carrying out of the non-secret idea Frederick Stearns & Co. have done much to aid in this reform movement.

ONE OF THE PRIVATE OFFICES.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

You should have Mercer's Pill Vita in stock for your own use. Read about it below.

The India Rubber Comb Co., 9--13 Mercer street, New York, make such a complete line of goods which every druggist handles, that it is hardly safe to order combs, syringes, water bottles, atomizers, hair brushes, etc., without having their price list close at hand, or bearing in mind certain points of excellence belonging to "I. R." Comb Co. goods.

A "Silent Salesman" show case will increase the display space in a store by at least 100 per cent., and the fanciful title which has been applied to it describes just what it will do. Its salary is the lowest on record, but its services are of the highest class. Every druggist ought to know all these is to know about it, and the manufacturers, John Phillips & Co., Detroit, Mich., will be glad to tell all there is to tell about it.

The managers of the Ammonol Chemical Co. have purchased ten thousand acres of land at Parkewood, Moore Co., North Carolina, where they expect to erect a laboratory, and establish an important industry. F. W. Stemmler, the president of the company, is now in Europe engaged in the introduction of ammonol, while the home office is experiencing a lively demand for the new preparation, and incidentally is attending to a few imitators who have already begun an attempt to reap benefits from the success of others.

Fletcher's Bottled Cocktails, made by the Fletcher Cocktail Co., 421 Broad Street, Newark, N. J., are recommended by leading physicians and druggists on account of their positive tonic and appetizing properties and their effect as a gently stimulating and refreshing beverage. They are compounded with the most scrupulous care from the choicest liquors and cordials with the accuracy of a physician's prescription, and are therefore always uniform in quality and flavor. In order to more thoroughly introduce them the company will until further notice send one dozen sample bottles with first order for one case. The following varieties will be assorted as desired: Martini, Whiskey, Manhattan, Gin, Vermouth and Congressional. See advertisement for prices.

The Newer Remedies.

A difficulty which meets the pharmacist every day is the seach for information regarding new drugs and remedies. There are so many of them that the task is not an agreeable one, and the situation calls for a sort of dictionary. "The Newer Remedies," by Coblentz, supplies this need. It contains references to 900 subjects, and has 68 pages. The price, 50 cents, postpaid, is much less than the expense of time in looking up new remedies. Send for sample pages to D. O. Haynes & Co., New York.

OUR SUPPLEMENTS.

As one of the advertising features of the present issue the supplements deserve more than ordinary attention from readers, not only for the wealth of information and prices contained in them, but for their artistic appearance. Among the advertisers thus represented are:

Cosmo Buttermilk Soap Co., Chicago, has an advertisement which is a work of art, but then their soap is that kind of a soap, and the group of "Buttermilk Girls" is a growing one.

Billings, Clapp & Co., Boston, quote some tablet prices on pages 25 and 26 which are quite impressive. With their goods the druggist will certainly be able to compete with anything on the market.

H. Planten & Son, 224 William street, New York, give prices upon a selected list of their best selling capsules, specialties, and the druggist has simply to remember page 9, Era, Oct. 10, when anything in this line is wanted.

Dr. Kilmer & Co., South Bend, Ind. Pages 49 and 50 are devoted to a remedy which has attracted much attention on account of its unique advertising with the "split-head" trade-mark. Some special offers on this are worthy of attention.

The American Playing Card Co., Kalamazoo, Mich., present an artistic announcement which conveys the impression that their goods are of the same character. Their list includes many extra fine cards of the kind which the best trade wants.

Charles S. Baker & Co., Chicago, make nearly everything which the term "manufacturing pharmacists and chemists" is understood to include, and their supplement in this issue is one to which the retailer can turn with confidence that he will find just what he wants.

Ferd. Ruttmann & Son, 35 Broadway, New York. This firm presents a facsimile of their Swan Gin Calendar for 1896, which cannot fail to please the artistic taste of readers, and remind them every day of next year where the finest gin in the country can be procured.

The United States Playing Card Co., Cincinnati, O. This firm has always turned out goods of the finest description, and the means which they employ to advertise this fact is always of the highest artistic excellence. Their supplement in this issue is no exception to their invariable style. Look at it and see.

McKesson & Robbins, New York, have devoted eight pages to a description of their specialties, the Albolene preparations, pyrozone, compound stearates, etc., with special reference to Vennard's New Roman Violet perfume, and one of the choicest lines of sundries, toilet articles, novelties, etc., ever brought to this country.

The Doliber-Goodale Co., Boston, present Mellin's Food in their usual attractive and convincing style, and the enormous sale of this article will allow most druggists to heartily indorse the good words which the proprietors themselves say in favor of their goods. Then their price list is handy, and you know where it is.

Lehn & Fink, New York. A house enjoying the prominence of this always has something of interest to say about drugs and chemicals, and the liberal space which they occupy in this issue is replete with information regarding some of their leading specialties, all of which are salable goods and profitable additions to a druggist's stock.

Truslow & Co., New York, have presented a convenience which every druggist will appreciate. It is a complete price list of all sizes of corks, which he has occasion to use, and by procuring their discount sheet which can be attached, he will always know where to procure corks and know what price will have to be paid for them.

The New York Quinine and Chemical Works, New York, have given some convincing evidence in their supplement that this country can be counted as a leader in the production of fine chemicals. Their list is a chapter in the story of American enterprise, and is the best kind of reading for the pharmacist who wants the best chemicals obtainable.

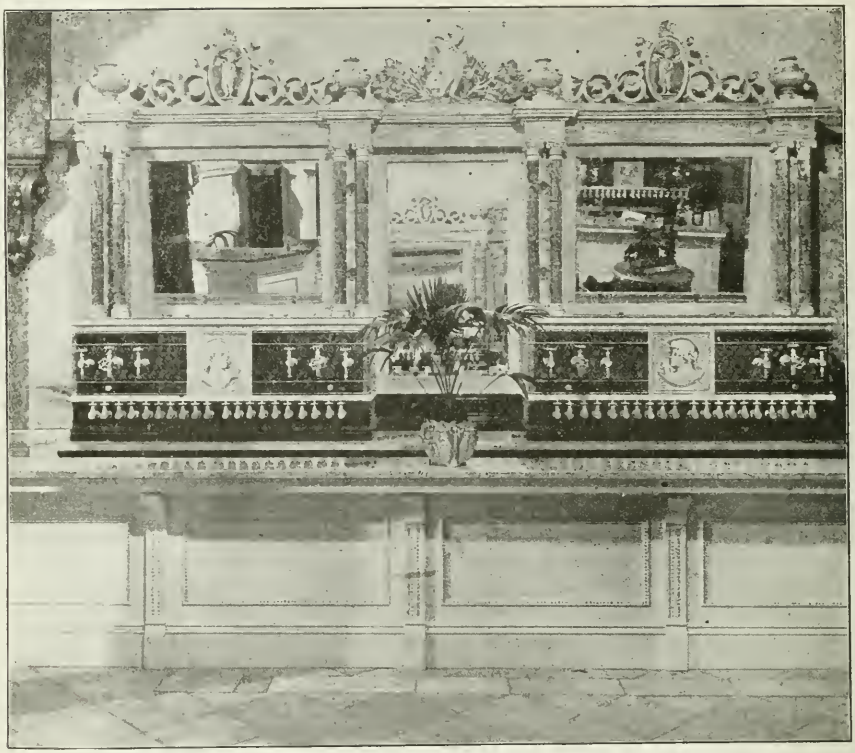
F. Stearns & Co., Detroit, have told all about one of the largest manufacturing plants in the country. They have told it in such a manner that their announcement is exceedingly interesting reading, and the artistic features which they have embodied, showing the actual appearance of their laboratory and its various departments make it doubly interesting.

Johnson & Johnson, New York, describe a line of goods which has a constant demand from both the medical profession and the general public. Such goods the druggist cares to read about, study the prices, and judge the quality. This firm's presentation of their specialties, plasters, and the various necessities of the surgeon affords instructive and profitable reading.

F. A. Ringler Co., 21--23 Barclay street, New York. The work of this firm in half-tone plates is already familiar to readers of the Era who have noted the illustrations appearing in its pages. The supplement presented in this issue shows what the firm can do in a more pretentious manner. They stand at the head in artistic treatment of subjects and fine workmanship in the preparation of plates by all processes for illustrative purposes.

Schieffelin & Co., New York. A firm with a record extending over 100 years, a period of time which has witnessed its growth from smallest to largest, cannot fail to interest the trade when it refers to its products. It furnishes everything which a druggist may need in his regular line of business, and one of its specialties is the introduction of foreign specialties, some of which are as well known and used almost as frequently as quinine. That its supplement is interesting goes without saying.

Sixteen hundred and sixty-four pages of reading matter each year in the Era. No other drug paper gives you even half as much. Carefully selected, reliable and well-digested material. A whole library for the pharmacist.



Low Art Tile Co.

The magnificent and artistic soda fountain shown on this page is one of a pair designed and constructed for a Boston store by the Low Art Tile Co., of Chelsea, Mass., and was photographed in position. It needs no description; the beauty and refinement of detail cannot be produced in any other material, and such work only comes from the hands of highly skilled artists. Finely modeled clay, fired at high temperatures and glazed in the soft mellow tones that the Low Art Tile Co. use, furnishes a material for the construction of soda fountains so far ahead of the wax-filled, cracked marbles that have obtained for so many years that there is no comparison. This company has recently received an order from Thomas E. Ogram, one of the leading druggists of Washington, D. C., for a large fountain of similar design in which they will introduce in place of the old atyle syrup faucets their newly developed system of draw cans.

The Stearns Electric Paste Co., Chicago, report a large increase of business over last year, and have added many new customers to their list. Such evidences justify their contention that Stearn's Electric Paste is the king of vermin exterminators.

The A. Ph. A. Souvenir.

Every druggist is interested in the A. Ph. A., and is proud of the work done by the representative men of that organization in promoting the interests of pharmacists in this country. The names of these men are all familiar, and the Era has just issued a handsome half-tone group portrait of the officers of the association from its organization in 1852 up to the present time. There are fifty-seven portraits, including the forty-three presidents, the treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. It is printed over a delicate tint on fine paper, size 24 by 28 inches. This is the only collection of portraits of officers of the association in existence, and it is something which will grow in value and in the regard of its possessors. Price, $2, postpaid.

C. F. Rumpp & Sons, the fine leather goods manufacturers of Philadelphia, present a list of articles in this issue from which the druggist can surely pick some trade winners. The list includes medicine cases, pocket books, cigar cases, dressing cases, etc., and people will be perfectly willing to buy them of the druggist if he has them and makes an effort to sell them.

Chloro-Naptholeum.

The company controlling chloro-naptholeum have secured the contract for disinfecting the buildings and grounds of the Cotton States and International Exposition at Atlanta, Ga., being awarded this contract over numerous competitors. Druggists and dealers visiting the exposition will do well to call at the exhibit of the West Disinfecting Co., in the Transportation Building, where their representative will be pleased to give full information regarding this preparation.

The Mercer Chemical Co., Omaha, Neb.

I am very favorably impressed with all your formulæ, but especially with Pill Vita. I ordered them for a patient (a married lady) who seemed devoid of any sexual feeling whatever, having no desire for coitus and only submitting from a sense of duty. It gives me pleasure to inform you that two bottles of your Pill Vita have materially changed this condition, and the patient is rapidly gaining in sexual power. Previous to this treatment she had used almost every other aphrodisiac in the market with no effect. Please send one-half dozen bottles and oblige,

S. J. BRIETZ, M. D., Hamilton, Ark.

100 mailed to any address for $1.00.

Your Business Revived

BUT NOT WITH ORDINARY GOODS—PEOPLE ARE TIRED OF THEM.

Consumers of Rickseckers' goods embrace families of

Two Presidents of the United States.

Governors, Senators, Cabinet Officers and the First Chemists of America. Ellen Terry, Mary Anderson, Lillian Russell—the most critical everywhere. Sold in every quarter of the civilized world on MERIT.

"No Drug Store is Complete"

WITHOUT

Ricksecker's Goods.

For these additional reasons :

☞ **Honest exhaustive tests** on paper against the **three best known French brands** at different times and places, Mr. Dupee, Druggist, Bridgeport, Ct.; Mr. W. H. Douglas, Druggist, Brooklyn, N. Y., and Mr. Henry Haviland, the veteran Perfumery Importer, **showed that RICKSECKER'S excelled them.** The **only** Perfumery sold at the World's Fair.

Highest Awards obtainable, received.

Exhibit given the **First** position by the World's Fair Committee, without pay.

Have sold the **Largest** Bills to Retail Druggists on record (up to $1,000 single orders).

Why are RICKSECKER'S Goods **Imitated** more than any others? **Proofs.** If there be any doubting Thomas in the congregation, he or his friend here can call and see proofs of above facts.

Fresh Holiday Novelties.

☞ IMPOSSIBLE TO DESCRIBE OR ILLUSTRATE. ☜

ORIGINAL AND UNIQUE. CONCEDED THE BEST SELLERS. THEY ATTRACT TRADE. BRIGHTEN UP YOUR WHOLE STORE.

☞ Please sign annexed order, cut it out and send it. You will surely be delighted with the result.

THEO. RICKSECKER, New York.

Please send following goods, special offer and terms for this time only. You to allow freight rate to Chicago (75 cents per 100lbs.), payable in sixty days:

New Frame, Show Card, "Martha Washington as a Bride"	$00 00	$00 00
Case and Cartage, New York	....	00
Freight Rate to Chicago, per 100 lbs.	75	00
Fourth Dozen New Reviving Salts	4 00	1 00
One dozen assorted, Clover, Violet and Lilac Cologne	....	1 75
One dozen New Rich, 1 oz. Perfumes, couplets	....	4 00
Half dozen New Perfumes, No. 7, 6 kinds	9 00	4 50
Half dozen New Violet Powder, oval box	1 50	75
One dozen Face Powder, assorted, White, Pink, Yellow and two dozen Samples	....	1 75
Quarter-dozen No. 7 Spray Top Clover, Violet and Lilac, assorted	8 00	2 00
One Elegant 16 oz. Violet Cologne	16 00	1 33
Half-dozen Skin Soap and Banner	1 75	87
One dozen New Tooth Powder, assorted, and New Beautiful Show Card	....	1 75
New Card, 2-3 dozen Shaving Sticks	....	1 00
		$20 70
Also, a nice variety of Holiday Perfumery, judiciously selected Cut Glass, Fancy Glass, Bisque, Victoria Ware, Combinations, etc.	....	25 00
One dozen Capsicum Drafts, free, worth $1.20	....	00
		$45 70

LAZELL, DALLEY & CO.,

MANUFACTURING PERFUMERS,

12 DUANE STREET, NEW YORK.

Special $36.00 Holiday Offer.

Until December 1st., retail druggists desiring a small but well selected stock of **SALABLE PERFUMES FOR HOLIDAY TRADE,** are advised to avail themselves of the following liberal offer.

FOR $36.00, NET, PAYABLE JANUARY 1st, 1896, we will send, freight paid, to any point entitled under our rules to free delivery, the following **LAZELL'S PERFUMES** in regular and fancy styles:

2 dozen Trial Size Extracts		$2 40
1 " ½ Ounce do. Special		3 00
½ " 1 do. do. Conplets		3 00
2 Pints Extracts, 8 ounce, Regular Odors, Any Assortment		12 80
1 Pint do. 8 do. Special " do.		8 00
¼ Dozen 8 Ounce Toilet Water do.		3 00
⅙ " 1 " Sachet Jars, Assorted		1 50
⅙ " 8 " Florida Water		3 60
⅙ " Face Powder, Assorted		1 50
1-12 " Fancy Package, Lazell's Extracts, Holiday Style		1 00
1-12 " do. do. do.		1 50
1-12 " do. do. do.		2 00
1-12 " do. do. do.		3 50
1-12 " Fancy Ivory Baskets, Assorted Perfumes, Etc.		$2 50
1-12 " do. do.		3 00
1-12 " Imported Cut Glass Atomizers, Nickel Tops, 2 oz.		2 00
1-12 " do. do. do. 9 oz.		3 00
1-12 " do. do. do. 16 oz.		3 50
1-12 " do. do. Bot. Special Odors, Cut Stoppers.		1 00
1-12 " Fancy Colored Decorated Cut Glass Bottles do		2 50
1-12 " Decorated Opal Vases, Cut Stoppers		2 00
⅙ Gross Samples, Special Odors on Litnographed Cards		....
1 Plate Glass Sign		....
		$66 30

The assortment consists largely of goods for which every druggist has a constant demand, while the fancy packages are of such a character that their attractive display on the perfume counter will mean a rapid sale at profitable prices.

Remember that dry-goods and department stores cannot buy Lazell's Perfumes. **LAZELL, DALLEY & CO.**

To any druggist who will send us his business card or label, we will send, FREE of charge, a sample of our Comfort Corn Shield.

This is something new. Easily applied. Gives immediate relief. Does not spoil the shoe. Costs 75 cents per dozen. Retails for 10 cents.

With each order for three dozen you get one dozen free. Packed one dozen on attractive counter card.

Send your check for $2.25 to pay for three dozen, and you get one dozen free.

These Shields have been sold to nearly every druggist who has seen them.

BARTRAM DRUG CO.,
1639 North Seventeenth St.,
PHILADELPHIA, PENN.

People will buy the Licorice tablets for coughs and colds and Glycerine tablets for throat affections made by Huyler, because everybody knows of Huyler's goods, and he is advertising these winter specialties quite extensively. They can be procured from all jobbers.

People want something better than they have yet had for cleaning nursing bottles, and the Novelty Supply Co., Wilminton, Del., make it. It is called the "Ideal Nursing Bottle Cleaner," retails for 25 cents, and the druggist can find out all about it by sending for a free sample.

There are ten kinds or styles of paint brushes which will form a very complete line for a druggist, and supply 99 out of every 100 demands which are made upon him for such articles. These are all described in the advertisement of Geo. E. Watson & Co., 38 Randolph street, Chicago, appearing in this issue. The prices are there, too, and they are interesting.

At the great North-German Exposition of Commerce and Industry at Luebeck the tribunal of judges, on Sept. 4, 1895, awarded to the firm of J. D. Stiefel, Offenbach-on-the-Main, for superior attainments in the manufacture of medicated, antiseptic and disinfecting soaps, a silver medal, this being the highest distinction for this branch of manufacture. This is the eighth prize that the above firm has received for its specialties. Schering & Glatz, 55 Maiden Lane, New York, are sole agents in this country for these soaps.

The illustration on another page of the Grand Rapids Tumbler Washer shows that it is an apparatus which is needed at every soda counter. Send for descriptive circular to Frost & Mercer, Grand Rapids, Mich., and become further acquainted with its merits.

The announcement of N. K. Brown & Co., Burlington, Vt., in this issue will recall two preparations which people know and call for. They are Brown's Essence of Jamaica Ginger and Troches, and the reference to prices will remind the druggist of profits.

There is no shaking off the hot soda water habit. It is bound to grow, and the druggist who starts up first will establish a precedent for the bestowal of patronage as long as the season lasts. This start, however, should be made with the right kind of material—coffee, tea, beef extracts, etc., and the dealer whose eye lights upon the advertisement of Beach & Clarridge Co., in this issue, need go no further looking for such goods. They are awaiting your request for their catalogue.

The Era Druggists' Directory.

There are 36,352 drug stores in the United States, and the names of their proprietors are to be found in the new edition of the Era Druggists' Directory. The manufacturer or dealer who wishes to send circulars, samples, etc., to the retail drug trade will find this book indispensable. Price, $5 per copy, delivered. D. O. Haynes & Co., New York, publishers.

Every pharmacist's library should have these two books upon the shelf: Wulling's Organic, Pharmaceutical and Medical Chemistry ($2) and Schimpf's Volumetric Analysis ($2.50). Tables of contents and specimen pages of each will be sent upon application to the publishers, John Wiley & Sons, 53 East Tenth street, New York.

The Big Borax Team.

The largest supply of borax in this country comes from the Calico mine in San Bernardino County, California. The mine is in the heart of a barren country and heavy teaming with immense wagons is required to the nearest railroad. Two wagons, each holding ten tons, are chained together and drawn by twenty mules. The Pacific Coast Borax Co., Chicago, has prepared an elegant lithograph in colors, forty inches long, on heavy cardboard, of one of these big teams. A copy of this they will mail to any druggist upon receipt of 10 cents in stamps. The picture makes a most elegant window display and attracts great attention. In addition the Pacific Coast Borax Co. is working to popularize borax in the household. They are publishing a book describing over 200 uses of borax, which they will send upon request, and they have a plan for distributing this book to the customers of druggists which is stimulating a demand for the article which surprises even the druggists themselves. It is a most effective piece of advertising for an article which every druggist sells.

SELL YOUR OWN PATENT MEDICINES.

A FULL LINE OF

"NON-SECRET" REMEDIES, WITH YOUR OWN CARD ON LABEL AND WRAPPER.

Over One Hundred Preparations at Prices which will Afford the Pharmacist a Wholesome Profit.

A FEW SEASONABLE LEADERS.

EXTRACT SARSAPARILLA with Iodide of Potassium.

COD LIVER OIL EMULSION.

This preparation contains 50 per cent. of Pure Norwegian Cod Liver Oil, combined with the Hypophosphites of Lime and Soda, totally overcoming the unpleasant taste of the oil. Put up in 14 and 8 oz green panel bottles, strawboard cartons, with attractive wrappers; colors, lavender, buff and pink.

Single Dozen,	14 oz.,	$4 50
" "	8 "	2 50
Gross "	14 "	42 00
" "	8 "	24 00

BALM OF GILEAD EXPECTORANT.

This preparation is composed of White Pine Bark, Balm Gilead Buds, Spikenard, Cherry Bark, Spirits Chloroform and Morphine Acetate, making it one which adapts itself to pulmonary troubles. Put up in 3 oz cartons. Handsome wrapper, color green, enameled paper.

Single Dozen, .	$1 50
Gross, . . .	15 00

CROUP AND WHOOPING COUGH CURE.

Sure, Safe, Simple. This preparation wherever introduced will meet with ready and quick sales. Put up in 2 oz round; color, green and white.

Single Dozen, ,	$1 25
Gross, . . .	12 00

PULMONIC COUGH CURE.

This preparation is one which is of especial value in all Bronchial and Lung troubles

Formula: Tolu, Lobelia, Capsici, Spearmint, Tartar Emetic Spirits Chloroform, Morphine (Sol.), Simple Syrup. Put up in 3 oz carton, white wrapper.

Gross, . . .	$15 00

SYR. TAR, TOLU AND WILD CHERRY.

Formula: Glycerite of Tar, Syr. Wild Cherry, Syr. Tolu, Fl. Ex. Lobelia, Tr. Thebiaca, F X Ipecac. Put up in 2 and 4 oz cartons, handsome engraved wrappers. Color, lavender, buff, yellow and green

Gross, 2 oz., .	$13 00
" 4 " .	20 00

SEND FOR PRICE LIST AT ONCE.

C. B. SMITH & COMPANY, WHOLESALE DRUGGISTS,

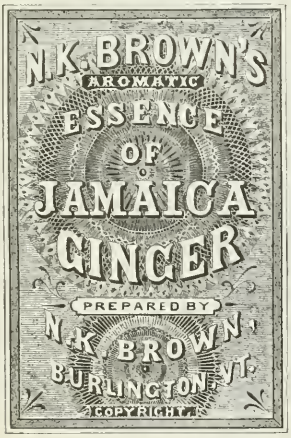
861, 863 and 865 Broad St., NEWARK, N. J.

Victor Barothy.

The story of a business life with ups and downs, but with success as its sequel is always interesting, and with Victor Barothy, president of the Victor Barothy Bottlers' Supply Co., of Chicago, as a subject, all the desired material for such a story is furnished. Victor Barothy was born at Presburg, Hungary, 1844, and during his early childhood were enacted many of the stirring scenes of the revolution. His father, a compatriot of Kossuth, was compelled to leave Hungary in 1848 for political reasons, going to Turkey and thence to America. In 1858 he returned to his family, amnesty having been granted by the Austrian Government, and taking young Victor from a military school, where he had been since his fifth year, brought him to America. Here he was placed under the tuition of Prof. A. Roeder for instruction in chemistry. After five years' study he entered one of the leading drug stores of New York City as prescription clerk. About this time the West, particularly Chicago, was thought to offer many advantages for making a fortune, and thither young Barothy went, taking with him considerable pluck and determination, and not much else.

He engaged in the drug business in Chicago, and in 1865 went into the manufacture of artificial mineral water with a capital of $800, organizing the firm of Barothy & Pierce. This firm first introduced siphons in the West, a proceeding which did not meet with the favor of their competitors. After eighteen months Barothy was able to buy out his partner, paying him $3,000 over and above what he had put into the firm. Just as he became nicely established in business the great Chicago fire swept away everything. He again started in business with a partner, but when fairly under way his health failed, and he was compelled to go South, where he traveled successfully for John Matthews. Returning to Chicago he disposed of his business to W. H. Hutchinson & Son, retaining his bottling machinery, horses, wagons, etc., which were shortly afterward consumed by another Chicago fire. He then became salesman for the John Matthews Co., traveling through the South, Ohio and Indiana for four years. He then took the agency for A. D. Puffer & Sons, which he has retained until recently, and in the meantime built up a considerable trade upon his own account as a dealer in bottlers' machinery, supplies, etc.

Some two or three years ago the Victor Barothy Bottlers' Supply Co. was incorporated, with V. Barothy president and treasurer, D. W. Saxe vice-president, H. V. S. Hoffman secretary, and this new firm does a general business in soda water apparatus, bottling machinery, siphons, bottles, fruit juices, extracts, and in the latter line have several specialties which have gained more than ordinary favor. One of the latest extensions of the firm's business is their acquirement of the Western agency of the Low Art Tile Co. In speaking of this, Mr. Barothy recently said: "My reason for connecting myself with the Low Art Tile Co. is that I have about concluded that the old style marble apparatus has seen its best days, and that it would be to my interest to take hold of something new and more artistic, and the present showroom of the company will be removed from Fifth avenue to our establishment at 409 Dearborn street. I have severed my connection with the old firm of A. D. Puffer & Sons, with whom I have been for the past eighteen years, with the greatest reluctance. We parted the best of friends, and I hope to be able to continue my social relations with those gentlemen, whom, personally, I esteem very highly."



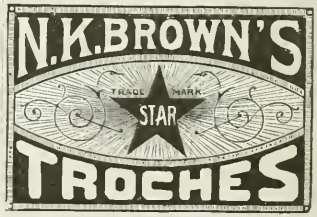
2 ounce, $1.50 a dozen.

4 ounce, $3.00 a dozen.

All Wholesale Druggists Sell It.

TRY IT.

WE WARRANT
EVERY BOTTLE OF OUR
GINGER
TO BE
ABSOLUTELY PURE



ONLY 60 CENTS A DOZEN
FOR THE
BEST AND CHEAPEST
TROCHE
IN THE
UNITED STATES
MANUFACTURED BY
N. K. BROWN & CO.,
Burlington, Vermont.

C. B. Smith & Co., Newark, N. J., call attention to five non-secret cough preparations in their advertisement in this issue, and there is no mistake about the profit which their prices indicate. They have many other non-secret preparations, and will be glad to send their price list.

The ordering of corn remedies is a frequent occurrence at every drug store, and upon such occasions there should be a little thinking about an increase of profit, if it is possible. There is good food for thought in the offers of the Giant Chemical Co., of Philadelphia. Read their offers, and see if there isn't.

J. M. Grosvenor & Co., of Boston, give the pharmacist quite a sensible talk in this issue on a subject which is uppermost in his mind, viz.: Regaining the patronage of the physician, and doing it in the nicest way possible. They give the "why" and the "how" of the matter, and the pharmacist can easily determine the "when."

Wright & Taylor, Louisville, Ky., have two brands of whiskey ten and eight years old respectively which cannot fail to meet all requirements of the druggist. These brands are called "Pride of Louisville" and "Old Kentucky Taylor." They are offered at $9 per case of twelve quart bottles, and trial orders are invited. See their announcement.

You do not know all about the best prices and best goods for a profitable side line unless you have Horn's catalogue. It describes Horn's Standard Trusses, the Diamond Shoulder Brace, Elastic Hosiery, Belts, etc. Write to William H. Horn & Bro., Philadelphia, for it.

As everybody has a cold in the head, Dr. Carter's Prescription No. 77 will attract attention. The introductory offer made in this issue showing details of profit and means for advertising is worth some attention. Address the Dr. Carter Medicine Co., Troy, N. Y.

Ava, N. Y.
The Mercer Chemical Co., Omaha, Neb.
Please send me five bottles Pill Vita. I deem it necessary to keep a supply on hand. They are the most powerful aphrodisiac I have ever prescribed.
DR. J. A. HARTSON, Ava., N. Y.
100 mailed to any address for $1.00.

If any druggist is wondering where he can buy certain things for the bath, the announcement in this issue of J. & J. Cash, 92 Greene street, New York, will satisfy him perfectly. Gloves, straps and towels of peculiar construction and material are made by this firm, and their discounts will be sent to any dealer upon request.

The Era Formulary.

Many druggists have found money-bringing suggestions among the 5,000 formulas contained in the Era Formulary. In it will be found practical directions for making hundreds of things which every druggist can profitably manufacture and sell. It is one of the best indirect trade winners ever known. Price, $5 per copy—5,000 formulas for 500 cents.

Hall's Medical Batteries interest most customers, for nearly everybody believes in the curative effects of electricity. The druggist can sell Hall's Dry Cell Battery to a great number of people. Send for price list to Thomas Hall & Son, 19 Bromfield street, Boston.

Imperial "Hygenique" Fluid has merit as a non-poisonous deodorizer, antiseptic and germicide, and its introduction is being pushed with an enterprise which means a good demand. A sample will be sent free upon application, and in sending for it to the Imperial Hygenique Fluid Co., 16 Beekman street, New York, it would be well to remind them to enclose a copy of their parody on Poe's Raven.

Evidence of Good Times.

The Humphreys Medicine Co., owners of Humphreys' Specifics, have just placed a contract for special advertising amounting to $52,000 for extra space in the large Sunday and daily papers. This is in addition to their large appropriation for the smaller papers and periodicals, as well as for their books, of which they distribute over 5,000,000 a year. They place this additional advertising because they have received such good returns, even through the depressed times. Their success, particularly with "77," has been most encouraging. We would advise dealers to keep up the stock of Humphreys' preparations to meet the increased demand, and write for their liberal terms for new stores. Humphreys Co., New York, will reach them.

THE INDIA RUBBER COMB COMPANY,

9, 11 & 13 MERCER ST., NEW YORK CITY,

MANUFACTURE THE FOLLOWING STANDARD GOODS, WARRANTED TO BE OF THE BEST MATERIALS AND OF SUPERIOR FINISH.

COMBS

IMPERIAL COMBS.
I. R. COMB CO.'S GOODYEAR, 1851. STANDARD.
I. R. COMB CO.'S "UNBREAKABLE" GOODYEAR, 1851.

EVERY COMB WARRANTED.

SYRINGES

HARD RUBBER: I. R. COMB CO.'S GOODYEAR, 1851.
BULB SYRINGES: GOODYEAR "CROWN" SYRINGES.
FOUNTAIN SYRINGES: GOODYEAR "CROWN" SYRINGES.

WATER BOTTLES

GOODYEAR "CROWN" WATER BOTTLES.

PLAIN AND FANCY.

ATOMIZERS

GOODYEAR "CROWN" ATOMIZERS.

OF EVERY VARIETY.

HAIR BRUSHES

GOODYEAR "IMPERIAL" BRUSHES, WITH HARD RUBBER BACKS AND SUPERIOR BRISTLES.
WARRANTED NOT TO SPLIT.

ALL THESE GOODS ARE STAMPED OR LABELED

"I. R. COMB CO., GOODYEAR, 1851."

NONE OTHERS ARE GENUINE.

Actions speak louder than words, and although Bunte, Frank & Co., Chicago, have much to say regarding the superiority of their Magnetic Cough Drops, they are perfectly willing to send a sample box to any retail druggist who will send his business card. The cough drop itself is their best argument.

The very handsome advertising for Teutonic malt extract, now appearing in the best publications, is evidence that people are reading and thinking of Teutonic. Every druggist knows what happens when people reach that stage. Better send to S. Liebmann's Sons Brewing Co., 36 Forest street, Brooklyn, N. Y., for particulars and prices.

The Celery Medicine Co., of Kalamazoo, Mich., call attention to their new catalogue which they are ready to send out. In it they describe a cough syrup which will realize the dealer a handsome profit, and their Celery Tonic Bitters, which affords almost double the profit of similar preparations. They have also recently added a new preparation called "Kolarina," each fluid dram of which contains five grains each of celery, coca, cola and viburnum. This is largely prescribed by physicians for impotency, nervous diseases, etc. Beef, Wine and Iron with Celery is another of their popular articles which is furnished either in bottles or bulk. They also have something for the cough drop season. Their Celery Cough Drops are put up in either 5-cent packages or 5-pound bottles and their prices are interesting.

The Brownie Makers, 3 and 5 Milwaukee avenue, Chicago, have just what every druggist wants—something with which he can make an attractive show window. Their statuettes, 6½ by 7 inches high, made in composition and metal are excellent for this purpose, and people buy them for ornaments. See advertisement in this issue for details of offers, and don't forget to write for full particulars.

Pill Vita is the most powerful aphrodisiac on the market. Druggists desiring such a remedy should have Pill Vita in their store. We also invite our friends to try this preparation for the purpose of bringing about menstruation—while not technically an emmenagogue, it has been used successfully in the treatment of irregular menstruation. Mercer's Pill Vita strengthens the ovaries, thus enabling them to perform the work for which they were intended by nature.

100 mailed to any address for $1.00.

The most important part of a truss business to the retail druggist is getting people to buy the trusses. This also concerns the manufacturers, and I. B. Seeley & Co., of Philadelphia, see this point quite clearly. They believe their effort should go beyond trying to sell goods to the retailer, and they extend it to induce users of their goods to purchase of the retailer. Their advertising methods are unexcelled, and they desire that all dealers examine these fully before ordering goods, and thus judge of the prospect of making sales.

Max Gessler, of Milwaukee, Wis., makes an offer on Gessler's Magic Headache Wafers, which will make them "go." The price has been reduced from 35 to 25 cents, and with every order for three dozen large size three dozen ten-cent size are shipped free. He also has an offer to make on exclusive agencies with special newspaper advertising.

Every druggist in the country needs a Torsion Balance prescription or counter scale, and those that have them can easily find room for another. Every druggist in the country also has to buy and sell wines, brandies, whiskies, etc., and cigars. Now why not take advantage of the combination offered on these necessities by Humiston, Keeling & Co., of Chicago. They offer to give one of these scales with a certain amount of goods. Read over the list published in this issue. It is so extensive that nine out of every ten druggists will find something they want right away.

Want Advertisments.

Do you want to sell or buy a drug store? Do you want a clerk or position? Do you want to exchange stock or get rid of surplus stock? It is estimated that 25,000 people read the Era each week. Nearly every one wants something, and glances over the Want Advertisement columns. There is no surer or cheaper way of making your wants known to a great number of interested people than through a "want" advertisement.

CELERY
CELERY
CELERY
CELERY

Preparations,

with a few other good articles, which it pays the DRUGGIST to "PUSH ALONG" are what we manufacture.

Our new CATALOGUE is full of good things for druggists, and we would be delighted to mail you one. Your name on a postal card brings the book.

ADDRESS

CELERY MEDICINE CO.,

KALAMAZOO, MICH.

Imperial "Hygenique" Fluid

Nature's Disinfectant.

Powerful, Invigorating,

Non Poisonous, Economical.

Trade Mark Registered.

Deodorizer, Antiseptic, Germicide.

Endorsed by R. H. CHITTENDEN, Professor Physiological Chemistry Yale University and the medical profession everywhere.

Sample sent free on application.

The Imperial Hygenique Fluid Co.,

61 Beekman St., New York.

There is no line of paints, colors, varnishes, etc., which is so easy to get people interested in as that made by John Lucas & Co., Philadelphia. They not only tell people about the best paint, but tell them how to choose and combine colors to obtain harmonious effects. Their color cards do this. Every druggist ought to see them.

There are no better wines than those coming from the Lake Keuka region, and the Hammondsport Vintage Co., of Penn Yan, N. Y., are leading producers of that section. They offer old port, sherry and sweet catawba especially adapted for the druggist's trade, and their prices, $5 for 5-gallon keg (no charge for keg), or $4 for case containing 12 quart bottles, deserve attention.

The effective advertising which has been done for Raymond's Pectoral Plaster during the last few years has made them pretty well known all over the country. People now simply need a little reminder to tell them where they can be procured. Any druggist who is short on advertising matter should send for a supply to Raymond & Co., Brooklyn, N. Y.

People will not want any other kind when they see the Standard Thermometer. With a 6 or 9-inch dial and indicator the temperature can be read at a distance, and this is an advantage that most people want. For sale or advertising purposes these thermometers offer a profitable opportunity. They are made by the Standard Thermometer Co., Peabody, Mass.

Olney & McDaid's price list in this issue gives a long list of sellers, and two columns of figures, which appear in connection with the items, can easily be supplemented by another which will show profit for the retailer.

Whitinsville, Mass.
The Mercer Chemical Co., Omaha, Neb.
Please send me one dozen bottles Pill Vita (Blue). I am using these right along in old chronic cases of impotency and in cases of sexual neurasthenia with most gratifying success. Yours truly,

C. H. HARRIMAN, M. D.
Whitinsville, Mass.
100 mailed to any address for $1.00.

George W. Sloan, of Indianapolis, is well known all over the country for his ability as a pharmacist, and a great deal of this he has put into the manufacture of Sloan's Dentifrice. It has pleased everybody who has tried it, and will please the druggist who sells it. One dozen will be sent by express, prepaid, to any part of the United States, on receipt of $1.75. It is good enough to deserve a trial.

People with corns will buy the most effective relief if they know where to get it, and they are always looking for it. The druggist should look for it too. He will find it referred to in the advertisement of the Bartram Drug Co., 1,639 North Seventeenth street, Philadelphia, in this issue. They offer to send a free sample, so he can see just what the Comfort Corn Shield looks and feels like.

The Era Poison Register.

Certain things may never happen, but trouble in selling poisons may arise if it is not done according to law. It is better to be on the safe side, and the Era Poison Register is a convenience which makes such safety easy. It contains space for 800 entries of poison sales, and contains in addition a digest of all the poison laws of all the States. It is securely bound in stiff board cover with leather back. Price, 60 cents.

Price List "Pri-mo" Syringes.

E. J. Hussey & Co., 80 John street, New York, have issued the following revised price list for their Pri-mo Ladies' Syringe:

No. 1. Nozzle and Shield, with four feet outlet tubing, $2.50 each; $30 per doz.

No. 2. Nozzle and Shield, with 2-quart fountain bag, etc., $4 each; $48 per doz.

No. 3. Same as No. 2, but packed with 3-quart fountain bag, $4.25 each; $51 per doz.

No. 4. Same as No. 2, but packed with 4-quart fountain bag, $4.50 each; $54 per doz.

No. 20. Nozzle and Shield, with 2-quart combination water bag and water bottle, etc., $4.50 each; $54 per doz.

No. 30. Same as No. 20, but with 3-quart combination bag, $4.75 each; $57 per doz.

No. 40. Same as No. 20, but with 4-quart combination bag, $5 each; $60 per doz.

ELECTRICITY,

"That's the stuff."

Halls Medical Batteries, they cure everything.
Every Druggist in Creation should have them in stock.
A new DRY CELL BATTERY almost ready for the market.

Send your name and address for Price List, and it will be sent you as soon as issued.

THOMAS HALL & SON,
19 Bromfield Street **BOSTON.**
Manufacturers and Dealers in all kinds of Optical, Electrical and Chemical Supplies.

GOLD MEDAL
MAGNETIC
TRADE MARK
COUGH DROPS
BF
STAMPED ON EACH DROP

GOLD MEDAL AWARDED TO BUNTE, FRANK & CO., CHICAGO, ILL.

A SAMPLE BOX FREE TO ANY DRUGGIST WHO WILL SEND HIS BUSINESS CARD

The "Town Tattler" Talks Tersely.

Try thou this trusty treasure. 'Twill tickle thy truly thankful throat till tuneful transport's timely thrill turns thou thy tranquil thoughts to testify ten thousand times twice told, that this tip top tobacco's tasty tribute tempts trade. Test, therefore thyself this tropical trophy. Thus talks the "Town Tattler."

"Town Tattler" is the name of a new 5-cent cigar, made on the nothing-for-style-but-everything-for-quality principle, put up in plain cedar boxes without label or adornment of any kind, the cover of each box bearing the above somewhat unique inscription. They are manufactured by J. Edward Cowles & Co., New York, who have been established but a little over a year. They claim to be the pioneer firm in manufacturing cigars exclusively for the retail trade, using the peculiarly significant term "From Bench to Counter" as their trade mark. They are already said to be the largest cigar manufacturers in the country supplying the retail trade direct. They employ over one hundred and fifty salesmen scattered all over the United States, and are in a good position to feel the pulse of the trade in general.

In their weekly advice to salesmen, under date of Sept. 7, they say: "The outlook for a good fall trade was never better than at the present time. The months of September and October should be and, as a rule, are the best months of the year; and the fact that we have added over 1,000 new accounts during the past thirty days is au indication that confidence is again restored and we are now on the threshold of a general business boom long anticipated—slow in coming, but here to stay. The general supply is comparatively light in all sections of the country, and as trade continues to improve dealers will be found to buy more liberally than at any time during the past two or three years."

One way to make trade good is to hustle for it, and that this enterprising young firm will get their share of the business is a foregone conclusion.—American Grocer, Sept. 11, 1895.

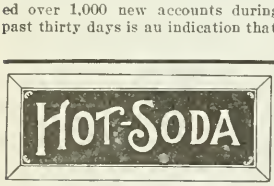
N. W. D. A. Souvenir.

The National Wholesale Druggists' Association is composed of some of the ablest business men of the country, and portraits of 191 of the members in attendance at the New York meeting, 1894, have been published in one large group, size 30 by 40 inches. This group picture is one of the largest and finest ever published, and is a most appropriate work of art for hanging upon the wall of the office, counting room or library. Price, $3, postpaid. Address D. O Haynes & Co., publishers, New York.

Richard Foy, 150 West Forty-sixth street, New York, makes a combination offer in this issue which includes "Foy's Guide for Soda Dispensers, a $5 Hot Soda sign for $2, and a sign-marking outfit. These are articles which every druggist who has a soda fountain can use to good advantage, and the offer presents an exceptional opportunity.

The C. C. White Paper Manufacturing Co. are pushing forward the construction of their new tissue and toilet paper mill at Lebanon, near Norwich, Conn. The purchase of this large property became necessary because of the increase in their business. The main mill building is approximately 62 by 175 feet, with a large annex for machine shop and for making their toilet paper cases. The property purchased includes also fourteen dwelling houses and the ruins of the old Yantic paper mills, which in the future may be rebuilt when their business shall have outgrown the present building which they are now fitting up with machinery. Until the new mill is in operation they will continue to manufacture their goods at Seneca Falls, New York, with their office in Duane street, corner Hudson, New York City, as formerly.

The Hot Springs Medical Co., incorporated with $500,000 capital, with headquarters in the Havemeyer Building, New York, has lately secured a grant from the United States Government to use the celebrated waters at Hot Springs, Ark., for medicinal purposes. They are now erecting a laboratory at Hot Springs and are placing "Pura Blood, Hot Springs, Ark., Blood Purifier," upon the market. They have something to say regarding this new preparation in an advertisement in this issue, and have already begun to tell the public about it through the newspapers and magazines. Billups & Co., 26 Cortlandt street, New York, are sole agents.



A $5.00 Sign for $2.00.

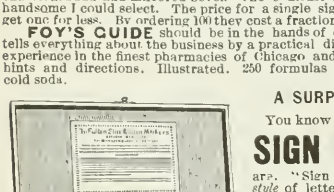
With each order for Foy's Guide for Soda Dispensers I will send a beautiful *chipped glass* sign, size 8 x 20 inches, on heavy bevel plate, hangs by nickel chain. The letters are silvered chipped glass, with black enamel ground and mirrored bevel. The contrast is *brilliant*, the most handsome I could select. The price for a single sign is $5.00 net. Can't get one for less. By ordering 100 they cost a fraction over $2.00 apiece.

FOY'S GUIDE should be in the hands of every soda man. It tells everything about the business by a practical dispenser with 8 years' experience in the finest pharmacies of Chicago and New York. Full of hints and directions. Illustrated. 250 formulas complete for hot and cold soda.

A SURPRISING OFFER.

You know what these

SIGN MARKERS



are. "Sign Markers" show the *style* of letters, only they are ¾-inch size. With each order for a *Guide* I will send a regular $5.00 set for $2.00. Contains 86 pieces vulcanized rubber type on hard wood moulding in polished wood case. Large and small alphabet, set figures, ornaments, "Per Bottle," "Per Doz.," etc. Rule and spacer, pads and ink guaranteed not to fade.

You need one of these during holidays especially. I am able to make the above offers only by buying a large number of each.

If you wish to take advantage of this offer write at once. Guide, postpaid, $1.00; sign, $2.00; sign marker, $2.00. Sent direct or through any wholesale house. In any case, if goods are not satisfactory *or not just as represented*, return them and I will refund the money and pay all charges.

REFERENCES: FOX, FULTZ & CO., LOW ART TILE CO.

RICHARD FOY,
150 West 46th Street,
NEW YORK CITY.

Pale Select.

The Purest and Finest Flavored Export Beer now on the American market.

This beer is brewed from the choicest MALT and HOPS that can be obtained in this country.

Bottled at the brewery especially for the DRUG TRADE and packed in barrels containing 6 dozen quarts or 10 dozen pints at $1.00 per dozen quarts and 60 cents per dozen pints. F. O. B. Detroit. Bottles are charged extra at 45 cents per dozen for quarts and 35 cents per dozen for pints, but credit is given when bottles are returned.

If you have never handled PALE SELECT, send in your order for a sample barrel. It will give you entire satisfaction in every respect. Your correspondence is respectfully solicited.

The Koppitz-Melchers Brewing Co.,
Detroit, Mich.

Diphtheria Antitoxin.

At the present season of the year when diphtheria is apt to be prevalent, pages 27, 28, 29, 30 will prove interesting. On these pages valuable information is given concerning the technique and method of preparing antitoxin, also explanations concerning various terms used in serum therapy. These pages will also prove of great interest, since the announcement is from the firm of H. K. Mulford Co., who were the first American manufacturers to successfully prepare antitoxin. Their plant is located in West Philadephia, opposite Fairmount Park, and is complete with every possible convenience and sanitary arrangement, as well as fully equipped in the laboratory for the successful manufacture of a line of biological products, chief of which is their Diphtheria Antitoxin Serum. Their biological laboratory is under the personal direction of a distinguished bacteriologist (Dr. Joseph McFarland, Professor Bacteriology, University of Pennsylvania), with competent assistants. This firm early recognized the importance of securing healthy animals and having their horses kept in best possible condition, and therefore this department is under the personal supervision of Dr. Leonard Pearson, Veterinarian to the State of Pennsylvania, and Professor of Theory and Practice Veterinary Medicine, University of Pennsylvania.

Each lot of their Serum is tested by the Department of Hygiene, University of Pennsylvania, who issue a certificate as to its strength and integrity, and this additional safeguard is greatly appreciated by physicians using the remedy.

To insure the serum being furnished physicians in the best possible condition, they are establishing correspondents in every city for the sale of their Antitoxin. They offer special terms to agents, supply all literature needed, and guarantee the stability of their product, protecting agents in the sale thereof. Correspondence with this firm will be to the advantage of every live druggist. The statistics which are being received from physicians who have used Antitoxin are unanimous in favor of the remedy, as being a true specific in uncomplicated diphtheria, particularly where application of the serum is made in the early stages of disease.

Gothenburg, Neb., Oct. 25, 1894.
The Mercer Chemical Co., Omaha, Neb.

Dear Sirs: Mr. W——, aged 39, married over two years. Since having an attack of paralysis of the left side has suffered complete impotence—I say complete advisedly, as he has not experienced in all that time even a partial erection. But I must confess my great surprise and satisfaction after 24 days' treament with your Pill Vita (Blue) to have the patient report himself entirely cured, and the verdict—guilty of using Mercer's Pill Vita (Blue)—has created happiness and reunited a happy couple. Respectfully,

DR. W. P. SMITH,
Ass't Surg. U. P. Ry.

100 mailed to any address for $1.00.

Alcohol Blanks.

Are you keeping a record of your alcohol used in manufacturing with a view of presenting a claim for rebate of the tax? The keeping of such record is simply a case of ordinary prudence in taking advantage of a chance to collect from a doubtful debtor. There is nothing to lose, and there is a chance of gaining something. The Era alcohol blanks furnish a means for keeping a complete record of alcohol used in manufacturing, and they are furnished at 16 cents per package to subscribers, or 50 cents per package to non-subscribers.

A daily statement of business after the close of each day, the number of customers, the number of times the cash drawer has been opened, the amount which each salesman sells, the mistakes in change and the name of the person making them, are all important things to know. The Champion Cash Register supplies all this information, and the Champion Cash Register Co., Grand Rapids, Mich., make one style especially for druggists. Send for a circular describing it.

The man who is advertising, or is going to advertise a patent medicine, should not forget the existence of Avery L. Rand, of 127 Purchase street, Boston. He is a specialist on big editions of pamphlets, circulars, etc. He will make contracts for editions of one quarter of a million upwards, with deliveries at stated intervals. His prices are of course low, for he makes a specialty of this business.

A REAL NOVELTY—
NEEDED AND WANTED.
THE "IDEAL" NURSING-BOTTLE CLEANER

It does its work better and quicker than any of the old appliances, and is highly recommended by physicians and trained nurses. Mothers are delighted with it. "It's a good thing—push it along."

Price $2.50 per doz., 30 per cent. discount to the trade
RETAILS FOR 25 CENTS.
SAMPLE FREE TO DRUGGISTS.
NOVELTY SUPPLY COMPANY,
WILMINGTON, DEL.

Representatives:
McKESSON & ROBBINS, New York.
ROBERT STEVENSON & CO., Chicago.
GEO. L. CLAFLIN & Co., Providence.
T. H. HINCHMAN & SONS, Detroit.

Send orders to your jobber or direct to the manufacturers.

Mt. Washington Box Co.

Mt. Washington Box Co.

PRESTON & MERRILL,
BOSTON.

Sole manufacturers of the celebrated
MT. WASHINGTON
IMPERVIOUS - BOXES,
BLACK WALNUT
AND
SILVER POPLAR FOR
DRUGS, OINTMENTS, POWDERS, &c.
SIZES, ¼ oz. to 16 oz. (Inc.)
THE BEST DRUG BOX ON THE MARKET.
For sale by wholesale druggists everywhere.
MT. WASHINGTON BOX CO.,
Preston & Merrill, BOSTON.

JOHNSTON'S
DRY SIZED
KALSOMINE AND
FRESCO PAINTS,
FOR
WALLS AND CEILINGS.

READY FOR USE.

ABSOLUTELY RELIABLE!
GOLD MEDAL, NEW ORLEANS, 1884-5.
EIGHT FIRST-CLASS AWARDS.
CHEAPER THAN WALL PAPER OR OIL PAINT.
Pure White and Beautiful Tints. Will not rub or scale from the wall. Invaluable in cleansing and disinfecting walls impregnated with germs of disease.
Mixed in five minutes ready for the brush, by the addition of water only. Five pounds will cover with a good body 500 square feet on hard finished walls.
Ask for "JOHNSTON'S Dry Sized KALSOMINE," and see that you do not get any poor substitute. For sale by Paint, Drug and Hardware Dealers everywhere. Send for sample card and prices to
DRY KALSOMINE AND FRESCO PAINT WORKS,
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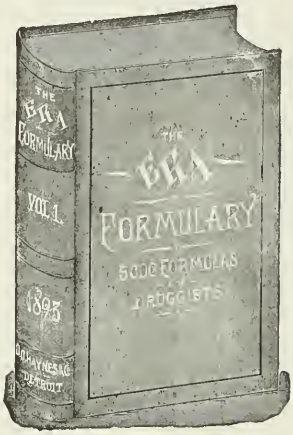
A good formula book is a necessity in every well regulated apothecary shop, and with the view of catering to this want, we offer this collection of formulas. There are any number of so-called druggists' formula books, but most of them are very incomplete, and largely filled with formulas of no practical use to the druggist. Many of the formulas herein are printed for the first time, many more are gathered from reliable sources, and in the whole collection we have tried to exercise the greatest of care to employ only such as are of tried utility



In our work we have taken advantage of all available authoritative sources, including standard authorities in the French and German, as well as a great variety of English publications. We have intentionally omitted all formulas contained in the United States Pharmacopœia and the National Formulary, for we assume that every well equipped pharmacy is already supplied with these standard publications, and we preferred to take up our space with other formulas which the druggist would not be so likely to have in his possession.

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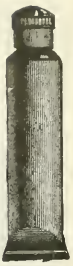

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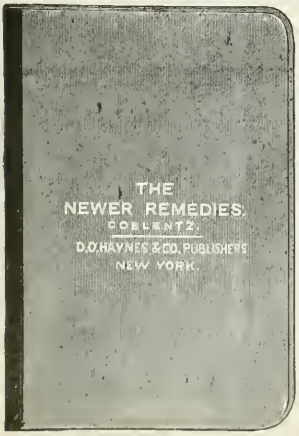
The constantly increasing number and complexity of new remedies, with the scattered condition of the literature on the subject, render it an almost impossible task for anyone except the specialist to become at all acquainted with them. The physician who keeps in progress with the advance of the times is constantly on the alert for new and improved remedies with which to combat disease. It is, therefore, the duty of the apothecary to be conversant with these, not only by title, but as to identity, sources, properties and doses. It has been the endeavor of the author to present as complete a list of these newer remedies as possible, in a concise and alphabetical form. The various articles are arranged under their commercial names, including, however, in this arrangement, all the more important synonyms.



In all instances where possible or practicable, the sources and methods of preparation have been given, followed by such tests of identity as melting and boiling points, with solubilities, incompatibles, medicinal properties and doses as far as known.

The doses quoted are the minimum and maximum for an average adult, being lessened accordingly for children and the feeble, and for hypodermic use. The sizes of the doses are expressed in the metric system, including, however, their nearest equivalents (in round numbers) in apothecaries' weight.

900 SUBJECTS.

68 PAGES.

[REDUCED FAC-SIMILE OF PAGE 1.]

THE NEWER REMEDIES.

ABRASTOL. (ABRAFROL) ($C_{12}H_9OH.SO_3$)$_2Ca$.
The calcium salt of beta naphthol sulphonic acid. It is a soluble white powder, and possess of the antiseptic properties it is employed as a preservative agent for foods. It is also employed as an intestinal antiseptic in doses of 1 to 2 Gm. (15-30 grains).

ABSIN. (ABSORBITIN)
Absin is the most potent principle extracted by the Jesuits and Abbey process from the leaves of the orchis of an alkaloid and is very poisonous. Powder, brownish yellow amorphous powder, employed to limited extent for evoluing artificial conjunctivitis.

ACETAL. $CH_3.CH(OC_2H_5)_2$.
Synonym. Bioxylmethane; Diethyl ether; Diethyl acetal
This body is obtained by the reaction between acetic aldehyde and alcohol, whereby water separates. It is a colorless liquid boiling at 104°-105° C. (219°-221° F). Soluble in 18 parts of water (20° C.) and very soluble in alcohol. It is employed as sedative and hypnotic. Dose is from 4 to 10 Gm. (1-2½ drams).
Usually administered in form of an emulsion.

ACETAMINOL. $C_6H_4(OCH_3)(C_2H_3O)O.CO.CH_2NHCOCH_3$.
Synonym. p-Acetamidomethoxyl Eugenol
By interaction between p-nitrobenzoylchloride and eugenol-sodium in ethereal preparation nitrobenzoylmethoxyl is formed, this gives reduction with the sovereign-tin and acetylation of the product of reduction. Colorless crystals, insoluble in water. The compound appears in the form of white scales or in a crystalline powder, of melting point 180° C. It is also soluble in water, quite soluble in alcohol.
It is employed in treatment of pain.

ACETANILID. $C_6H_5NH.COCH_3$.
Synonyms. Antifebrine; Phenylacetamide.
Obtained by prolonged distillation between pure aniline and glacial acetic acid at boiling temperature. Twenty grammes of aniline are boiled with 30 grammes of glacial acetic acid under an inverted condenser for from six to ten hours, till a sample of the mixture when removed solidifies on cooling to a crystalline mass. The fused product is poured into a dish, and the solidified mass is broken up and washed repeatedly from hot water and alcohol. The product appears in form of lustrous shining tables without odor or color, melting at 112° C. (233.6° F.), solubles at 18° C. (64° F.) in 184 parts of water and 13.8 parts of alcohol, 18.18 parts of boiling water, and in 0.4 parts of boiling alcohol.
Its properties are those of an antipyretic. The average dose is from 0.5-0.9 Gm. (8 to 15 grains). The various derivatives of acetanilid employed in medicine are Antipyrin, Lactophenin, Phenacetin, Salicylic acid.
Add to the various remedies which are supposed to contain acetanilid as one of their constituents are Antikamnia, Phenacol, Exalgin, Antifebrin, Pyrodin, Phenacetin, Exputin, etc.

ACETON.
A proprietary grip and headache remedy. Not to be confounded with acetone.

ACETONE. $CH_3.CO.CH_3$.
Synonym. Dimethyl ketone.
This is prepared by the dry distillation of calcium acetate; it boils at 56° C. (132.8° F.) has a peculiar ethereal odor and sharp burning taste. Miscible with water, alcohol and ether.
It is employed as a narcotic in doses of 5 to 15 minims, in water or infusion of valerian.

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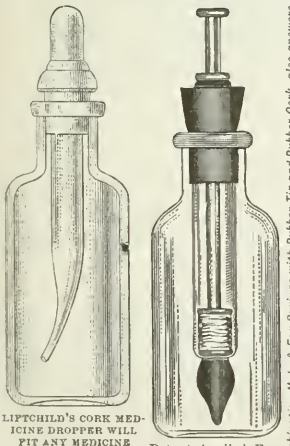

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CONTRIBUTED BY

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There ought to be something better than these—something easier to make and easier to take—and there is. It is the KONSEAL—a thin wafer capsule, made of rice flour and water, cured or baked by radial heat, and, when filled with the drug, to be administered, and moistened with a little water or any other liquid, they become an amylaceous elastic sac, which conforming to the throat, slides down almost before the patient is aware of it.

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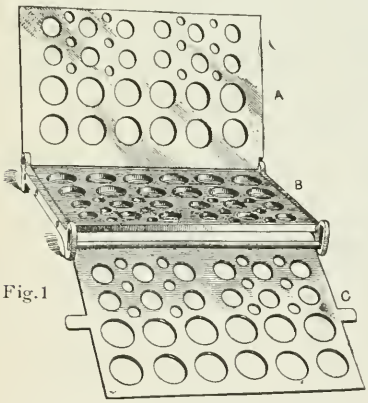

Fig. 1

DIRECTIONS

FOR USING THE

KONSEAL FILLING AND CLOSING APPARATUS.

The apparatus consists of three nickeled plates, the manipulation of which is extremely simple The KONSEALS are pressed with the fingers into the inner spaces of plates A and B. (See fig. 1.) Plate C is then folded over on to plate B, and the powders poured into the KONSEALS which have been placed in plate B. Large doses are more easily manipulated by means of a funnel (See fig. 2), and pressed down with the thimble furnished for the purpose. When the KONSEALS are all filled, Plate C is removed from Plate B, and the dampening roller (not too wet), passed over the KONSEALS in Plate A (See fig. 3,) WHICH PLATE IS THEN CLOSED OVER PLATE B. A slight pressure closes all the KONSEALS, which on opening the apparatus are found adhering to Plate A. They are easily pushed out by the fingers, or with the thimbles supplied for this purpose.

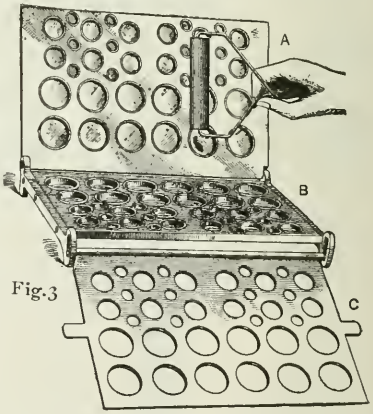

Fig. 3

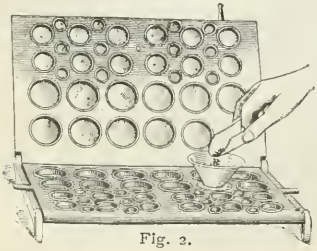
Fig. 2.

There is a lot more to be said in favor of KONSEALS, and we have some of it printed. Part of it has been written by druggists who are using them. You ought to read it. Shall we send it to you? We also have some interesting printed matter which we furnish the pharmacist so that he can get the physician interested.

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Chauncey M. Depew
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New York April 16 1895.

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Yours very Truly
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"One Hundred Years of American Commerce" is to be above all things else a practical work by practical men who, free from the narrowness of the expert specialist, grasp not only their assigned subject, but its bearing upon, and the general interdependence of, the whole commercial and industrial system of which it forms an integral part. As a book about business, by business men, for business men, it stands alone, filling the great want for an authentic work which can show the growth and extent of American enterprise. On the experience of the past is reared the wisdom of the present, and the men who have made and are making the business world of to-day are the men who, better than any others, can analyze its components, weigh its conditions, and estimate its opportunities.

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[*From the New York Tribune, May 30, 1895.*]

One of the most significant events in the history of this country was recalled yesterday. It was the centennial anniversary of the return of Chief Justice John Jay after negotiating his famous treaty with England. . . . The assurance he brought that England had formally acknowledged the commercial liberty of her late colonies as a supplement to their political independence meant much more to the new Nation than can be readily understood at this distance of time. That year our foreign commerce nearly doubled. . . . This centennial of American commercial liberty is not to be allowed to pass unnoticed. A work is in preparation in which will be shown the wonderful commercial progress of America since commercial liberty was acknowledged. As president of the Empire State Society, Sons of the American Revolution, Chauncey M. Depew has consented to act as editor of the work. It will contain one hundred chapters by one hundred Americans. Governor Morton will contribute the article on "American Banking"; General Horace Porter, the article on "One Hundred Years of New-York Commerce"; Senator McMillan, of Michigan, will represent "American Car-Building," and all the chapters will be by men prominently identified with the various branches of trade.

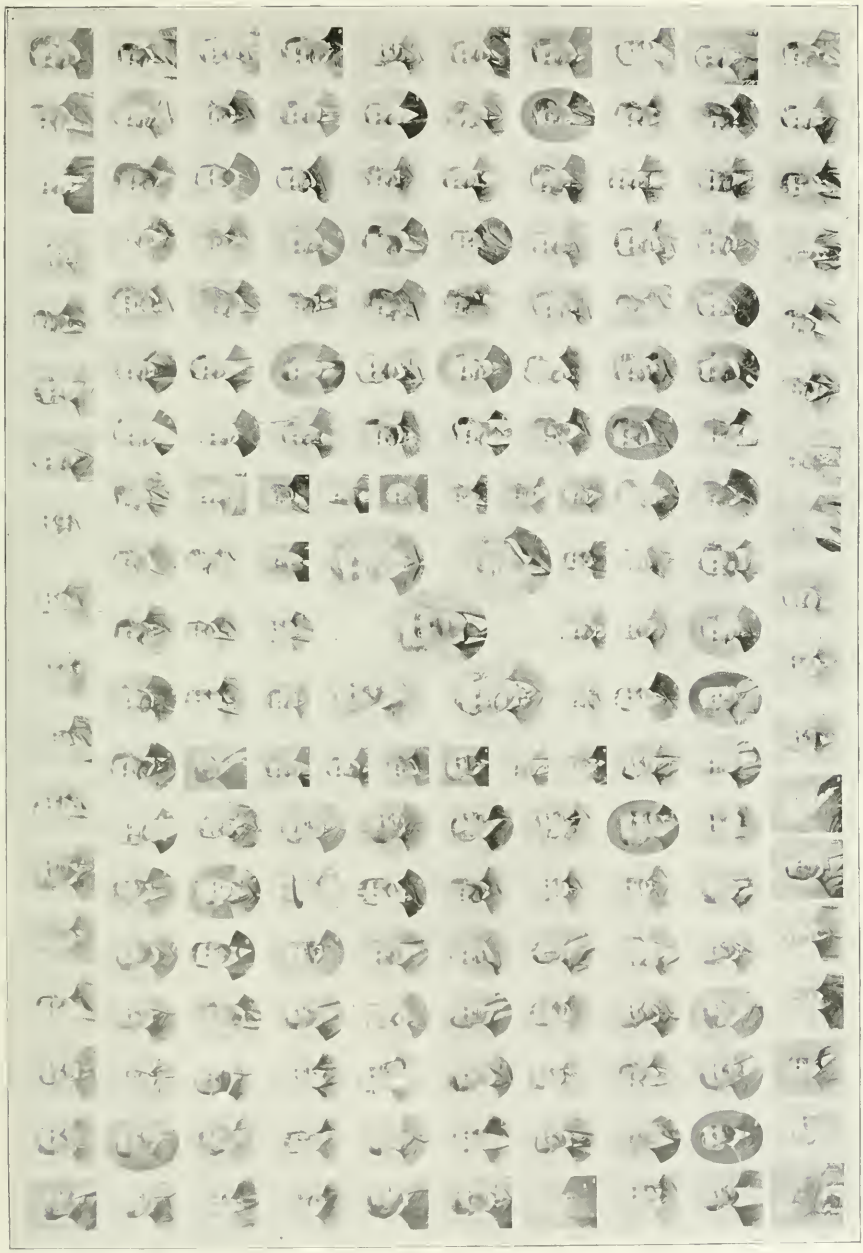
The commercial record of this country will make a wonderful story. Take navigation, for instance. When Mr. Jay arrived home one hundred years ago he had been forty-two days on the water, having sailed from Bristol on April 17. The American newspapers being without foreign correspondents, nothing definite was known by the reading public in America about Mr. Jay's movements later than February until he actually arrived. He had been away upon his mission a year. In the mean time he had been nominated for Governor of New York against Robert Yates, the Chief Justice of this State. When the election came on in April, 1795, the story was started, finding basis in the lack of information about Mr. Jay, that his work in England would keep him there for a long time, and that he could not return to New-York, even if elected, in season for the inauguration, which was then held the first of July. It seems that our enterprising political ancestors had little to learn from the future in the manufacture of campaign canards; but this one was exploded in season, so that when Mr. Jay arrived home the fact that he was to be the next Governor of New York was practically assured, although the returns were not all in and formally announced until June 6. Mr. Jay resigned his place as Chief Justice of the United States, and was inaugurated as Governor in July.

[*From the Chicago Tribune, Aug. 6, 1895.*]

The story to be told is a wonderful one and without a parallel, though the United States is far from being the only country which has enormously expanded and profited by the aid of what is a "century of inventions" in a far different sense to that in which the term was first used by the Marquis of Worcester. From the occupancy of a narrow strip of land along the shore of the Atlantic by a people whose numbers scarcely exceeded the present population of the single State of Illinois, the United States now comprises all the land from the Atlantic to the Pacific Ocean, between Mexico on the south and the British possessions on the north, and has taken in from Russia a vast expanse in the far northwest reaching into the Arctic Ocean. Those areas are occupied by seventy millions of people, who have developed their mineral and agricultural resources to an extent not merely sufficient to supply their own wants, but to feed and clothe an untold number of millions of persons in the Old World. They have covered much of the land with a network of railroads and electric wires and its interior waters with steamers and sailing vessels, all of which are utilized in a commerce the aggregate of which hardly would have been dreamed of a century ago as possible for the whole world. They have exceeded the people of the "mother country" in population and wealth, and set them a brilliant example of self-government. They have offered a better opportunity to make a living than is afforded in Europe, which has been availed of by many millions of industrious immigrants, who have come to our shores to help in developing the resources of the new continental republic.

[*From the Minneapolis Journal, June 10, 1895.*]

This work will be edited by Chauncey M. Depew, and one hundred qualified Americans will each write a chapter, showing the progress in the branch of trade with which he is connected. The one hundred topics embrace foreign and domestic commerce, postal service in commerce, the merchant marine, American labor, commercial wealth, street railways, theaters, flouring-mills, potteries, iron, and all the other industries. The plan covers the whole tremendous progress of the country, nothing of importance being omitted. Just now, when this robust country is coming out of a temporary illness and showing its brain and muscle unimpaired, the issue of such a work will be strongly stimulative of confidence and business endeavor. The conception of the work is highly creditable to the publishers of the great commercial paper, which, on December 19, will have completed its one-hundredth year.



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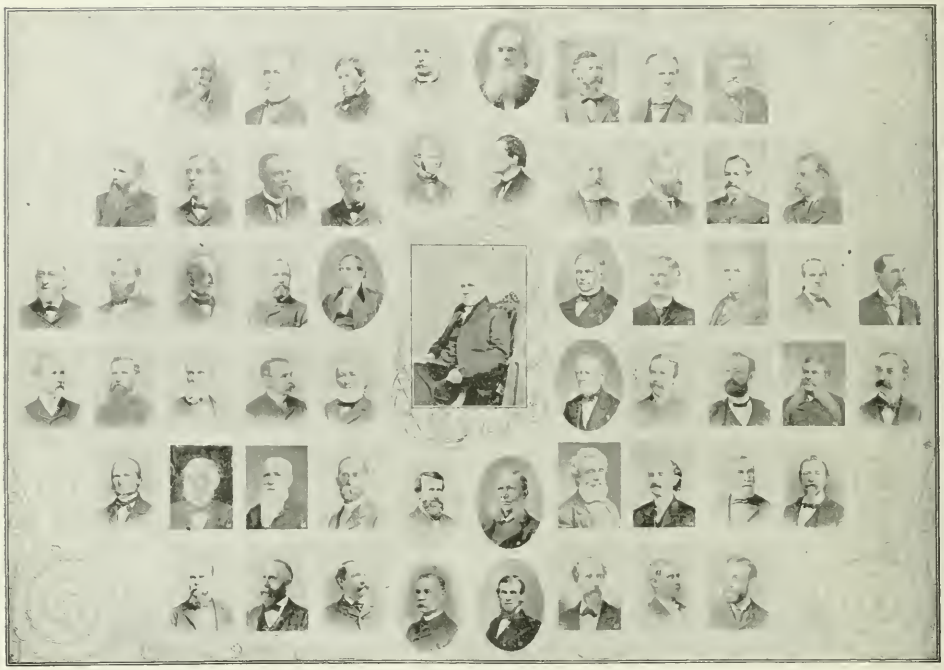

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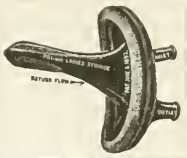

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LABELS BEST MADE CARTONS

SEND FOR SAMPLES AND PRICES
E. B. READ & SON.
DRUG LABEL PRINTERS, BALTIMORE, MD.

EMPTY CAPSULE, ALL SIZES.

MERZ EMPTY ELASTIC CAPSULES

FOR FLUIDS (Patented).

A Great Money Saver. Once Used, Always Used!

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COMPLETED CAPSULE, FILLED.

The MERZ CAPSULE CO., DETROIT, Mich.

PRICES CURRENT.

See Market Report on Another Page.

Prices quoted here are average New York prices to Retail Druggists, for such quantities as they usually purchase. Larger parcels will secure lower quotations.

REVISED EVERY TUESDAY.

New Remedies.

Ammonol	oz.		1 00
Antifebrine	oz.	12	15
Antikamnia (10 ozs. 90)	oz.		1 00
Antipyrin	oz.		1 40
Aristol	oz.		1 80
Benzonaphthol	oz.	40	50
Betanaphthol Bismuth	oz.	1 00	
Bromal Hydrate	oz.	2 50	2 75
Chloralamid 25 gram pkg.			80
Cresalol	oz.	1 75	1 85
Dermatol (25 ozs. 35)	oz.		40
Diabetin	lb.	2 00	2 25
Diphtheria Antitoxine Solution, Aronson's—vials 5 C. C. M. each.			1 25
Behring's— " 10 " No. 1. ea.			1 25
" " " " No. 2. ea.			2 00
" " " " No. 3. ea.			3 00
Roux's, 10 C. C.	bot.		1 50
Diuretin (25 ozs. 1 65)	oz.	1 75	
Europhen	oz.	1 80	
Euphorin	oz.		1 25
Exalgine	oz.	1 40	
Formalin	lb.	1 50	1 60
Gallacetophenone	oz.	1 40	
Gualacol	oz.	45	50
Hemicranine	oz.	90	
Homatropine	grain.	30	35
Hydrochinon	oz.	30	32
Hypnal	oz.	1 50	
Hypnone	oz.	1 50	
Iatrol	oz.	1 00	
Iodol	oz.	1 15	1 25
Losophan	oz.	1 80	
Lycetol	oz.		4 25
Lysol	lb.	60	
Oleocreosote	oz.	65	75
Orexin	oz.	4 00	4 25
Phenacetine, Bayer's	oz.	1 00	
Phenocoll, Hydroch. 10-gm. vials.		1 50	1 50
Pyoktanin, Blue	oz.	1 50	1 80
Yellow	oz.	1 50	1 80
Pyrogallol Bismuth	oz.	1 25	
Salacetol	oz.		75
Salophen	oz.	1 00	
Somatose	lb.	5 00	5 50
Somnal	oz.	80	
Sulfonal	oz.	1 35	
Tannigen	oz.		75
Terpinol	oz.	50	55
Tribromphenol Bismuth	oz.	1 00	1 10
Trional	oz.	1 50	
Tumenol	oz.	65	70
Urethan	oz.	50	
Xylol	lb.	65	

Drugs and Chemicals.

Acetanilid	lb.	38	45
ACID, Acetic, No. 8	lb.	8	10
Benzoic, German	lb.	65	70
Boracic, crystals	lb.	15	16
Boracic, powdered	lb.	16	20
Carbolic, crude	gall.	30	60
Carbolic, crystal	lb.	20	30
Chrysophanic	oz.	25	30
Citric	lb.	37½	45
Gallic	lb.	70	72
Hydrocyanic	oz.	7	14
Lactic, concentrated	oz.	10	15
Lactic, diluted	oz.	5	8
Muriatic, C. P.	lb.	13	18
Muriatic, com'l	lb.	1¼	4
Nitric, C. P.	lb.	17	20
Nitric, com'l	lb.	5½	9
Oxalic	lb.	10	13
Phosphoric, diluted	lb.	14	18
Phosphoric, glacial	lb.	68	73
Phosphoric, U. S. P., 50%	lb.	34	38
Picric	lb.	45	50
Pyrogallic	lb.	3 75	4 00
Salicylic	lb.	55	60
Sulphuric, arom	lb.	48	50
Sulphuric, com'l	lb.	1¼	4
Sulphuric, C. P.	lb.	12	18
Sulphurous	lb.	12	15
Tannic	lb.	1 15	1 20
Tartaric, powd	lb.	32	35
Aconitia, Pure Amorph	oz.	7 20	
Alcohol	bbl.	2 40 gall.	
	½ bbl.	2 45 "	
	10 gals.	2 50 "	
	5 gals.	2 55 "	
Absolute	gall.	4 00	4 50
Wood	gall.	1 00	1 10
Almond, Meal	lb.	30	35

PRICES CURRENT—Continued.

Bitter	lb.	35	40
Aloin	oz.	12	15
Alum, Chrome	lb.	12	15
Lump by bbl. 2	lb.	3	4
Powdered " " 4¾	lb.	7	10
Ambergris	oz.	20 00	35 00
Ammonia, spirits, aromatic	lb.	50	55
Water, 3 f. Carboy, 2½	lb.	4	5
Water, 4 f. " 4½	lb.	5	7
Water, stronger " 7½	lb.	8	10
Ammonium, Bromide	lb.	60	65
Carbonate	lb.	10	14
Hypophos	oz.	20	22
Iodide	oz.	40	42
Muriate	lb.	12	25
Muriate, powdered	lb.	18	20
Nitrate	lb.	22	30
Valerianate	oz.	23	25
Amyl, Nitrite	oz.	25	30
Amylen, Hydrate	oz.	50	55
Amylum	lb.	40	45
Aniline, Black, Nigrosine	lb.	2 00	2 25
Orange	lb.	1 25	1 50
Red, Eosine	lb.	3 50	3 75
Violet	lb.	2 00	2 25
Anodyne, Hoffman's	lb.	50	51
Antimony, Black, Powd., pure	lb.	9	14
Apiol	oz.	45	55
Apomorphine, Muriate, Amorph	oz.		3 25
Apomorphine, Muriate, crystals	oz.		7 00
Arrowroot, St. Vincent	lb.	11	14
Arsenic, Solution (Donovan's)	lb.	20	25
Solution (Fowler's)	lb.	10	12
White, powdered, com'l	lb.	6	8
Atropia, Sulphate, ⅛ oz. vials	oz.	3 50	3 70
Pure, ¼ oz. vials	oz.		4 45
Balsam, Copaiba	lb.	38	45
Fir, Canada	lb.	45	50
Peru	lb.	2 50	2 75
Tolu	lb.	45	50
Barium, Nitrate	lb.	13	15
Sulphate (Barytes)	lb.	5	7
BARK, Angostura	lb.	25	30
Bayberry	lb.	12	15
Berberis Aquifolium	lb.	25	28
Bittersweet	lb.	30	33
Blackberry, Root	lb.	18	22
Black Haw	lb.	30	33
Butternut	lb.	16	20
Canella	lb.	18	20
Cascara Sagrada	lb.	20	25
Cascarilla, powd	lb.	20	25
Cassia	lb.	10	14
Cassia, powd	lb.	16	20
Cassia, Saigon	lb.	40	45
Cassia, Saigon, powd	lb.	45	50
Chestnut	lb.	22	25
Cinchona, Red	lb.	30	35
Cinchona, Red, powdered	lb.	35	40
Cinchona, Yellow	lb.	25	28
Cinchona, Yellow, powdered	lb.	28	30
Condurango	lb.	35	40
Coto	lb.	90	95
Cotton root	lb.	22	25
Elm	lb.	15	18
Elm, powdered	lb.	15	18
Hemlock, powdered	lb.	20	22
Jamaica Dogwood	lb.	25	30
Mezereon	lb.	25	30
Oak, white	lb.	15	20
Pomegranate, root	lb.	28	30
Poplar, white	lb.	15	20
Prickly Ash	lb.	25	28
Quebracho	lb.	25	30
Sassafras	lb.	12	15
Simaruba	lb.	45	50
Soap	lb.	12	15
Soap, powdered	lb.	15	20
Sweet Gum	lb.	20	25
Wafer Ash	lb.	24	28
Wild Cherry	lb.	12	16
Wild Cherry, powdered	lb.	15	20
Willow, black	lb.	22	22
Witch Hazel	lb.	20	20
Bay Rum, Domestic	gall.	1 75	2 25
Imported	gall.	1 90	2 35
BEANS, Calabar	lb.	20	25
St. Ignatius	lb.	40	50
Tonka, Angostura	lb.	2 25	2 50
Vanilla	lb.	6 50	12 00
BERRIES, Cocculus Indicus	lb.	8	12
Cubeb	lb.	15	20
Cubeb, powdered	lb.	20	25
Juniper	lb.	6	10
Juniper, powdered	lb.	15	20
Laurel	lb.	12	15
Poke	lb.	25	30
Prickly Ash	lb.	30	35
Sumach	lb.	20	25
Bismuth, Citrate and Ammon	oz.	18	24
Salicylate	oz.	18	22
Subcarbonate	lb.	1 30	1 45
Subnitrate	lb.	1 10	1 25
Blue Mass	lb.	40	44
Powdered	lb.	57	60
Blue Vitriol	lb.	4½	8
Pure	lb.	19	21
Borax	lb.	6½	7½
Powdered	lb.	6½	7½
Bromoform	oz.		30
Bromine	oz.	7	17
Buds, Balm of Gilead	lb.	40	42
Cassia	lb.	25	30

PRICES CURRENT—Continued.

Cacao Butter	lb.	40	50
Caffeia, oz. vials	oz.		78
Citrated, ½ oz. vials, U. S. P.	oz.		85
Calamine	lb.	10	15
Calcium, Bromide	lb.	60	65
Carbonate, precip	lb.	10	12
Chloride, fused	lb.		25
Iodide	oz.		39
Hypophosphite	lb.	1 25	1 40
Phosphate, precip	lb.	22	24
Sulphide	lb.	30	35
Calomel, Bulk	lb.	76	85
English	lb.	90	1 10
Camphor, Mono-brominated	oz.	18	18
Capsicum, Powdered	lb.	20	23
Cantharides, Russian	lb.	80	1 00
Caramel	lb.	12	16
Carmine, No. 40	oz.	25	35
Cerium, Nitrate	oz.	30	33
Oxalate	oz.	9	10
Chalk, Crayons, white	gross.	6	10
French, cut	lb.	12	15
French, powdered	lb.	5	8
Precipitated	lb.	8	10
White, lump bbls. ¾c.	lb.	2	3
Charcoal, Animal, powdered	lb.	5	8
Willow, powdered	lb.	8	16
Chinoidine	oz.	12	15
Chloral-Caffeine	oz.		75
Chloral Hydrate, Crusts	lb.	1 00	1 20
Crystals	lb.	1 10	1 25
Croton	oz.	54	60
Chloroform	lb.	55	60
Cinchonia, Alkaloid	oz.	27	30
Salicylate	oz.	30	35
Sulphate	oz.	14	16
Cinchonidia, Alkaloid	oz.	30	35
German, sulphate	oz.	3½	7
Salicylate	oz.	40	45
Clover, Red	lb.	30	35
White	lb.	25	30
Cloves	lb.	7	10
Powdered	lb.	12	18
Cobalt, Powdered	lb.	20	25
Cochineal, Honduras	lb.	35	40
Cocaine, Alkaloid	oz.	6 00	6 20
Muriate, cryst	oz.	5 25	5 45
Codeia, ½ oz. vials	oz.	4 30	4 50
Sulphate, ½ oz. vials	oz.		3 65
Collodion	lb.	85	90
Cantharidal	oz.	20	22
Flexible	oz.	15	18
Colocynth, Apples, Trieste	lb.	60	65
Powdered	lb.	60	70
Confection, Rose	lb.	35	40
Senna	lb.	35	40
Copper, Ammoniated	lb.	60	65
Carbonate	lb.	40	45
Oxide, black	lb.	50	55
Copperas	lb.	1½	3
Corrosive Sublimate	lb.	72	78
Powdered	lb.	80	85
Cream Tartar, Powdered	lb.	26	30
Creolin	lb.	45	50
Creosote, Beechwood	lb.	1 00	2 50
German	lb.	45	50
Cudbear	lb.	20	25
Curcuma	lb.	12	15
Cuttlebone	lb.	16	22
Dextrine	lb.	6½	10
Digitalin, ½ oz. pure	oz.		5 25
Dover's Powder	lb.	1 00	1 10
Dragon's Blood, Mass	lb.	25	30
Powdered	lb.	35	75
Elaterium	oz.	1 50	1 75
Ergot	lb.	30	35
Powdered	lb.	35	40
Ergotin, Bonjean	oz.	28	30
Ether, Acetic	lb.	65	70
Butyric	lb.	1 20	1 30
Formic	oz.	25	30
Nitrous, conc	lb.	1 50	1 75
Sulphuric, conc	lb.	74	78
Sulphuric, Washed	lb.	65	70
Ethyl, Bromide	oz.	25	30
Iodide	oz.	44	50
Extract, Logwood, bulk	lb.		12
Logwood, 1's, ½'s and ¼'s	lb.		16
FLOWERS, Arnica	lb.		16
Calendula	lb.		38
Chamomile, German	lb.		25
Chamomile, Roman, new	lb.	20	25
Elder	lb.	25	28
Lavender	lb.	15	75
Rose, pale	lb.	30	40
Rose, red	lb.	80	1 00
Rosemary	lb.	25	30
Saffron, American	lb.	50	60
Saffron, Spanish	lb.	7 50	8 00
Fustic	lb.	4	6
Gambier	lb.	8	10
Gelatin, French, pink	lb.	80	88
French, white	lb.	40	45
Glycerine	lb.	13½	18
Guarana, powdered	lb.	90	1 00
GUM, Aloes, Barbadoes	lb.	20	25
Aloes, Cape	lb.	12	15
Aloes, Socotrine	lb.	45	50
Ammoniac	lb.	30	35
Arabic, 1st pick	lb.	50	—
Arabic, 2d pick	lb.	38	—
Arabic, sorts	lb.	20	—

One Good Turn

Deserves another. One of the best friends a druggist can have is the discouraged customer who has tried to relieve hernia with a poor truss and is finally fitted with the right one. This kind of gratitude is worth a good deal in a business way, and it can be secured by selling

Seeley's Hard Rubber Trusses

We think we can convince you of this, and then furnish you plenty of arguments so that you can convince other people. Let us try it anyway. Send us your name, and we will send you our new book on the mechanical treatment of hernia.

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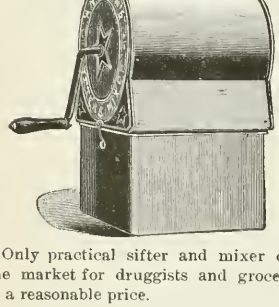
ANDERSON'S Sifter and Mixer.



Only practical sifter and mixer on the market for druggists and grocers at a reasonable price.

Made entirely of Metal, therefore it will not retain odors.

Specially adapted for Baking, Seidlitz, Tooth or Horse Powders, and all kinds of Sifting and Mixings.

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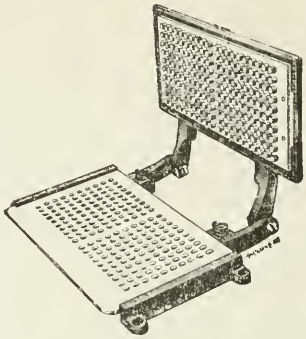
Colton's Tablet Triturate Machine.



Satisfactory in every particular, easily operated, and in fact the only practical machine on the market that punches out Tablets accurately and quickly.

ALL METAL PARTS NICKEL PLATED.

PRICES.

Colton's Tablet Triturate Machine making 200 tablets at a time, including one plate..... $21.00
Extra Plates, Brass (Nickel Plated), or Hard Rubber, each..... $3.00

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Are prepared with great care, expressly for family use, and are so admirably calculated to preserve health and remove disease that no family should be without them. They consist of:

Jayne's Expectorant, for Colds, Coughs, Asthma, Consumption, and all Lung and Throat Affections. It may be depended on to promote cures by facilitating expectoration and allaying inflammation.

Jayne's Tonic Vermifuge. There is no better TONIC for adults or children, and it is especially useful in all cases of Disordered Digestion. For General Debility, Dyspepsia and Sour Stomach it is a certain curative, and for Worms and Intermittent Fevers of children it is an old-time remedy.

Jayne's Carminative Balsam, for Bowel and Summer Complaints, Colics, Cramps, Cholera, etc. It is a certain cure for Diarrhœa, Cholera Morbus and Inflammation of the Bowels.

Jayne's Specific for Tape-Worm is a sure destroyer of this troublesome parasite, and usually drives it from the body in two or three hours.

Jayne's Alterative is the surest medicine for purifying the Blood, and of established efficacy for curing Scrotula, Goitre, Dropsy, Epilepsy, Salt Rheum, and all diseases of the Skin and Bones.

Jayne's Liniment, or Counter-Irritant, for Sprains, Bruises, Soreness in the Bones or Muscles, helpful in Rheumatism or Neuralgia, and useful in all cases where an external application is appropriate.

Jayne's Sanative Pills, small size, sugar coated, a mild Aperient or active Purgative, according to dose, and an effective remedy for all Bilious Affections, Liver Complaints, Costiveness, Dyspepsia and Sick Headache.

Jayne's Hair Tonic, for the Preservation, Beautifying, Growth and Restoration of the Hair. It is a pleasant dressing for the hair and a useful toilet article.

In settlements and localities where the attendance of a Physician cannot be readily obtained families will find these Remedies of great service. The Directions which accompany them are in plain, unprofessional language, easily understood by all, and in addition **Jayne's Medical Almanac and Guide to Health,** to be had gratis of all agents, contains, besides a reliable calendar, a catalogue of Diseases, THE SYMPTOMS BY WHICH THEY MAY BE KNOWN, together with advice as to the proper remedies to be used.

All of Dr. D. Jayne & Son's Family Medicines are sold by Druggists everywhere.

PRICES CURRENT—Continued.

GUM—Continued.			
Asafetida	lb.	25	30
Asafetida, powdered	lb.	45	50
Benzoin	lb.	45	56
Camphor	lb.	65	68
Catechu	lb.	10	16
Catechu, powdered	lb.	28	30
Copal, white	lb.	30	33
Damar	lb.	30	35
Euphorbium, powdered	lb.	35	40
Gamboge, powdered	lb.	75	85
Guaiac	lb.	35	40
Guaiac, powdered	lb.	40	45
Galbanum	lb.	1 00	1 25
Hemlock	lb.	60	65
Kino	lb.	3 00	3 25
Kino, powdered	lb.	3 25	3 50
Mastic	lb.	60	65
Myrrh	lb.	30	35
Myrrh, powdered	lb.	40	45
Olibanum	lb.	25	30
Opium	lb.	1 80	2 00
Opium, powdered	lb.	2 50	2 75
Sandarac	lb.	30	40
Shellac, bleached	lb.	40	45
Shellac, D. C.	lb.	55	60
Shellac, native	lb.	33	38
Spruce	lb.	85	1 50
Tamarack	lb.	1 25	1 35
Tragacanth, 1st Aleppo	lb.	70	80
Tragacanth, 2d Aleppo	lb.	40	65
Tragacanth powder	lb.	65	95
Turpentine, white	lb.	8	10
Gun Cotton	oz.	35	40
HERBS, Balm, Sweet	lb.	30	35
Boneset	lb.	22	25
Bugle, sweet	lb.	30	35
Catnip	lb.	22	25
Celandine, garden	lb.		30
Cleavers	lb.	25	30
Dandelion, true	lb.	25	30
Golden Rod	lb.	25	30
Grindelia Squarrosa	lb.	40	45
Horehound	lb.	22	25
Hyssop	lb.	30	35
Johnswort	lb.	25	30
Larkspur	lb.	27	30
Life Everlasting	lb.	20	25
Lobelia, powdered	lb.	25	35
Lungwort	lb.	30	35
Marjoram	lb.	30	35
Peppermint	lb.	24	30
Pulsatilla	lb.	35	45
Queen of the Meadow	lb.	20	25
Scullcap	lb.	40	45
Smartweed	lb.	25	30
Spearmint	lb.	25	30
Tansy	lb.	22	25
Vervain	lb.	23	28
Wormwood	lb.	22	25
Yerba Santa	lb.	28	30
Hops, Bulk	lb.	15	20
Pressed, 1's, ½'s and ¼'s	lb.	20	2[illegible]
Hyoscyamin, pure cryst	grain.	35	40
Sulph. Amorph	grain.	15	20
Ichthyol	oz.	45	50
Indigo, Madras	lb.	75	85
Benzal, powdered	lb.	1 65	1 85
Manilla	lb.	70	80
Iodine, Resublimed	lb.	3 75	4 00
Iodoform	lb.	4 45	4 80
Iron, Carbonate, precipitated	lb.	15	20
Carb., proto (Vallet's mass)	lb.	30	35
Carbonate, Sacchar	lb.	50	55
Chloride, sol. for tincture	lb.	12	18
Citrate, U. S. P., ½-oz. vials	lb.	12	15
Citrate and Ammonia	lb.	63	70
Citrate and Quinine	lb.	1 90	2 25
Cit'e., Quinine and Strychnia	oz.	19	22
Citrate and Strychnia	oz.	17	21
Dialyzed	lb.	25	45
By Hydrogen	oz.	7	11
Hypophosphite	oz.	20	22
Iodide	oz.	33	40
Iodide, Syrup	lb.	48	55
Oxide Saccbar	lb.	55	65
Persulphate, (Monsell's Powd)	oz.	9	15
Persulph., sol. (Monsell's Sol.)	lb.	25	30
Phosphate, precipitated	lb.	48	52
Phosphate, U. S. P.	lb.	72	75
Pyrophosphate, plates	lb.	63	68
Sulphate, pure	lb.	5½	7
Sulphate, pure, dried	lb.	15	18
Tartrate and Potassium	lb.	51	55
Valerianate	oz.	23	25
Isinglass, American	lb.	65	75
Russian	lb.	3 50	3 75
Lactucarium	oz.		35
Lanolin	lb.		85
Lead, Acetate, white	lb.	12	15
Carbonate	lb.	8	10
Nitrate	lb.	16	20
Oxide	lb.	10	12
LEAVES, Aconite, German	lb.	25	40
Aconite, powder	lb.	30	35
Bay (Laurel)	lb.	15	20
Belladonna, German	lb.	25	28
Belladonna, powdered	lb.	30	32
Buchu, long	lb.	35	45
Buchu, short	lb.	20	25
Burdock	lb.	18	25
Butternut	lb.	20	25

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MRS. WINSLOW'S SOOTHING SYRUP
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MRS. WINSLOW'S SOOTHING SYRUP
AND TAKE NO OTHER KIND.
TWENTY-FIVE CENTS A BOTTLE.

Dr. Martin's
VACCINE VIRUS.

Fully Warranted and Guaranteed to be the Best Vaccine Lymph produced.

Dr. Francis C. Martin, the only surviving son of the late Dr. Henry A. Martin (who introduced animal vaccination into America in 1870), has been devoted to the subject of vaccination for nearly twenty years, and continues uninterruptedly the propagation of pure animal vaccine lymph commenced by his father. All genuine Dr. Martin's Vaccine Virus must be obtained directly from him. Every package bears the fac-simile of the signature of HENRY A. MARTIN.

10 Large Ivory Points, $1.00.
2 Points, 25c.

ADDRESS
DR. FRANCIS C. MARTIN,
ROXBURY STATION, - BOSTON, MASS

Very Liberal Terms to Druggists

PRICES CURRENT—Continued.

LEAVES—Continued.			
Chestnut	lb.	25	30
Coca	lb.	25	35
Conium	lb.	28	32
Damiana	lb.	15	20
Digitalis	lb.	15	20
Digitalis, powdered	lb.	20	25
Eucalyptus	lb.	15	20
Hemlock	lb.	20	25
Henbane	lb.	25	28
Jaborandi	lb.	35	40
Liverwort	lb.	25	30
Matico	lb.	25	30
Matico, powdered	lb.	35	40
Mullein	lb.	20	25
Pennyroyal	lb.	20	25
Poppy	lb.	30	35
Princess Pine	lb.	26	30
Rosemary	lb.	25	30
Sage, Domestic, leaf	lb.	30	35
Sage, Domestic, loose, pressed	lb.	28	30
Sage, Italian	lb.	8	10
Sage, Pressed	lbs., ½'s, ¼'s.	10	12
Savin	lb.	25	30
Senna, Alexandria	lb.	25	30
Senna, Powdered	lb.	35	40
Senna, Tinnevelly	lb.	15	20
Stramonium	lb.	24	28
Stramonium, powdered	lb.	25	30
Thyme	lb.	25	30
Uva Ursi	lb.	10	15
Wintergreen	lb.	25	30
Witch Hazel	lb.	20	25
Leeches	doz.	65	75
Lemon Peel	lb.	15	30
Licorice, Lozenges	lb.	18	25
Mass	lb.	15	18
Stick, Corigliano	lb.	30	33
M. & R.	lb.	20	25
Figaro	kilo.	—	65
Y. & S	lb.	20	25
Lime, Chloride, bulk	lb.	3½	5
Chloride, 1's, ½'s, ¼'s	lb.	10	13
Litharge	lb.	8	10
Lithium, Benzoate	oz.	21	23
Carbonate	oz.	21	23
Citrate	oz.	21	23
Salicylate	oz.	23	25
Lupulin	lb.	50	75
Lycopodium	lb.	55	60
Mace	lb.	60	65
Powdered	lb.	65	75
Madder, Dutch	lb.	15	20
Magnesia, Calcined, heavy	lb.	63	65
Light	lb.	45	65
Carbonate, Jennings	lb.	32	36
K. & M.	lb.	18	20
Magnesium, Bromide	oz.	30	
Chloride	lb.	40	
Hypophos	oz.	27	30
Phosphate	oz.	8	12
Manna, Large Flake	lb.	75	85
Small flake	lb.	30	35
Manganese, Black oxide	lb.	6	10
Menthol, Cryst	lb.	4 50	4 75
Mercury	lb.	60	65
Ammon	lb.	95	1 00
Bisulphate	lb.	60	65
With Chalk	lb.	38	42
Iodide, green	oz.	25	28
Iodide, red	oz.	28	33
Subsulphate	oz.	15	18
Morphine—Sulphate	oz.	1 55	1 80
P. & W.	oz.	1 65	1 90
Moss, Iceland	lb.	12	15
Irish	lb.	10	15
Musk, Tonquin, grain		8	10
Naphthol	oz.	20	25
Naphtholine Balls	lb.	4½	7
Narcein, ½-oz. vials	oz.	6 50	
Narcotine, ½-oz. vials	oz.	1 25	
Nutgalls, Aleppo, powdered	lb.	28	30
Nutmegs	lb.	55	60
Powdered	lb.	65	75
Nux Vomica	lb.	10	15
Powdered	lb.	20	25
Oakum	lb.	15	18
OIL, Almond, Bitter	oz.	50	60
Almond, sweet, Allen's	lb.	35	45
Amber, crude	lb.	25	30
Rectified	lb.	35	40
Anise	lb.	2 10	2 25
Bay, true	oz.	45	60
Benne	gal.	1 00	1 10
Bergamot	lb.	2 75	3 00
Birch Tar, crude	lb.	40	45
Rectified	lb.	85	1 00
Cade	lb.	25	35
Cajuput	lb.	60	70
Camphor	lb.	20	28
Caraway Seed	lb.	1 60	1 75
Cassia	lb.	2 00	2 10
Castor, No. 1	gal.	88	1 00
Bbls. and half-bbls.		—	—
No. 3	gal.	80	88
Bbls		76	84
Cedar, pure	lb.	65	75
Chamomile, German	oz.	3 50	3 75
Roman	oz.	1 50	1 75
Cherry Laurel	oz.	85	90
Citronella, native	lb.	45	50
Cinnamon, Ceylon Bark	oz.	1 00	1 10

RETAILER'S PROFIT { 100 PER CENT AND UPWARD

— ON —

STEARN'S ELECTRIC PASTE,

The great exterminator of RATS, COCKROACHES, WATER BUGS, Etc.

IT DOES THE WORK. IT KILLS.

Your Jobber has it. Retails 25 cents.

Costs $1.50 per Dozen—1-2 Gross, less 5 per cent—1 Gross, less 10 per Cent.

STEARN'S ELECTRIC PASTE CO.,
CHICAGO, ILL.

CLOUGH CORKSCREW CO.,
ALTON, N. H.

ORIGINAL PATENTEES.

SAMPLES, ALL SIZES, FREE.

Quartz and Flint

Especially adapted for Chemists' and Extract Manufacturers use.

The F. E. Belden Mica Mining Co.,
12 Broad St., Boston, Mass.
NEW YORK OFFICE: 182 Franklin St.

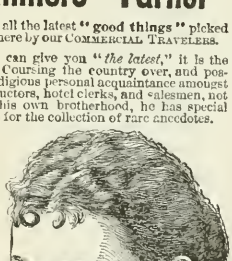
"Laugh and the World Laughs with You."

Drummers' Yarns.

Containing all the latest "good things" picked up here and there by our COMMERCIAL TRAVELERS.

If any one can give you "*the latest*," it is the drummer. Coursing the country over, and possessing a prodigious personal acquaintance amongst railroad conductors, hotel clerks, and salesmen, not to speak of his own brotherhood, he has special opportunities for the collection of rare anecdotes.

Don't give me away the maiden said,
As she winked her roguish eye,
"DRUMMERS' YARNS" is out of sight,
The stories are awfully fly!



There is more dyspepsia cure in "Drummers' Yarns" than in tons of chewing gum.—*Dr. L. S. Stone.*

This collection of Humor is by one of the Funniest Drummers on the "road," and he has requested us not to publish his name, for various reasons. Imagine all the laughable stories told on the Road, to pass away the time, collected together and published in a large, handsome volume, illustrated with most funny engravings, and you will have a fair idea of the book. This book contains 112 pages. Humorous lithograph cover. Size 7 × 10 inches. Price 25 cts., post-paid.

For sale by

D. O. HAYNES & CO.,
106 Fulton St, NEW YORK

PRICES CURRENT—Continued.

OIL—Continued.

Cloves	lb.	70 75
Cocoanut	lb.	15 20
Codliver, Norwegian	gal.	2 00 2 25
Copaiba	lb.	85 90
Coriander	oz.	90 1 00
Cotton Seed, winter	gal.	41 45
Croton	lb.	1 00 1 10
Cubebs	lb.	1 50 1 75
Cumin	oz.	40 45
Dill Seed	oz.	40 45
Erigeron	lb.	2 25 2 50
Eucalyptus	lb.	1 25 1 50
Fennel	lb.	1 75 2 00
Geranium, Rose, Chiria	oz.	55 60
Hemlock, pure	lb.	65 70
Henbane	lb.	50 60
Horsemint	lb.	2 00 2 25
Juniper Berries	lb.	1 75 2 00
Wood	lb.	45 50
Lard, No. 1	gal.	45 50
Extra	gal.	75 85
Lavender Flowers	lb.	1 50 1 75
Garden	lb.	1 00 1 10
Laurel, expressed	lb.	45 50
Lemon	lb.	1 10 1 25
Sanderson's	lb.	1 55 1 65
Lemon Grass	lb.	1 00 1 10
Linseed, boiled	gal.	53 58
Raw	gal.	50 55
Mace, Ethereal	oz.	35 40
Expressed	lb.	1 80 2 00
Male Fern, Ethereal	oz.	25 30
Mustard, essential	oz.	50 55
Mustard, expressed	gal.	65 75
Myrbane	lb.	30 35
Neatsfoot, No. 1	gal.	45 48
Pure	gal.	85 1 00
Neroli, Bigarade, Chiris'	oz.	2 75 3 00
Petit Grain, Chiris'	oz.	75 80
Olive, Malaga	gal.	85 90
Sublime	gal.	2 00 2 25
Orange, bitter	lb.	3 50 3 75
Sweet	lb.	1 60 1 75
Origanum	lb.	40 1 10
Patchouly	oz.	60 75
Pennyroyal	lb.	1 50 1 75
Pepper, black	lb.	90 95
Peppermint	lb.	1 90 2 25
H. G. H.	lb.	2 50 2 75
Pimento	oz.	18 22
Rhodium	oz.	45 50
Rose, Kissanlik	oz.	8 50 9 00
Rosemary Flowers	lb.	1 25 1 40
Sandalwood, English	lb.	6 00 7 00
German	lb.	3 00 3 50
Sassafras	lb.	38 50
Savin	lb.	1 25 1 75
Skunk	lb.	50 55
Spearmint	lb.	2 25 2 50
Sperm	gall.	80 90
Spike	lb.	20 35
Spruce	lb.	50 60
Tansy	lb.	2 25 2 50
Tar	lb.	10 12
Thyme, White	lb.	1 10 1 25
Turpentine, pure	lb.	35 40
Whale	gall.	70 75
Wine, Ethereal	oz.	35 40
Heavy	oz.	50 55
Wintergreen	lb.	1 75 2 25
Wormseed, Baltimore	lb.	1 75 2 00
Wormwood, Pure	lb.	3 00 3 50
Valerian	oz.	75 80
Verbena	oz.	75 85
Ylang Ylang	oz.	4 00 6 00
Ointment, Citrine	lb.	40 54
Mercurial, 1-3 M	lb.	35 45
½ M.	lb.	45 50
Zinc Oxide	lb.	50 60
Orange Peel	lb.	12 15
Powdered	lb.	16 20
Orpiment, Yellow	lb.	30 35
Ozokerite		— —
Pancreatine, pure	oz.	55 80
Saccb.	oz.	35 40
Paraffin, refined	lb.	10 14
Paraldehyde	oz.	20 25
Pepper, Black	lb.	9 12
Powdered	lb.	14 16
White	lb.	15 18
Phosphorus	oz.	20 30
Picrotoxin, ¼-oz. vials	oz.	5 00 5 25
Pilocarpine	gr.	38 40
Muriate	gr.	33 35
Nitrate	gr.	30 33
Piperazine		4 25 —
Piperin	oz.	60 65
Pitch, Burgundy	lb.	7 9
Black	lb.	5 7
Pith, Sassafras	lb.	1 25 1 50
Plaster Paris, Bbls	Bbl.	2 00 2 25
Poppy Heads	lb.	20 40
Potash, crude	lb.	7 8
Caustic, white	lb.	40 45
Liquor	lb.	15 20
Potassium, Acetate	lb.	30 34
Bicarb	lb.	12 15
Bichromate	lb.	11 15
Bromide	lb.	42 48
Chlorate, cryst	lb.	15 16
Powdered	lb.	16 18
Citrate	lb.	53 55

PRICES CURRENT—Continued.

POTASSIUM—Continued.

Cyanide, fused	lb.	50 55
Hypophosphite	oz.	20 23
Iodide, cryst	lb.	2 86 3 00
Oxalate	lb.	35 40
Permanganate	lb.	25 30
Phosphate	oz.	15 18
Prussiate, red	lb.	45 50
Yellow	lb.	23 28
Salicylate, 1-oz. vials	oz.	25 30
Sulphate, Powdered	lb.	14 18
Sulphuret	lb.	12 26
Tartrate	lb.	50 55
Powder, Composition	lb.	25 35
Dover's	lb.	1 00 1 20
Insect	lb.	22 28
Propylamin	oz.	55 60
Quassia, chips	lb.	10 12
Quassine, cryst 1-gram. vials		1 75 1 65
Quinidia, pure	oz.	58 65
Sulphate	oz.	46 50
Quinine, Bisulph	oz.	35 40
Muriate	oz.	59 65
Salicylate	oz.	59 65
Sulphate, foreign, 100-oz. tins	oz.	26 27
N. Y. Q., 100-oz. tins	oz.	26 27
P. & W	oz.	34½ 35½
Red Precipitate	lb.	90 95
Red Saunders	lb.	7 10
Resin, Jalap	oz.	55 60
Scammony Turkish	oz.	40 45
Resorcin	oz.	23 25
ROOT—Aconite, German	lb.	25 30
Powdered	lb.	30 35
Alkanet	lb.	15 20
Angelica	lb.	25 30
Arnica	lb.	30 35
Belladonna	lb.	25 30
Bitter	lb.	30 35
Blackberry	lb.	20 25
Blood	lb.	12 15
Powdered	lb.	15 20
Blue Flag	lb.	25 30
Bryony	lb.	20 25
Burdock	lb.	18 23
Powdered	lb.	20 25
Calamus, peeled	lb.	18 40
Powdered	lb.	25 30
Cohosh, black	lb.	15 18
Powdered	lb.	20 22
Blue	lb.	15 20
Colchicum	lb.	25 32
Comfrey	lb.	25 28
Columbo	lb.	20 25
Powdered	lb.	25 30
Cranesbill	lb.	26 30
Culver's	lb.	25 30
Dandelion, American	lb.	20 25
German, cut	lb.	20 25
Dwarf Elder	lb.	35 40
Elecampane	lb.	14 18
Powdered	lb.	16 20
Galangal	lb.	10 20
Powdered	lb.	20 25
Gelsemium, powd	lb.	25 30
Gentian	lb.	10 12
Powdered	lb.	15 20
Ginger, African	lb.	8 10
Powdered	lb.	14 16
Ginger, Jamaica	lb.	20 22
Bleached	lb.	22 25
Powdered	lb.	25 27
Ginseng	lb.	4 00 5 00
Golden Seal	lb.	28 35
Powdered	lb.	30 38
Hellebore, black	lb.	24 30
White, powdered	lb.	15 18
Hydrangea	lb.	20 25
Indian Hemp, black	lb.	30 35
Indian Turnip	lb.	25 30
Ipecac	lb.	1 40 1 65
Powdered	lb.	1 60 1 75
Jalap	lb.	25 30
Powdered	lb.	35 45
Ladies' Slipper	lb.	30 35
Powdered	lb.	40 45
Licorice	lb.	15 18
Cut, Russian	lb.	20 26
Powdered	lb.	15 20
Lovage, Select	lb.	70 80
Male Fern	lb.	22 25
Powdered	lb.	25 30
Mandrake	lb.	15 18
Marshmallow, cut	lb.	25 28
Powdered	lb.	28 30
Marsh Rosemary	lb.	45 50
Musk (Sumbul)	lb.	40 50
Orris, Fingers	lb.	1 10 1 35
Florentine	lb.	25 30
Powdered	lb.	28 35
Verona	lb.	18 22
Pareira Brava	lb.	20 25
Powdered	lb.	25 30
Parilla, Yellow	lb.	23 25
Parsley	lb.	30 35
Pellitory	lb.	38 42
Pink	lb.	40 45
Pleurisy	lb.	25 30
Poke	lb.	15 20
Pond Lily, White	lb.	30 —
Yellow	lb.	30 —

PRICES CURRENT—Continued.

Root—Continued.			
Queen of Meadow	lb.	20	25
Rhatany	lb.	20	25
Powdered	lb.	30	35
Rhubarb, cubes	lb.	85	1 50
Fingers	lb.	1 50	2 00
East India	lb.	65	75
Powdered	lb.	85	1 00
Sarsaparilla, Honduras	lb.	30	40
Powdered	lb.	35	42
Mexican	lb.	15	20
Seneka	lb.	45	50
Powdered	lb.	60	65
Skunk Cabbage	lb.	20	28
Powdered	lb.	25	30
Squills	lb.	12	15
Powdered	lb.	40	45
Snake, Canada	lb.	40	45
Virginia	lb.	50	55
Solomon's Seal	lb.	28	30
Spikenard	lb.	22	28
Powdered	lb.	30	36
Stillingia	lb.	25	30
Powdered	lb.	30	35
Stone	lb.	22	25
Unicorn false	lb.	45	50
Valerian, English	lb.	35	40
Vermont	lb.	20	25
Vervain	lb.	24	30
Wild Indigo	lb.	25	30
Wild Yam	lb.	20	25
Yellow Dock	lb.	18	20
Zedoary	lb.	25	30
Powdered	lb.	32	37
Sacoharine	oz.	1 10	1 15
Sal, Epsom	bbl.	1½	5
Glauber "	"	2	3
Nitre, com'l	lb.	6	7
Powdered	lb.	10	12
Rochelle	lb.	25	28
Soda	lb.	1	2
Tartar	lb.	10	14
Salicin	lb.	2 10	2 75
Salol	lb.	3 75	4 00
Santonin	lb.	3 25	3 50
SEED. Anise Italian	lb.	15	18
Anise, Star	lb.	25	30
Cardamom	lb.	90	1 50
Powdered	lb.	1 00	1 25
Canary	lb.	3½	5
Caraway	lb.	10	14
Celery	lb.	16	20
Colchicum	lb.	20	28
Conium	lb.	25	30
Coriander	lb.	11	15
Cumin	lb.	25	30
Dill	lb.	20	22
Fennel	lb.	15	18
Flax, ground	lb.	4	5
Flax, recleansed	lb.	3½	5
Foenugreek	lb.	5	8
Powdered	lb.	10	12
Hemp, recleansed, bag	lb.	4	5
Lobelia	lb.	30	35
Powdered	lb.	35	40
Millet, American	lb.	3	5
Mustard, black	lb.	10	12
Powdered	lb.	15	18
Mustard, Yellow	lb.	10	12
Powdered	lb.	25	30
Poppy, blue	lb.	15	20
White	lb.	25	30
Pumpkin	lb.	18	20
Quince	lb.	40	45
Rape	lb.	6	8
Sabadilla	lb.	30	40
Stavesacre	lb.	30	35
Stramonium	lb.	15	20
Powdered	lb.	25	30
Sunflower	lb.	12	18
Watermelon	lb.	18	22
Worm, American	lb.	15	18
Levant	lb.	15	18
Powdered	lb.	22	25
Seidlitz Mixture	lb.	22	24
Silver, Nitrate, cryst	lb.	7 50	7 75
Nitrate, fused	oz.	55	60
Soap, Castile, mottled, box	lb.	9	10
White, Cont'l's	box, 11	13	15
Powdered	lb.	40	45
German Green	lb.	12	20
Soda Ash	lb.	1¾	4
Sodium, ¼-oz. vials	oz.	25	
Acetate	lb.	25	30
Benzoate	oz.	13	15
Bicarbonate	lb.	3	5
Bromide	lb.	55	60
Carbonate, C. P., cryst	lb.	30	35
Dried, purified	lb.	20	25
Citrate	lb.	57	62
Hypophosphite	lb.	1 35	1 50
Iodide	lb.	3 65	3 80
Nitrate, purified	lb.	16	18
Phosphate	lb.	12	15
Salicylate	lb.	75	85
Sulpho-Carbolate, 1-oz. vial	oz.		11
Sulphate, pure, cryst	lb.	25	30
Dried	lb.	18	20
Sulphite, cryst	lb.	9	12
Tartrate	lb.	55	60
Valerianate	oz.	82	85
Spermaceti	lb.	38	40
Spirits, Lavender, comp	lb.	50	55

PRICES CURRENT—Continued.

Stearine	lb.	15	18
Stone, Pumice	lb.	8	10
Powdered	lb.	5	8
Strontium, Bromide, cryst	oz.	22	25
Iodide	oz.	62	65
Lactate	oz.	30	35
Strychnia, crystals, ½-oz. vials	oz.	1 50	1 60
Nitrate, ½-oz. vials	oz.	2 00	2 25
Sulphate, ½-oz. vials	oz.	30	1 40
Styrax, Liquid	lb.	35	40
Sugar Milk, powdered	lb.	16	20
Sulphur	lb.	2	4
Lac	lb.	12	20
Roll	lb.	1¾	3½
Svapnia, ½-oz. vials	oz.	2 85	3 00
Tamarinds	per keg.	2 50	
Tar, Barbadoes	lb.	15	18
Tartar Emetic, powdered	lb.	35	40
Terebene	oz.	15	18
Terpin, Hydrate	oz.	20	25
Thiol, Liquid	oz.	25	27
Scales or powdered	oz.	75	80
Thymol	oz.	23	25
Tin, Muriate, crystals	lb.	30	33
Solution	lb.	18	20
Turpentine, Venice	lb.	25	30
Vanillin	oz.	5 00	5 25
Veratria, ½-oz. vials	oz.	2 10	2 25
Sulphate, ½-oz. vials	oz.	2 10	2 25
Verdigris, powdered	lb.	40	45
Water, Cherry Laurel	lb.	25	30
Rose	lb.	25	30
Orange Flower	lb.	25	30
Wax, Bayberry	lb.	25	30
Carnauba	lb.	30	50
Refined Beeswax	lb.	38	42
Ozokerite	lb.	8	12
White, (W. H. B.)	lb.	47½	55
Yellow, Select, (W. H. B.)	lb.	40	45
Zinc, Chloride, gran. 1-oz. vials	oz.	6	13
Iodide, 1-oz. vials	oz.	40	45
Oxide, true	lb.	12	15
Salicylate, 1-oz. vials	oz.	35	40
Sulphate, cryst	lb.	7	9
Sulpho-Carbolate, 1-oz. vials	oz.	9	16
Valerianate, 1-oz. vials, M. C. W.	oz.	23	25

Paints.

Black, Drop, powdered	lb.	1b	18
Ivory	lb.	5	7
Lamp, Germantown, 1'a, ½'s, and ¼'s	lb.	12	17
Blue, Cobalt	lb.	35	40
Prussian	lb.	45	50
Ultramarine	lb.	12	18
Brown, Spanish	lb.	1	2
Vandyke	lb.	6	9
Green, Chrome, dry	lb.	10	12
Paris, kegs	lb.	21½	
¼'s	lb.	26½	
½'s	lb.	24½	
1's	lb.	22½	
Lead, Red, dry	lb.	7	10
White, dry	lb.	7	10
White, in oil	lb.	6	6½
Ochre, Yellow, American	lb.	1	2
Putty, in Bladders	lb.	2¼	2½
Red, Venetian, American	lb.	1	2
Sienna, Burnt	lb.	4	6
Raw	lb.	4	6
Smalts, Black	lb.	8	10
Blue	lb.	12	15
Green	lb.	15	18
Vermilion	lb.	15	18
Turpentine	gall.	30	33
Umber, Burnt	lb.	4	
Raw	lb.	4	
Vermilion, American, dry	lb.	15	18
Chinese	lb.	1 10	1 20
English	lb.	65	75
Whiting, Com'l	lb.	¾	1½
Gilder's	lb.	1	1¾
Paris	lb.	1¼	2
Yellow, Chrome	lb.	12	15
Zinc, White, Dry, American	lb.	8	10

Window Glass.

Single Strength	75% & 5%	
Double Strength	75% & 5%	

Glassware.

Flintware, Original Packages		60%
Broken Lots		50%
Greenware, Original Packages		70%
Broken lots		60%

Wines and Liquors.

Brandy, Blackberry	gall.	2 25	2 75
California	gall.	2 25	4 00
Hennessy	gall.	8 00	10 00
Gin, Imperial	gall.	1 60	1 70
Meder Swan	gall.	4 50	4 75
Rum, Jamaica	gall.	6 00	8 25
New England	gall.	2 00	2 25
Wine, Blackberry	gall.	1 50	1 60
Claret, Domestic	gall.	1 25	1 50
Madeira, Imported	gall.	2 50	3 00
Port, Domestic	gall.	1 00	1 75
Sherry, Domestic	gall.	1 00	1 75

MAJOR'S CEMENT

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Major's Cement is put up in a handsome show box, containing one and two dozen.

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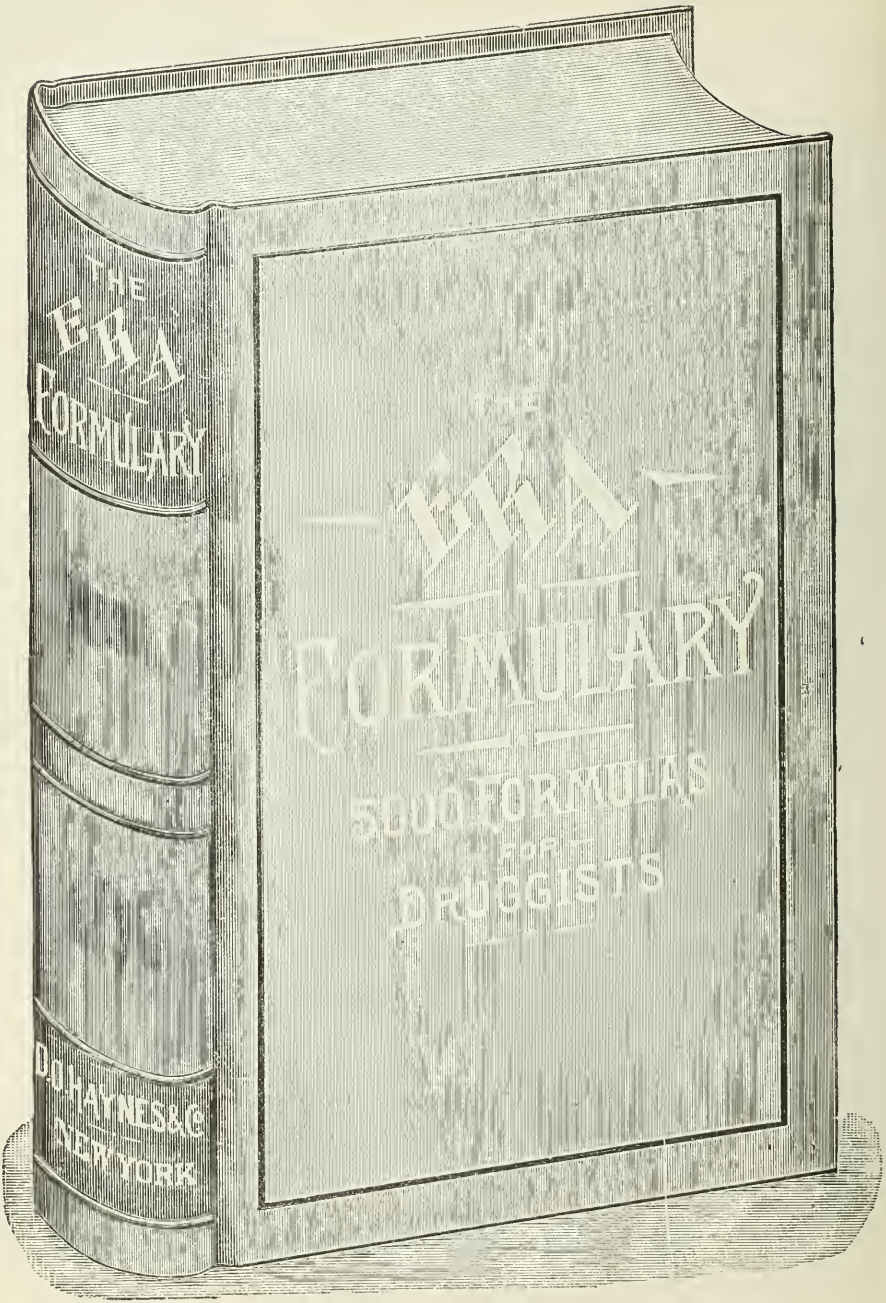

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PRICE LIST Section of the OCTOBER 10, 1895, ISSUE OF THE PHARMACEUTICAL ERA.

PRICE LISTS

FOR THE DRUG TRADE.

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Lehn & Fink.
N. Y. Quinine & Chemical Works, Ltd.
ALBOLENE.
McKesson & Robbins.
ANIMAL EXTRACTS.
Columbia Chemical Co.
ANTINONNIN.
Schieffelin & Co.
ANTISEPTIC DRESSINGS.
Johnson & Johnson.
ANTITOXIC SERUM.
Mulford Co., H. K.
ARISTOL.
Schieffelin & Co.
ATOMIZERS.
Lehn & Fink.
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BANDAGES.
Johnson & Johnson.
BASSORIN PASTE.
Lehn & Fink.
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Libby, McNeill & Libby.
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Lehn & Fink.
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Lehn & Fink.
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Watson Co., Geo. E.
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Hansen's Laboratory, Chr.
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S. B. Medicine Co.
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Lehn & Fink.
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Lehn & Fink.
McKesson & Robbins.
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Schieffelin & Co.
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Fletcher Cocktail Co.
COCAINE-COMP. SUPPOSITORIES.
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N. Y. Quinine & Chemical Works, Ltd.
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Lehn & Fink.
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McKesson & Robbins.
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DEAN'S REMEDIES.
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McKesson & Robbins.
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McKesson & Robbins.
Schieffelin & Co.
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Stearns Electric Paste Co.
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Molloy, E. J.
ENCAPSULING PRIVATE FORMULAS.
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FILTER PAPER.
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Libby, McNeill & Libby.
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Schieffelin & Co.
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WHERE IS THAT PRICE LIST?

PRICE LISTS FOR THE DRUG TRADE.

TO THE TRADE:

The price lists now issued by manufacturers to the drug trade vary in size from an envelope slip to a pretentious book. No attempt is made at uniformity, and, in consequence, when a druggist wants a certain price list, that is usually the one he cannot find. It is important to both the manufacturer and to the druggist that the latter have these lists at his command. There is such an infinite variety of articles manufactured for the drug trade that it is impossible for any dealer to remember all of the goods that each manufacturer makes; much less can he remember the prices.

For several years we have been convinced that the plan for sending out these price lists to the drug trade could be very materially improved, with a great saving of expense to the manufacturers and greatly to the convenience of the drug buyers, who want these lists for reference. We have talked with representative manufacturers on the subject and they encourage us in our proposed plan to send out "Price List Editions" of the ERA in the *Spring* and *Fall* of each year, for the purpose of distributing in uniform size, bound in a book, Manufacturers' Price Lists for the drug trade.

This October 10th issue is our first attempt at these special Price List issues, and considering the short time we have had for its preparation, we are much pleased at our success, as shown by the number of lists in the following pages. We are confident that our plan will meet with the hearty endorsement of the drug buyers, and we hope that they will freely express their views to us. This is a matter of importance to all parties concerned, and the manufacturers are particularly interested in knowing if this plan for the distribution of their price lists is approved of by the buyers of the drug trade.

We urge every druggist who receives a copy of this issue to communicate to us his views on this subject.

THE PHARMACEUTICAL ERA, NEW YORK.

WHAT THEY THINK OF THE WEEKLY ERA.

E. L. REYNOLDS, Stockton, Kan.—"We cannot do without the Era."

HENRY A. FOSTER, Appleton, Wis.—"You are publishing a great paper."

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A. B. RAINS, Columbia, Tenn.—"The Era in my humble opinion is the most valuable factor of modern pharmaceutical literature."

E. J. SELLERS, Kutztown, Pa.—"I congratulate you upon the great change you have made in presenting to the (reading) druggists a weekly issue of such an instructive character, knowing that many will take advantage of the 'Lecture Course' and be benefited."

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SUPPLEMENT TO THE PHARMACEUTICAL ERA.

NEW YORK QUININE and CHEMICAL WORKS,

[LIMITED],

114 WILLIAM STREET, NEW YORK.

PRICES SUBJECT TO FLUCTUATION. OCTOBER, 1895. TERMS, NET CASH.

ACETANILID	1 lb. cartons incl., lb.	45
"	½ lb. cartons incl., lb.	47
"	¼ lb. cartons incl., lb.	51
"	1 oz. cartons incl., oz.	9
Acetone, Pure	c. b. 9, lb.	40
Acid, Acetic, U. S. P. (s. g. 1.047), 36%	c. b. 9, lb.	11
" " 60% (s. g. 1.067)	c. b. 9, lb.	14
" " Chem. Pure (s. g. 1.040)	c. b. 9, lb.	18
Indifferent to Perman. Potas.		
" " Conc. (s. g. 1.075), 80%	g. s. b. 14, lb.	20
" " 99%, Chem. Pure	c. b. 7, lb.	32
" " " " "	5 lb. c. b. 17, lb.	30
The Commercial and Redistilled quoted on reqest.		
" Arsenious, Powd., Pure	1 oz. c. v. incl., oz	10
" " "	1 lb. c. b. 6, lb.	75
" " "	1 lb. box incl., lb.	77
" Benzole, True, from Benzoin	c. v. 5, oz.	14
" " " " "	1 oz. cartons incl., oz.	16
" " " " "	50 oz. boxes incl., oz.	12
" " Toluol	Bulk, lb.	65
" " "	1 lb. cartons incl., lb.	68
" Boracic, Cryst.	1 lb. cartons incl., lb.	17
" " Powd.	1 lb. cartons incl., lb.	18
" Butyric, 60-65%	1 lb. g. s. b., 14, lb.	1 00
" " "	1 oz. g. s. v., 7, oz.	12
" Camphoric	c. v. 4, oz.	45
" Carbolic, Crystals	1 lb. cans incl., lb.	42
" " "	1 lb. bott. incl., lb.	46
" " Liquid	5 lb. tins, lb.	29
" " "	1 lb. tins, lb.	30
" " "	1 lb. bott., lb.	34
(Put up by N. Y. Q. & C. Works).		
" Chromic, Pure	g. s. b. 15, lb.	75
" "	g. s. v. 7, oz.	7
" Chrysophanic	c. s. 4, oz.	38
" "	Cartons incl., oz.	40
Acid, Citric	kegs, lb.	41
" "	barrels, lb.	40½
" Gallic, German	Bulk, lb.	73
" "	1 lb. cartons incl., lb.	75
" "	½ lb. cartons incl., lb.	77
" "	¼ lb. cartons incl., lb.	81
" "	1 oz. cartons incl., oz.	10
" "	1 oz. vials incl., oz.	14
" Hypophosphorous, 50%	g. s. v. 7, oz.	17
" Lactic, U. S. P. (s. g. 1.21)	c. b. 9, lb.	1 10
" " " " "	c. v. 4, oz.	10
" Oleic, Com'l, Clear	c. b. 9, lb.	35
" Oxalic	Bulk.	20
" Phosphoric, Glacial, Sticks	c. b. 9, lb.	73
" " " "	c. v. 4, oz.	8
" " U. S. P. (1880)	c. b. 9, lb.	36
" " Syrupy (U.S.P., 1890)	g. s. b. 14, lb.	43
" Prussic, U. S. P.	g. s. v. 7, oz.	7
" Pyrogallic, Resublimed	1 oz. vials incl., oz.	39
" " "	1 oz. cans incl., oz.	36
" " "	1 lb. cans incl., lb.	3 75
" Salicylic	Bulk, lb.	60
" "	1 lb. pps., lb.	62
" "	1 lb. cartons, lb.	63
" "	1 oz. boxes incl., lb.	1 25
" Tartaric, Crystals	50 lb. boxes, lb.	26½
" " "	in barrels, lb.	25½
" " Powd.	50 lb. boxes, lb.	27
" " "	in barrels, lb.	26
" Valerianic	1 lb. bott. incl., lb.	3 00
" "	g. s. v. and tin cans, 1oc. oz.	23
Aconitine, Pure Amorphous	⅛ oz. vials incl., ea.	90
" " Cryst.	⅛ vials incl., ea.	1 00
ALOIN	Bulk, lb.	1 00

WE ARE THE LARGEST MANUFACTURERS OF COCAINE IN AMERICA.

ALOIN	c. b. 9, lb.	1 10
"	c. v. 4, oz.	12
"	1 oz. cartons incl., oz.	14
Alum, Ammonio-Ferric	c. b. 9, lb.	28
" "	c. v. 4, oz.	6
" **Dried Powd.**	c. b 9. lb.	12
Ammonia, Water, U. S. P., 16°	carboys or cans, lb.	4
" " " "	c. b. 9, lb.	5
" " " 20°	carboys or cans, lb.	6
" " " "	c. b. 9, lb.	7
" Stronger, U. S. P., 26°	carboys or cans, lb.	10
" " " "	1 lb. g. s. b. 15, lb.	11
" " " "	2 lb. g. s. b. 18, lb.	11
" " " "	4 lb. g. s. b. 25, lb.	11
" Spirit	1 lb. g. s. b. 15, lb.	48
" " Aromatic	c. b. 9. lb.	53
Ammonium, Acetate, Crystals	c. b. 9, lb.	1 15
" " " Pure dry	c.v.4. oz.	15
" **Arsenate**	c. v. 4, oz.	35
" **Benzoate**	c. b. 10, lb.	1 25
" "	c. v. 4, oz.	11
" "	1 oz. cartons incl., oz.	13
" **Carbonate,** Resub., C. P.	c. b., 10, lb.	35
" **Chloride,** Powd.	lb.	17
" " Gran., Pure	lb.	17
" " Gran., Com.	lb.	13
" **Citrate**	c. b. 9, lb.	1 40
" "	c. v. 4, oz.	13
" **Hypophosphite**	c. v. 4, oz.	21
" **Iodide**	c. b. 9, lb.	4 50
" "	g. s. v. 7, oz.	40
" **Nitrate,** Crystals	c. b. 12, lb.	25
" " "	1 lb. cartons incl., lb.	27
" " Fused	c. b. 9, lb.	25
" " "	1 lb. cartons incl., lb.	27
" " Granular	c. b. 9, lb.	25
" " "	1 lb. cartons incl., lb.	27
" **Oxalate,** Pure	c. b. 10, lb.	75
" **Salicylate**	c. b. 9, lb.	2 50
" "	c. v. 4, oz.	20
" **Sulphhydrate**	g. s. b. 15, lb.	30
Ammonium, Sulphocarbolate	c. v. 4, oz.	10
" "	1 oz. cartons incl., oz.	12
" **Sulphocyanate, Purified**	c. b. 10, lb.	65
" " "	c. v. 4, oz.	8
" **Valerianate,** Crystals	c. v. 4, oz.	23
" " "	c. b. 10, lb.	2 50
Amyl, Acetate	c. b. 9, lb.	95
" **Butyrate**	c. b. 9, lb.	3 00
" **Formate**	c. b. 9, lb.	3 50
" **Nitrite**	c. v. 4, oz.	25
" **Valerianate**	c. b. 9, lb.	4 00
Apiol, (Fluid, Green)	c. v. 4, oz.	50
Apomorphine, Muriate, Amorph.	⅛ oz. vials incl., oz.	2 75
" " Cryst., C. P.	⅛ oz. vials incl., oz.	7 00
Arsenic, Powd.	bulk	6
" **Sol.** (Fowler's)	c. b. 9, lb.	10
" **Iodide**	g. s. v. 7, oz.	45
" **Merc. Iod. Sol.** (Donovan's)	c. b. 9, lb.	20
Atropine, Pure	⅛ oz. vials incl., oz.	4 45
" **Sulphate**	⅛ oz. vials incl., oz.	3 70
" **Valerianate**	⅛ oz. vials incl., oz.	8 00
Barium, Nitrate, Powd.	c. b. 8, lb.	13
" **Oxide,** Hydrated	c. b. 8. lb.	50
Bark, Calisaya (East India)	lb. (1, 5 and 10 lb. boxes.)	36
" " " Ground	lb. (1, 5 and 10 lb. cans.)	38
" " " Powdered	lb. (1, 5 and 10 lb. cans. Containing not less than 5 per cent. of its peculiar alkaloids.)	42
" **Red** (East India)	lb. (1, 5 and 10 lb. boxes.)	36
" " " Ground	lb. (1, 5 and 10 lb. boxes.)	38
" " " Powdered	lb. (1, 5 and 10 lb. boxes. Containing not less than 2½ per cent. quinine and 5 per cent. of its peculiar alkaloids.)	42
Bebeerine, Pure	c. v. 4, oz.	1 55
" **Sulphate**	c. v. 4, oz.	1 15
Berberine, Pure	c. v. incl., oz.	5 00
" **Muriate**	c. v. 4, oz.	1 80
" **Sulphate**	c. v. 4, oz.	1 20
Benzol, Pure	c. b. 9, lb.	40

Bismuth, Metallic	lb.	1 50
" **Citrate**	c. b. 9, lb.	2 10
" "	c. v. 4, oz.	18
" **and Ammonia Citrate**	c. b. 9, lb.	2 10
" " " "	c. v. 4, oz.	18
" **Nitrate**	c. v. 4, oz.	15
" **Oxychloride**	c. b. 8, lb.	1 65
" **Salicylate, 40%**	c. b. 9, lb.	2 85
" **Subcarbonate**	c. b. 10, lb.	1 65
" "	1 lb. boxes incl., lb.	1 67
" "	½ lb. boxes incl., lb.	1 67
" **Subiodide**	c. b. 9, lb.	4 00
" "	c. b. 4, oz.	32
" **Subnitrate**	c. b. 8, lb.	1 40
" "	1 lb. boxes incl., lb.	1 42
" "	½ lb. boxes incl., lb.	1 44
" "	¼ lb. boxes incl., lb.	1 48
" **Tannate**	c. v. 4. oz.	20
" "	1 oz. cartons incl., oz.	22
" **Valerianate**	⅛ oz. vials, 8, vials, 24, box	55
Blue Mass, U. S. P.	jars 12, lb.	42
" " "	cans 5, lb.	42
" " "	rolls, lb.	43
" " Powdered	c. b. 9, lb.	58
" " "	cans 5, lb.	58
Bromoform, C. P.	g. s. vials incl., oz.	35
Cadmium, Bromide	c. b. 9, lb.	1 45
" "	c. v. 4. oz.	15
" **Iodide**	c. b. 9, lb.	5 25
" "	c. v. 4, oz.	37
" **Metallic**	lb.	1 35
" **Sulphate**	c. v. 4, oz.	20
Caffeine	⅛ oz. vials incl., oz.	96
"	¼ oz. vials incl., oz.	86
"	½ oz. vials incl., oz.	80
"	1 oz. vials incl., oz.	75
" **Citrated**	⅛ oz. vials incl., oz.	90
" "	1 oz. vials incl., oz.	70
Calcium, Bromide	c. v. 4, oz	7
" "	c. b. 9, lb.	60
" **Chloride,** Fused	c. b. 9, lb.	25
Calcium, Hypophosphite	c. b. 9, lb.	1 40
" "	c. v. 4, oz.	13
" "	1 lb. cartons incl., lb.	1 42
" "	1 oz. cartons incl., oz.	15
" **Iodide**	g. s. v. 7, oz.	39
" **Lacto-Phos.,** Soluble	c. v. 4, oz.	23
" **Sulphide**	c. b. 9, lb.	30
" "	c. v. 4, oz.	4
Calomel, Hydrosublimed	25 lb. boxes incl., lb.	84
"	1 lb. boxes incl., lb.	86
"	c. o. 6, lb.	84
Camphor, Monobromated	c. b. 9, lb.	2 25
" "	c. v. 4, oz.	16
Carbon, Bisulphide (Di-Sulphide) U. S. P., 1890,	cans, 5, 6 lb. cans, 10, lb.	14
Cerate, Cantharides, U. S. P.	tins incl., lb.	70
" **Goulard's**	jars 14, lb.	50
" **Resin**	1 lb. tins incl., lb.	50
Cerium, Nitrate	g. s. v. 7, oz.	30
" **Oxalate**	c. b. 9, lb.	80
" "	c. v. incl., oz.	12
" "	1 lb. cartons incl., lb.	82
" "	1 oz. cartons incl., oz.	10
CHINOIDINE, Purified	1 lb. rolls in cans, lb.	70
" "	1 oz. rolls, oz.	12
Chloral Hydrate, Crusts	28 lb. jars incl., lb.	1 00
" " "	1 lb. g. s. b. incl., lb.	1 15
" " "	½ lb. g. s. b. incl., lb.	1 25
" " "	¼ lb. g. s. b. incl., lb.	1 35
" " "	1 oz. g. s. b. incl., lb.	2 30
" " Crystals	28 lb. jars incl., lb.	1 05
" " "	1 lb. g. s. b. incl., lb.	1 20
" " "	½ lb. g. s. b. incl., lb.	1 30
" " "	¼ lb. g. s. b. incl., lb.	1 40
" " "	1 oz. g. s. b. incl., oz.	2 35

(Cork-stoppered bottles 5 cts. lb. less).

Chloroform	c. b. 8, lb.	65
"	2 lb. c. b. 11—4 lb. c. b. 13, lb.	65
"	5 lb. c. b. 15—7 lb. c. b. 16, lb.	65

Chrysarobin, (see Acid, Chrysophanic).

Cinchonidine, Alkaloid	1 oz. vials incl., oz.	30
" **Sulphate**	5 oz. tins incl., oz.	9
" "	1 oz. tins incl., oz.	12
" "	1 oz. vials incl., oz.	14
" **Salicylate**	1 oz. vials incl., oz.	40
Cinchonine, Alkaloid	1 oz. vials incl., oz.	27
" **Muriate**	1 oz. vials incl., oz.	20
" **Sulphate**	5 oz. tins, oz.	9
" "	1 oz. vials incl., oz.	14
Citrine Ointment	1 lb. jars, 14, lb.	44
Cocaine, Alkaloid, Crystals	1 oz. vials incl., oz.	6 25
" " "	⅛ oz. vials incl., oz.	6 45
" **Muriate,** Crystals	5 oz. vials incl., oz.	5 20
" " "	1 oz. vials inc., oz.	5 25
" " "	⅛ oz. vials incl., oz.	5 45
" " "	10 gr. vials incl., ea.	17
" " "	5 gr. vials incl., ea.	11
" " Solution, 2%	⅛ oz. vials incl., oz.	45
" " " 4%	⅛ oz. vials incl., oz.	60
" **Oleate** (5% Alkaloid)	⅛ oz. vials incl., oz.	1 00
" **Phenate** (Carbolated)	15 gr. vials incl., ea.	1 00
Codeine, Alkaloid	1 oz. vials incl., oz.	4 30
" "	⅛ oz. vials incl., oz.	4 50
" " Powd.	1 oz. vials incl., oz.	4 30
" " "	⅛ oz. vials incl., oz.	4 50
" **Muriate**	1 oz. vials incl., oz.	3 45
" "	⅛ oz. vials incl., oz.	3 65
" **Phosphate**	⅛ oz. vials incl., oz.	4 50
" **Sulphate**	1 oz. vials incl., oz.	3 45
" "	⅛ oz. vials incl., oz.	3 65
Collodion	c. b. 10, lb.	87
"	c. v. and box, incl., doz.	1 35
" **Cantharidal**	c. b. 10, lb.	2 35
" "	c. v. in box incl., doz.	2 35
Copper, Acetate, Pure	c. b. 9, lb.	65
" " "	c. v. 4, oz.	10
" **Ammon**	c. b. 9, lb.	60
" **Black Oxide**	c. b. 8, lb.	50
" "	c. b. 3, oz.	6
" **Carbonate**	c. b. 9, lb.	35
" **Sulphate,** Pure	c. b. 9, lb.	19
Corrosive Sublimate	25 lb. boxes, lb.	75
" " C. P.	c. b. 9, lb.	1 00
" " "	c. v. 4, oz.	8
" " Powdered	25 lb. boxes, lb.	85
Cream Tartar, Powdered	50 lb. boxes, lb.	25
" " "	barrels, lb.	24
Creosote, Coal Tar	c. b. 9, lb.	40
" " "	c. v. 4, oz.	6
" Beechwood	c. b. 9, lb.	1 00
" "	c. v. 4, oz.	11
Digitalin, Pure	⅛ oz. vials incl., oz.	6 50
Dover's Powders	c. b. 10, lb.	1 00
" "	can, 5c., lb.	1 00
Elaterin	⅛ oz. vials incl., oz.	16 00
Elaterium	c. v. incl., oz.	1 25
"	c. v. incl., oz.	1 50
Ergotin	c. v. 4, oz.	26
Ether, Acetic	c. b. 9, lb.	53
" **Butyric,** Conc.	c. b. 9, lb.	1 20
" **Chloric,** Conc.	c. b. 9. lb.	59
" **Formic,** Conc.	c. b. 9, lb.	2 50
" **Sulphuric,** U. S. P. (1880)	c. b. 10, lb.	68
" " Washed	c. b. 10, lb.	72
" " Conc., U. S. P. (1890)	c. b. 10, lb.	75
Euonymin	cans 5, lb.	7 00
"	c. v. 4, oz.	40
Fusel Oil, Purif.	c. b. 9, lb.	60
" Coml.	c. b. 9, lb.	35
Granville's Lotion	g. s. b. 15, lb.	38
Guaiacol, Pure	c. v. 4, oz	45
Hoffman's Anodyne, U. S. P	c. b. 9, lb.	55
Hydrastine, Alkaloid, C. P.	c. v. 4, oz.	4 25
" " "	15 gr. vials incl., ea.	35
" **Hydrochlorate,** C. P.	c. v. 4, oz.	4 25
" "	15 gr. vials, ea.	35
" **Sulphate**	c. v. 4, oz.	4 25
" "	15 gr. vials, ea.	35
Hydrogen, Peroxide, Commercial	c. b. 9, lb.	30
" " Medicinal	c. b. 9, lb.	40
Iodine, Resublimed	g. s. b. 13, lb.	4 00
" "	g. s. v. 7, oz.	33

Iodoform, Powdered	c. b. 9, lb.	4 80
" "	c. v. 4, oz.	40
" Crystals	c. b. 9, lb.	4 80
" "	c. v. 4, oz.	40
Iron, Ammon. (Flores Martiales)	c. b. 9, lb.	35
" Carbonate, Precip.	Bulk	13
" " "	50 lb. boxes, lb.	14
" " "	1 lb. cartons incl., lb.	18
" " Proto.(Vallet's Mass), ½ lb. jars, 5, lb.		30
" Chloride, Crystals	g. s. b. 15, lb.	35
" " "	g. s. v. 7, oz.	6
" " Solution	U. S. P., c. b. 9, pt.	14
" " "	carboys and demijohns, gal.	85
" Citrate, U. S. P.	c. b. 10, lb.	67
" " Soluble	c. b. 10, lb.	63
" " and Ammonium	c. b. 10, lb.	63
" " " Magnesium	c. v. 4, oz.	9
" " " Quinine Sol., U. S. P.	c. b. 10, lb.	2 25
" " " Strychnine	c. v. 4, oz.	17
" Hypophosphite	c. b. 9, lb.	2 50
" Iodide	c. v. 4, oz.	33
" " Syrup, U. S. P.	c. b. 8, lb.	46
" Phosphate, U. S. P., Scales	c. b. 10, lb.	72
" Pyrophosphate, U. S. P., Soluble	c. b. 10, lb.	63
" Reduced, Gray, U. S. P.	c. b. 8, lb.	65
" " " "	c. v. 4, oz.	7
" Sulphate, Dried (Exsiccat)	c. b. 8, lb.	16
" " Purified, Granular	c. b. 9, lb.	18
" Subsulphate (Monsel's Powder)	c. b. 9, lb.	35
" " " "	c. v. 4, oz.	4
" Tartrate and Ammonium	c. b. 10, lb.	62
" " " Potash, Powd.	c. b. 9, lb.	51
" " " " Scales	c. b. 10, lb.	55
" Valerianate (Ferric Valer.)	c. v. 4, oz.	20
" " " " ¼ and ⅛ oz.,	c. v. 3, oz.	25
Lactucarium	c. b. 10, lb.	2 50
"	c. v. 4, oz.	20
Lead, Acetate, Purified, Gran.	c. b. 9, lb.	26
" " " "	1 lb. cartons incl., lb.	28
" **Iodide**	c. v. 3, oz.	32
Lithium, Benzoate	c. b. 10, lb.	3 15
" "	c. v. 4, oz.	25
" "	1 lb. cartons incl., lb.	3 12
" "	1 oz. cartons incl., oz.	27
" **Bromide**	g. s. b. 14, lb.	3 15
" **Carbonate**	c. b. 10, lb.	3 15
" "	c. v. 4, oz.	25
" **Citrate**	c. v. 4, oz.	25
" "	1 oz. cartons incl., oz.	27
" **Iodide**	g. s. v. 7, oz.	42
" **Salicylate**	c. b. 10, lb.	3 30
" **Sulphate**	c. v. 4, oz.	50
Mercury	flasks, lb.	
" Distilled	lb.	76
" Bin-Iodide (Red)	c. v. 3, oz.	27
" Iodide, Yellow	c. v. 4, oz.	24
" Proto-Iodide (Green)	c. v. 3, oz.	24
" With Chalk	c. b. 8, lb.	38
" " "	1 lb. cartons incl., lb.	40
Mercurial Ointment, ½ Mercury	1 lb. jars 12, lb.	53
" " ½ "	1 lb. cans 5, lb.	53
" " ⅓ "	1 lb. jars 12, lb.	44
" " ⅓ "	1 lb. cans 5, lb.	44
Methyl, Acetate	c. b. 9, lb.	2 50
Morphine, Alkaloid	⅛ oz. vials incl., oz.	3 00
" **Acetate**	⅛ oz. vials incl., oz.	1 90
" **Bimeconate**	⅛ oz. vials incl., oz.	2 75
" **Bromide**	⅛ oz. vials incl., oz.	2 75
" **Muriate**	⅛ oz. vials incl., oz.	1 90
" **Sulphate**	1 oz. vials incl., oz.	1 60
" "	⅛s in 2½ oz. boxes, oz.	1 80
" "	⅛s in 1 oz. boxes, oz.	1 85
" **Valerianate**	⅛ oz. vials incl., oz.	3 55
Nitro-Glycerine, Solution, 1%	c. b. 9, lb.	1 50
" " 10%	c. b. 9, lb.	3 00
Oil, Black Pepper	c. b. 9, lb.	1 00
" **Cloves**	5 lb., c. b. 9, 1 lb. c. b. 16, lb.	90
" **Copaiba**	c. b. 10, lb.	1 05
" **Croton**	c. b. 9, lb.	1 10
" **Cubeb**	c. b. 10, lb.	1 50
" **Ergot**	c. v. 4, oz.	7

Oil, Pimenta	c. b. 9, lb.	1 70
" **Wine,** Heavy	c. b. 9, lb.	4 75
" " Light	c. b. 9, lb.	3 50
Opium, Gum, Prime	lb.	
" " Denarcotized, U. S. P., 1880,	c. b. 10, lb.	6 25
" Powd., U. S. P.	1 lb. can 8, ½ lb. 6, ¼ lb. 5	
Podophyllin, U. S. P., Powd.	c. b. 9, lb.	2 75
" " "	c. v. 4, oz.	20
Potassa, Caustic, Common	c. b. 9, lb.	35
" " White	c. b. 9, lb.	40
Potassium, Acetate	c. b. incl., lb.	30
" " Purified, C. P.	c. b. 10, lb.	55
" **Benzoate** (True)	c. v. 4, oz.	40
" **Bicarbonate,** Crystals	c. b. 9, lb.	15
" " Granular	c. b. 9, lb.	19
" " Powdered	c. b. 9, lb.	19
" " Gran., C. P.	c. b. 9, lb.	30
" "	1 lb. cartons incl. lb.	32
" **Carbonate** (Salts of Tartar)	c. b. 9, lb.	13
" **Citrate**	c. b. 9, lb.	54
" **Chlorate,** Granular	c. b. 9, lb.	25
" " Crystals	c. b. 9, lb.	15
" " Powdered	c. b. 9, lb.	16
" **Cyanide,** Pure, 98 to 99%	112 lb. cases	68
" "	c. b. 9, lb.	70
" " Fused, 50 to 60%,	10 lb. tins 15, lb.	52
" " "	c. b. 9, lb.	58
" " " 30 to 36%,	10 lb. tins 15, lb.	43
" " "	c. b. 9, lb.	45
" **Ferrocyanide,** Commercial	lb.	35
" **Ferricyanide,** "	lb.	65
" **Hypophosphite**	c. b. 9, lb.	1 45
" "	can 5, lb.	1 45
" "	c. v. 4, oz.	15
" " Purified	c. b. 9, lb.	1 60
" **Permanganate**	c. b. 8, lb	25
" " Pure	c. b. 9, lb.	30
" **Sulphuret**	c. b. 9, lb.	20
Quinidine, Alkaloid	1 oz. vials incl., oz	55
" **Sulphate**	1 oz. vials incl., oz.	44

STRICTLY OF OUR OWN MANUFACTURE.

Quinine, Acetate		
" **Alkaloid**	1 oz. vials incl., oz.	73
" **Arsenate**	1 oz. vials incl., oz.	71
" **Bromide**	1 oz. vials incl., oz.	63
" "	⅛ oz. vials incl., oz.	78
Quinine, Bi-Sulphate	25 oz. tins incl., oz.	36
" "	5 oz. tins incl., oz.	37
" "	1 oz. vials incl., oz.	40
" **Citrate**	" " " "	60
" **Hydrochlorate**	5 oz. tins incl., oz.	58
" "	1 oz. vials incl., oz.	63
" **Hydroferrocyanate**	" " " "	60
" **Hypophosphite**	" " " "	70
" **Lactate**	" " " "	73
" **Oxalate**	" " " "	59
" **Phosphate**	1 oz. vials incl., oz.	65
" **Sulphate**	100 oz. tins incl., oz.	35
" "	50 oz. tins incl., oz.	35½
" "	25 oz. tins incl., oz.	36
" "	5 oz. tins incl., oz.	37
" "	1 oz. tins incl., oz.	40
" "	1 oz. vials incl., oz.	42
" "	½ oz. vials incl., oz.	47
" "	¼ oz. vials incl., oz.	52
" "	⅛ oz. vials incl., oz.	62
" "	1/12 oz. vials incl., oz.	77
" "	1/16 oz. vials incl., oz.	93
" **Salicylate**	5 oz. tins incl., oz.	55
" "	1 oz. vials incl., oz.	60
" "	⅛ oz. vials incl., oz.	80
" **Tannate**	1 oz. vials incl., oz.	40
" "	⅛ oz. vial incl., oz.	60
" **and Urea Bimuriate**	1 oz. vials.	65
" **Valerianate**	5 oz. tins incl., oz.	70
" "	1 oz. vials incl., oz.	90
" "	⅛ oz. vials incl., oz.	

Other Salts of Quinine quoted on application.

Red Precipitate	1 lb. boxes incl., lb.	96
" "	25 lb. boxes incl., lb.	94
" " Powdered	1 lb. boxes incl., lb.	1 06

Rochelle Salts, Powd.	50 lb. boxes	24
" " "	in barrels	23
Salicin, U. S. P.	10 lb. bundles, lb.	2 35
"	1 lb. cartons incl., lb.	2 40
"	½ lb. cartons incl., lb.	2 45
"	¼ lb. cartons incl., lb.	2 50
"	1 oz. cartons incl., oz.	28
Salol	1 lb. c. b. incl., lb.	4 00
"	½ lb. c. b. incl., lb.	4 10
"	¼ lb. c. b. incl., lb.	4 25
"	1 oz. c. v. incl., oz.	35
Santonine, Crystals	5 lb. bundles, lb.	3 25
" "	1 lb. bundles, lb.	3 30
" "	1 oz. cartons incl., oz.	27
" "	c. v. 4, oz.	25
" **Powd.**	5 lb. bundles, lb.	3 25
" "	1 lb. cartons incl., lb.	3 30
" "	1 oz. cartons incl., oz.	27
" "	c. v. 4, oz.	25
Seidlitz Mixture	50 lb. boxes	20½
" "	in barrels	19½
Sodium, Acetate, Gran	c. b. 9, lb.	22
" " " Pure	c. b. 9, lb.	24
" **Benzoate**	c. b. 10, lb.	70
" "	1 lb. cartons incl., lb.	72
" "	c. v. 4, oz.	8
" "	1 oz. cartons incl., oz.	10
" " from true Acid	c. b. 10, lb.	2 50
" " " " "	c. v. 4, oz.	20
" **Bicarb.,** Crystals, C. P.,	1 lb. cartons incl., lb.	27
" " " "	c. b. 9, lb.	25
" **Bromide**	c. b. 8, lb.	60
"	c. v. 4, oz.	7
Hypophosphite	c. b. 9, lb.	1 40
"	can 5, lb.	1 40
"	c. v. 4, oz.	15
" " Purified	c. b. 9, lb.	1 60
" " "	c. v. 4, oz.	17
Spirit Ammonia	c. b. 9, g. s. b. 15, lb.	48
" " Aromatic	c. b. 9, g. s. b. 15, lb.	53
" **Nitrous Ether**	c. b. 9, lb.	47
Strychnine, Crystals	1 oz. c. v. incl., oz.	1 45
"	⅛ oz. c. v. incl., oz.	1 65
" Powdered	1 oz. c. v. incl., oz.	1 40
" "	⅛ oz. c. v. incl., oz.	1 60
" **Hypophosphite**	⅛ oz. c. v. incl., oz	2 60
" **Nitrate**	⅛ oz. c. v. incl., oz.	2 00
" **Sulphate,** Crystals	1 oz. c. v. incl., oz.	1 40
" " "	⅛ oz. c. v. incl., oz.	1 60
" " Powdered	1 oz. c. v. incl., oz.	1 40
" " "	⅛ oz. c. v. incl., oz.	1 60
" **Valerianate**	⅛ oz. c. v. incl., oz.	3 85
Sugar Lead, White	lb.	16
" " Powdered	lb.	20
Tannin	1 lb. cartons incl., lb.	1 20
"	1 oz. cartons incl., oz.	17
Tartar Emetic, Crystals	c. b. 9, lb.	43
" " Powd.	c. b. 9, lb.	43
Terebene	c. b. 9, lb.	75
Zinc, Acetate	c. b. 9, lb.	30
" "	1 lb. cartons incl., lb.	32
" **Benzoate**	c. v. 4, oz.	35
" **Carbonate,** Precip., Pure	c. b. 12, lb.	26
" " " "	1 lb. cartons incl., lb.	28
" **Chloride,** Fused	g. s. b. 14, lb.	45
" " "	g. s. v. 7, oz.	6
" " Granulated	g. s. b. 14, lb.	40
" " "	g. s. v. 7, oz.	6
" **Oxide,** Chem. Pure	1 lb. cartons incl., lb.	42
" " White	1 lb. cartons incl., lb.	13
" **Phosphide**	g. s. v. and case 10, lb.	33
" **Salicylate**	c. v. 4, oz.	25
" **Sulphate**	c. b. 9, lb.	7½
" " C. P.	c. b. 9, lb.	20
" **Sulpho-Carb.**	c. v. 4, oz.	6
" **Valerianate**	c. v. 5, oz.	23
" "	¼ and ⅛ oz. c. v. 4, oz.	23

A DISTINCTIVE FEATURE OF OUR MORPHINE SULPHATE IS THE CUBE FORM IN WHICH IT IS FURNISHED.

A distinctive feature of our Morphine Sulphate is the Cube form in which it is furnished. It thus affords an additional safeguard against being mistaken for Quinine.

OUR Quinine Sulphate is in beautiful white crystals of absolute purity; and this high standard of excellence has secured for it the confidence of Physicians and Pharmacists.

OUR Muriate Quinine is a chemically pure anhydrous crystal, and as such commends itself to all discriminating Pharmacists.

THE minor Salts of Quinine receive special attention at our hands, and as a result we have a clear-cut, characteristic product in each case.

ACETANILID for internal administration should be Chemically Pure. Our article is guaranteed to be of this quality.

OUR Codeine is a pure Alkaloid, uncontaminated by other alkaloids or any impurities, and the price is no higher than other makes.

"PER ANGUSTA AD AUGUSTA" REGISTERED TRADEMARK

"THE PIONEER CAPSULE HOUSE" OF THE UNITED STATES.

ESTABLISHED 1836.

PLANTEN'S AMERICAN MEDICAL CAPSULERY.

List of Our Best Selling Filled Capsules.

STANDARD SOLUBLE HARD,

Each HOLDING 15 MINIMS. (15 MINIMS.)

Order ONLY by List Number.

Use the List Nos.		Number In Each Box.	Per DOZEN Boxes.
1	Castor Oil.	12	$1 25
2	" " ½ drop Croton Oil	24	2 00
3	" "	36	3 00
252	Castor Oil, Pure	36	3 00
17	Cod Liver Oil, and ¼ gr. Iod. of Iron	36	3 50
19	" " Pure	36	3 00
5	Comp. Copaiba and 1-6 Oil of Cubebs. ("Planten's Celebrated BLACK Capsules.")	12	1 65
6		24	3 10
7		36	4 50
	(Also 10 min. soft or hard, Nos. 35-37.)		
10	Copaiba Balm, Pure Para	12	90
11	" "	24	1 60
12	" "	36	2 25
	(Also 10 min. soft or hard, Nos. 38-40.)		
24	Copaiba, Para and Ess. Oil of Cubebs. (Cop. 11 min. Cub. 4 ")	12	1 80
25		24	3 50
26		36	5 00
29	Sandalwood Oil, Pure East Indian.	12	4 00
30		24	7 50
31		36	11 00
	(Also 10 min. soft or hard, Nos. 53A-54, 5 min. hard, No. 192, and 2½ min. hard, No. 222.)		
32	Sandalwood Oil, East Indian, and 1-10 Cassia.	12	3 00
33		24	6 00
34		36	9 00
	(Also 10 min. soft or hard, Nos. 55A-56, and 5 min. hard, No. 193.)		
22	Tar, Parified, Norwegian	36	3 00
20	Turpentine, Oil, Pure	36	3 00

NOTICE.--Our 15 Minim Size Standard Soluble Hard Capsules will always be sent, unless otherwise specified, as they are those usually called for and comparatively the cheapest for consumers.

Either Elastic-Soft or Hard.

HOLDING EACH 10 MINIMS. (10 MIN. HARD. 10 MIN. SOFT.)

Order ONLY by List Number, and Specify ELASTIC-SOFT or HARD.

Use the List Nos.		Number In Each Box.	Per DOZEN Boxes.
230	Balsam Fir	12	$1 00
231	Balsam Peru	12	1 25
232	Castor Oil ½ Podophyllin.	12	90
233	" "	24	1 75
234	" "	36	2 50
98	" Pure	36	2 50
323	Cod Liver Oil, 1 grain Guaiacol	24	4 50
324	" " 2 "	24	6 00
46	" " ½ grain Iodide of Iron	36	3 00
48	" " Nor., Pure	36	2 50
35	Comp. Copaiba and 1-6 Oil of Cubebs. ("Planten's Celebrated BLACK Capsules.")	12	1 40
36		24	2 75
37		36	3 90
	(Also 15 min. hard, Nos. 5-7.)		
38	Copaiba Balm, Pure Para	12	75
39	" " "	24	1 40
40	" " "	36	2 00
	(Also 15 min. hard, Nos. 10-12.)		
41	Copaiba and Eth. Extr. of Cubebs. (Cop. 7 m. Cub. 3 m.)	36	4 00
77	Cop., Cubebs, and Matico. (Cop. 6 min. Cub. 3 " Mat. 1 ")	24	4 75
78		36	7 00
71	Copaiba, Para and Ess. Oil of Cubebs. (Cop. 7 min. Cub. 3 ")	12	1 65
72		24	3 00
73		36	4 25
44	Haarlem Oil	36	3 00
79	Juniper Oil	36	6 00
49	Male Fern Oil, and 5 grains Kamala	12	3 00

Either Elastic-Soft or Hard.

Holding Each 10 Minims.

Order ONLY by List Number, and Specify ELASTIC-SOFT or HARD.

Use the List Nos.		Number In Each Box.	Per DOZEN Boxes.
305	Salol, Copaiba and Cubebs. (Salol, 1 grain; Cop., 8 min.; Cub., 1 min.)	36	$6 00
306	Salol, Copaiba and Cubebs. (Salol, 2½ grains; Cop., 6 min.; Cub., 1 min.)	36	6 50
81	Sandal Compound. (Sandal, 2 m. Copaiba, 5 " Haarlem Oil, 1 " Gurjan Bals., 1½ " Cassia Oil, ½ ")	12	90
82		24	1 75
83		36	2 50
53A	Sandalwood Oil, Pure East Indian.	12	2 50
53		24	5 00
54		36	7 50
	(Also 15 min. hard, Nos. 29-31, 5 min. hard, No. 192, and 2½ min. hard, No. 222.)		
55A	Sandalwood Oil, Pure East Indian, and 1-10 Cassia.	12	2 25
55		24	4 50
56		36	6 50
	(Also 15 min. hard, Nos. 32-34, and 5 min. hard, No. 193.)		
319	Sandalwood, Copaiba, and Venice Turp. (Sandal, 2 m. Cop., 6 " Ven. Turp., 2 ")	12	2 25
320		24	4 50
321		36	6 75
57A	Sandalwood and Copaiba. (Sandal, 3 m. Cop., 7 ")	12	2 00
57		24	3 75
58		36	5 50
61A	Sandalwood, Copaiba and Cubebs. (Sandal, 2 m. Cop., 6 " Cub., 2 ")	12	2 25
61		24	4 50
62		36	6 75
122	Sandalwood, Cop., Cub., and Camphor. (Sandal, 3 m. Cop., 6 " Cub., 1 " Camph., 2 gr.)	24	4 50
123		36	6 75
63A	Sandalwood, Cop., Cub., and Matico. (Sandal, 3 m. Cop., 3 " Cub., 3 " Matico, 1 ")	12	2 50
63		24	4 75
64		36	7 00
326	Salol, Alum, Pepsin, Cub., (Salol, 3 grs. Alum, ½ " Pep., ½ " Cub., 2 m.)	12	2 75
327		24	5 00
328	Copaiba, and Wintergreen (Cop., 6 " W'gr'n 1 ")	36	7 00
329	Sandalwood and Copaiba (Formulæ W.) (5 min. each.)	24	4 50
330		36	6 75
331	Sandalwood, Cop., Cub., and Ext. Buchu. (Sandal, 2 m. Cop., 6 " Cub., 2 " Ex. Buchu, 2 grs)	12	2 25
332		24	4 50
333		36	6 75
307	Sandalwood, Copaiba, and Terebene. (Sandal, 3 m. Cop., 4 " Tere., 3 ")	12	2 25
308		24	4 50
309		36	6 75
310	Sandalwood, Cubebs, and Terebene. (Sandal, 5 m. Cub., 2 " Tere., 3 ")	12	2 75
311		24	5 00
312		36	7 50
313	Sandalwood, Cop., Cub., and Terebene. (Sandal, 3 m. Cop., 3 " Cub., 1 " Tere., 3 ")	12	2 50
314		24	4 75
315		36	7 00
316	Sandalwood, Salol, Cop., and Terebene. (Sandal, 2 m. Cop., 5 " Tere., 2 " Salol, 3 gr.)	12	2 75
317		24	5 00
318		36	7 50
59A	Sandalwood and Cubebs. (Sandal, 5 m. Cub., 5 ")	12	2 75
59		24	5 00
60		36	7 00
302	Sandalwood, Cubebs and Buchu. (Sandal, 6 m. Cub., 2 " Buchu, 2 ")	12	2 75
303		24	5 00
304		36	7 50
84	Sandalwood and Kava-Kava. (Sandal, 8 m. Kava-Kava, 2 ")	12	2 75
85		24	5 00
86		36	7 50
68	Tar, Purified	36	2 50
69	Tar, 2 min., Copaiba, 8 min.	24	2 00
97	Terebene	36	5 00
52	Turpentine Oil, Pure	36	2 50
120	Warburg's Tincture (Representing 2 drms. conc. Warb'g's Tinct.)	12	3 00
74	Wintergreen Oil	36	5 00

☞ ENCAPSULING PRIVATE FORMULAS A SPECIALTY.

IMPORTANT--Any of our Filled Capsules and "Perlolds" sent on receipt of List Price.

SOFT CAPSULES ONLY.

Each HOLDING (10 MIN. SOFT.) 10 MINIMS.

Order ONLY by List Number and Style A or B.

Use the List Nos.		A Boxes 12 EACH Per Dozen Boxes.	B Boxes 24 EACH Per Dozen Boxes.
104	**Cod Liver Oil, 1** gr. Creosote	$1 25	$2 50
105	" 2 gr. "	1 75	3 50
106	" 4 gr. "	2 50	5 00
110	**Copaiba, Cubebs, and Chlor. of Iron.** (Cop., 6 min.; Cub., 2 "; Iron, 2 grs.)	1 75	3 50
111	**Copaiba, Cubebs, and Turpentine.** (Cop., 4 min.; Cub., 2 "; Turp., 4 ")	1 50	3 00
114	**Matico, Oleum Resin**	3 50	7 00
117	**Sandal, Cubebs, and Balsam Peru.** (Sandal, 4 min.; Cubebs, 4 "; B. Peru, 2 ")	2 25	4 50
116	**Turpentine, Venice**	75	1 50

EXTRA LARGE ELASTIC-SOFT.

Order ONLY by List Number and Style A or B.

Use the List Nos.		A Per Dozen Boxes, 6 Caps. Each.	B Per Dozen Boxes, 12 Caps. Each.
124	**Castor Oil, 1** gramme	$0 90	$1 75
125	" 2½ "	1 20	2 25
126	" 5 "	1 40	2 75
128½	**Cod Liver Oil, 1** gramme	90	1 75
129	" 2½ "	1 20	2 25
130	" 5 "	1 40	2 75

PLANTEN'S PERLOIDS

REGISTERED TRADE MARK.

OR IMPROVED FRENCH PEARLS AND GLOBULES.

Order by List Number and Style A or C

Use the List Nos.		IN VIALS OR BOXES. A 36 "PERLOIDS." EACH Per Dozen.	C 100 EACH Per 100
150	**Aplol, Pure, 4** grains	$7 00	$1 50
151	" " 2 "	6 00	1 25
205	" " 5 "	7 50	1 60
215	**Cod Liver Oil and 1 grain Creosote**	4 00	75
158	**Copaiba Balm, Pure Para, 5** minims	1 75	35
159	**Copaiba Oil, 5** minims	3 00	60
209	**Creosote, 1** m., and Olive Oil, **4** m.	4 50	1 10
214	**Croton Oil, 1** gr., and Sweet Almond Oil, **3** gr.	3 25	70
167	**Cubebs, Essential Oil, 5** minims	4 50	1 00
169	" **Eth. Ext. (Oleum Resin), 5** minims.	5 00	1 10
225	**Damiana** (Ext.), **4** grains in Almond Oil	5 50	1 25
176	**Erigeron Oil, 5** minims	3 50	70
199	**Ether, Sulphuric, 5** minims	4 00	75
207	" **Valerianic, 4** grains.	6 50	1 30
171	**Eucalyptus Globulus, 5** minims	3 50	70
239	**Gaduol, 4** grains (Alc. Ext. Cod Liver Oil)	4 00	80
240	" 3 grains, and Creosote, **1** grain	3 50	75
218	**Guaiacol,** ½ m., and Cod Liver Oil, **2** min.	4 00	80
219	" 1 m., " " " **4** min.	7 00	1 50
172	**Matico, Oleum Resin, 5** minims	4 00	80
229	**Sandal Compound, 5** minims	2 00	50
222	**Sandal Oil, Pure East Indian,** 2½ min.	3 00	70
192	" " " **E. I., 5** min. (Also **Soft**)	5 00	1 15
193	" " " **E. I.,** and **1-10 Cassia**	4 00	1 00
228	**Savin Oil, Pure, 5** minims	4 00	85
401	**Tansy Oil,** 2½ minims	5 00	1 10
194	**Tar, Purified, 5** minims	2 00	40
211	**Terebene, 5** minims	4 00	75
217	**Terpinol, 5** minims	7 00	1 50
178	**Turpentine Oil, Pure, 5** minims	2 00	40
216	**Turpentine, Venice, 5** minims	2 50	40
179	**Wintergreen Oil, Pearls** (Also **Soft**), **5** min.	4 00	80

IMPROVED FRENCH CAPSULES,

Each HOLDING (5 MIN.) 5 MINIMS.

Order ONLY by List Number and Style A or C.

Use the List Nos.		IN VIALS OR BOXES. A 36 Caps. EACH Per Dozen.	C 100 Caps. EACH. Per 100.
156	**Comp. Copaiba and 1-6 Oil of Cubebs**	$3 50	$0 70
157	**Comp. Copaiba, Cubebs, Turpentine, Iron & Sarsaparilla.** (C. Cop., 2 min.; Cub., 2 "; Turp., 1 "; Iron, 1 gr'n.; Sarsap., 1 ")	3 50	70
158	**Copaiba Balm, Pure Para**	1 75	35
192	**Sandalwood Oil, Pure East Indian** (Also **15** min. hard, Nos. **29-31**, and **10** min. soft or hard, Nos. **53A-54.**)	5 00	1 15
193	**Sandalwood Oil, Pure East Indian, and 1-10 Cassia.** (Also **15** min. hard, Nos. **32-34**, and **10** min. soft or hard, Nos. **53A-56.**)	4 00	1 00
172	**Matico, Oleum Resin, Pure**	4 00	80
173	" 2 minims, **and Copaiba, 3** minims	3 50	80
174	" 2 minims, **and Cubebs, 3** minims	4 00	80
175	" 1 minim, **Cop. and Cubs.,** each **2** min.	4 00	80
206	**Warburg's Tincture** (Representing 1 drm. conc. Warb'g's Tinct.)	7 00	1 50

EMPTY CAPSULES.

For Powders **9** Sizes; and for the Rectum (Old Style) **3** Sizes. Trial Box, by mail **20** cents.

Extra Large Size No. **000**, only. (**18** Gr. Powder; **36** Gr. Pill-Mass.)
Dozen Boxes of 100 ..... $2 00
Per Boxes of 500 75
" " .....1000 ..... 1 40

8 Sizes for Powders Nos. **00, 0, 1, 2, 3, 4, 5** and **6.**
3 Sizes for Rectum, Nos. **1, 2, 3.**
Dozen Boxes of 100 ..... $1 00
Per Box of 500 40
" " 1000 70

FOR THE VAGINA AND UTERUS.

Nos. **1-2**, Boxes of **40**; **3-6**, Boxes of **20**; **7-9**, Boxes of **10** Capsules.
No. 1 to No. 6, Holding 15-180 Grains. Dozen Boxes $2 50
No. 7 to No. 9, Holding 240-720 Grains. One Dozen Boxes $3 00
In Bulk at Special Prices. Trial Box, by mail, **25** cents.

IMPROVED RECTAL

("WELLCOME SHAPE")

FOR MEDICATION IN THE RECTUM.

No. **1.** **3** Grains, } Boxes of **50.**
No. **2.** **6** " }
No. **3.** **12** " } Boxes of **25.**
No. **4.** **20** " }
Dozen boxes $1 80
No. **1** or **2.** Per box of 500, 1 10
No. **3** " **4.** " " 500, 2 10
Trial Box, by mail, **30** cents.

ELASTIC-SOFT, for Liquid Medicines.

No. **1** to No. **4**, Boxes of **80.** Holding from 5 Minims to 1 Gramme.
Dozen Boxes $2 30
Per Box of 500 95
" " 1000 ..... 1 80

Nos. **5-6**, Boxes of **40** Capsules. Holding 2½ and 5 Grammes.
Dozen Boxes $3 00
Trial Box, by mail, **30** cents.

FOR HORSES AND CATTLE.

Nos. **0-2**, Boxes of **10**; No. 0, Only, Holding 1½ Ounces.
Dozen Boxes $2 75

Nos. **3-6**, Boxes of **20** Capsules. No. 1 to No. 6, Holding from 1 Oz. to ½ Drm.
Dozen Boxes $2 50
In Bulk at Special Prices. Trial Box, by mail, **25** cents.

SPECIALTIES CONTROLLED BY H. PLANTEN & SON, NEW YORK.

Prices given below are for Dozen Boxes or Bottles.

Blair's English Gout and Rheumatic Pills	$3 50	$8 25
Frampton's English Pill of Health	3 50	8 25
Hobbs' Meen Fun, Chinese Face Powder		1 00
Rexford's Gingerbread Nuts for Worms		1 50
Sherman's Cough and Worm Lozenges		1 75
Taurston's Ivory Pearl Tooth Powder (Pink and White)	1 75	3 50
Baker's Pain Panacea	$1 75	3 50
Brandt's Indian Pulmonary Balsam		7 00
Brandt's Indian Purifying Extract		7 50
Campbell's Cholera Cordial		8 00
Deshler's Fever and Ague Pills		3 50
Kellogg's Worm Tea		7 50
Laycock's Worm Killer		1 75
Miller's Hair Dye		1 50
Punderson's Condition Powders		3 50
Tanner's German Ointment		1 50
		1 75

IMPORTANT—ANY OF OUR FILLED CAPSULES AND PERLOIDS SENT ON RECEIPT OF LIST PRICE : : : : : :

ENCAPSULING PRIVATE FORMULAS A SPECIALTY. CORRESPONDENCE SOLICITED.

H. PLANTEN & SON, 224 William St., New York.
ESTABLISHED 1836.

PRICE LIST

JOHNSON & JOHNSON

Manufacturing Chemists

New Brunswick, N. J.

MANUFACTURERS OF

MEDICINAL AND SURGICAL PLASTERS,

IMPROVED ABSORBENT AND MEDICATED COTTONS,

ANTISEPTIC SURGICAL DRESSINGS & SURGICAL APPLIANCES.

Terms, 30 days. All accounts subject to sight draft at maturity. One per cent. discount for cash, if remitted 10 days from date of invoice. Orders amounting to less than $10.00, list prices charged. Orders amounting to $10.00, at list prices, subject to 10 per cent. discount. All J. & J. products, excepting Papoid Specialties, subject to above discounts. Papoid and its preparations subject to 10 per cent. discount in one gross lots. Freight allowed only on orders amounting to $25.00 net, east of 105 meridian, not otherwise. Freight going west of 105 meridian will be subject to special discount of 5 per cent. on purchases of $100 net, in place of freight allowance. Quality guaranteed on all J. & J. products.

Factories and Laboratory:

New Brunswick, New Jersey, U. S. A.

New York Office:

92 William Street.

London Office:

12a Long Lane, London, England.

OFFICES:

Chicago, Ill. San Francisco, Cal. Montreal, Canada. Hamburg, Germany. Barcelona, Spain. Buenos Ayres, South America. Melbourne, Australia.

MEDICATED PLASTERS.

Plain or Porous.

Aconite.

2 dozen in box, 5x7½ inches	gross	$12.00
1 yard rolls, 7 inches wide	dozen	6.00

Aconite and Belladonna.

2 dozen in box, 5x7½ inches	gross	12.00
1 yard rolls, 7 inches wide	dozen	6.00

Ammoniac and Mercury.

1 yard rolls, 7 inches wide	dozen	9.00

Arnica.

2 dozen in box, 5x7½ inches	gross	10.00
1 yard rolls, 7 inches wide	dozen	6.00

Johnson's Belladonna Plaster.

2 dozen in box, 5x7½ inches	gross	10.00
1 yard rolls, 7 inches wide	dozen	6.00
5 yard rolls, 7 inches wide	roll	2.50
5 yard rolls, 8 inches wide	roll	3.00
5 yard rolls, 5 inches wide	roll	1.75
1 yard rolls, on canton flannel	dozen	8.00
1 yard rolls, on red felt	dozen	8.00

Belladonna and Capsicum.

2 dozen in box, 5x7½ inches	gross	10.00
1 yard rolls, 7 inches wide	dozen	6.00
5 yard rolls, 7 inches wide	roll	2.50

Belladonna and Opium.

2 dozen in box, 5x7½ inches	gross	15.00
1 yard rolls, 7 inches wide	dozen	9.00

Blister—Cantharides, Plain or Camphorated.

1 yard rolls, 7 inches wide	dozen	6.00

Bryonia.

2 dozen in box, 5x7½ inches	gross	15.00
1 yard rolls, 7 inches wide	dozen	9.00

Bryonia and Rhus Tox—on Canton flannel.

2 dozen in box, 5x7½ inches	gross	15.00
1 yard rolls, 7 inches wide	dozen	9.00

Capsicum.

2 dozen in box, 5x7½ inches	gross	7.50
1 yard rolls, 7 inches wide	dozen	5.00
5 yard rolls, 7 inches wide	roll	2.00
5 yard rolls, 5 inches wide	roll	1.50

MEDICATED PLASTERS.

Canthos Blister Plaster.

1 yard rolls, 7 inches wide..... dozen $12.00

Capsicin—Johnson's. Plain or Porous.
2 dozen in box, 5x7½ inches..... gross 10.00
1 yard rolls, 7 inches wide..... dozen 6.00

Galbanum, Hemlock or Iron.
2 dozen in box, 5½x7 inches..... gross 7.50
1 yards rolls, 7 inches wide..... dozen 6.00

Kidney.
Red Cross on Canton flannel..... gross 18.00

Lead. 1 yard rolls, 7 inches wide..... dozen 6.00

Mercurial.
1 yard rolls, 7 inches wide..... dozen 9.00

Opium.
2 dozen in box, 5x7½ inches..... gross 15.00
1 yard rolls, 7 inches wide..... dozen 9.00

Opium and Iodine.
1 yard rolls, 7 inches wide..... dozen 9.00

Pitch—Burgundy.
2 dozen in box, 5x7½ inches..... gross 10.00
1 yard rolls, 7 inches wide..... dozen 6.00

Poor Man's.
2 dozen in box, 5x7½ inches..... gross 9.00
1 yard rolls, 7 inches wide..... dozen 5.00

Quinine.
2 dozen in box, 5x7½ inches..... gross 12.00

Rheumatic—On Canton Flannel.
2 dozen in box, 5x7½ inches..... gross 12.00

Rhus Tox—On Canton Flannel.
2 dozen in box, 5x7½ inches..... gross 15.00
1 yard rolls, 7 inches wide..... dozen 9.00

Salicylic Acid—yards..... dozen 9.00

Salicylic Acid and Cannabis Indica.
1 yard rolls, 7 inches..... dozen 9.00

Spice. 1 yard rolls, 6 inches wide..... dozen 3.00

Strengthening. 2 doz. in box, 5x7½ in's..... gross 6.50
1 yard rolls, 7 inches wide..... dozen 4.50
5 yard rolls, 7 inches wide..... roll 1.50
5 yard rolls, 5 inches wide..... roll 1.25

Thapsia.
French Formula, 1 yard rolls..... dozen 6.60

Toothache.
12 in box on card..... per dozen boxes 1.50
100 in box..... per dozen boxes 7.50

Warming.
2 dozen in box, 5x7½ inches..... gross 10.00
1 yard rolls, 7 inches wide..... dozen 6.00

Wood's Penetrating Plasters..... gross 18.00

BREAST PLASTERS.

Plain or Porous.

Belladonna, 6 inches in diameter..... dozen 1.20
Belladonna, 7 inches in diameter..... dozen 1.50

Surgeons' Rubber Adhesive Plaster.

Strong Cotton Cloth—Plain or Porous.
1 yard rolls, 7 inches wide..... dozen 3.00
5 yard rolls, 7 inches wide..... roll 1.00
5 yard rolls, 12 inches wide, plain only..... roll 1.25

On Spools—Plain Only.
½ inch wide, 10 yards long..... dozen $3.50
1 inch wide, 10 yards long..... dozen 4.00
1½ inches wide, 10 yards long..... dozen 4.50
2 inches wide, 10 yards long..... dozen 6.00
2½ inches wide, 10 yards long..... dozen 6.60
3 inches wide, 10 yards long..... dozen 7.50

Mole Skin—Plain Only.
1 yard rolls, 7 inches wide..... dozen 4.80
5 yard rolls, 7 inches wide..... roll 2.00

Twilled Linen—Plain Only.
1 yard rolls, 7 inches wide..... dozen 6.00
5 yard rolls, 7 inches wide..... roll 2.50

Wood's Adhesive Plaster.

Extra Strong—Plain or Porous.
1 yard rolls, 7 inches wide..... dozen 6.00
5 yard rolls, 7 inches wide..... roll 2.00

On Spools—Plain Only.
½ inch wide, 10 yards long..... dozen 3.60
1 inch wide, 10 yards long..... dozen 4.80
2 inches wide, 10 yards long..... dozen 7.20
3 inches wide, 10 yards long..... dozen 9.00

Surgeons' Dressing Plasters.

Silk Isinglass—White, Flesh or Black.
1 yard rolls, 7 inches wide..... dozen 4.20

Silk Isinglass—Green.
1 yard rolls, 7 inches wide..... dozen 4.50

Tracing Cloth Isinglass—White, Flesh or Black.
1 yard rolls, 7 inches wide..... dozen 3.00

Muslin Isinglass—White.
1 yard rolls, 8 inches wide..... dozen 3.00
5 yard rolls, 11 inches wide..... roll 1.25
½ inch strips, 10 yards long..... dozen 1.65
1 inch strips, 10 yards long..... dozen 2.40

Moleskin Isinglass—White.
1 yard rolls, 7 inches wide..... dozen 6.00

Maw's Adhesive.
1 yard rolls..... dozen 2.00
5 yard rolls..... per roll .75

Canton Flannel Isinglass—White.
1 yard rolls, 7 inches wide..... dozen 6.00

Gold Beaters' Skin—Transparent Dressing.
1 yard rolls, 6 inches wide..... dozen 3.60

MUSTARD PLASTERS.

On Cloth.
3 leaves, round tin box..... dozen 1.00
6 leaves, round tin box..... dozen 1.50
10 leaves, flat tin box..... dozen 2.00
100 l'ves, square tin box..... box 1.75
½ yd. rolls, 6 in's wide..... dozen 1.50
1 yard rolls, 6 inches wide..... dozen 2.00
5 yard rolls, 12 inches wide..... roll 1.75

On Paper.
10 leaves, flat tin box..... dozen 1.50
100 leaves, square tin box..... per box 1.25
1 yard roll, 6 inches wide..... dozen 1.50
5 yard roll, 12 inches wide..... roll 1.25

Half Strength, on Paper Only.
10 leaves, flat tin box..... dozen 1.50

POULTICES.

Linseed, 1 yard rolls, 7 inches wide..... dozen 3.60
Slippery Elm, 1 yard rolls, 7 inches wide..... dozen 3.60

"I am greatly pleased with Johnson's Belladonna Plasters." Dr. H. H. Grace.

Johnson's Belladonna Plasters give increased action and more immediate effect. John V. Shoemaker, M.D.

COURT PLASTERS.

No. 1. **Arnica**—Silk, flesh, white or black.
1 piece in envelope 2x3 . . . . . gross $2.00

No. 2. **Arnica**—Silk, flesh, white or black.
1 piece in envelope 2½x3½ . . . . . gross 2.50

No. 7. **Elite**—Tracing Cloth.
6 pieces, assorted colors, slide case . . gross 7.20

No. 8. **Gold Beaters' Skin**—Transparent Dressing.
1 piece in envelope 2½x3½ . . . . . gross 3.60

No. 12. **Ideal**—Silk.
6 pieces, ass'ted colors, fancy slide case . gross 15.00

No. 13. **Imperial**—Tracing Cloth.
3 pieces, ass'ted colors, tablet 1¼x2½ . . . . gross 1.50

No. 14. **Mechanics' Kid.**
1 piece, tablet 2x3 . . . . . gross 4.00

No. 15. **Perfect**—Silk, small.
3 pieces, assorted colors, tablet 1½x2½ . gross 3.00

No. 16. **Perfect**—Silk, large.
3 pieces, assorted colors, tablet 2x3 . . . . gross 6.00

No. 17. **Princess**—Silk.
6 pieces, assorted colors, leather case . gross 18.00

No. 18. **Red Cross**—Tracing Cloth.
6 pieces, assorted colors, celluloid case . gross 9.00

No. 22. **Silver**—Tracing Cloth.
3 pieces, assorted colors, tablet 1½x2½ . gross 2.00

No. 24. **Taffeta**—Silk, flesh, white or black.
1 piece, fancy envelope, 2x3 . . . . . gross 4.80

No. 25. **White Cross**—Silk.
6 pieces, assorted colors, celluloid case . gross 15.00

No. 26. **Zonas Flexine**—Silk, flesh, white or black.
A Rubber Adhesive Plaster, on extra heavy silk; absolutely waterproof; soft and pliable.
1 piece in tablet, 2x3 . . gross 6.00

No. 27. **London Court.**
Extra fine, 3 pieces, ribbed silk . . gross 18.00

CORN AND BUNION.

Corn—Small boxes, 12 in box.

Round, thin	gross	6.50
Round, thick	gross	7.50
Oval, thin	gross	6.50
Oval, thick	gross	7.50
London medicated	gross	18.00

Bunion—Small boxes, 6 in box.

Oval, thin	gross	7.50
Oval, thick	gross	9.00
Square, thin	gross	7.50
Square, thick	gross	9.00
Round, thin	gross	7.50
Round, thick	gross	9.00
London medicated	gross	18.00

LONDON CORN PLASTERS.

The centre is a Salicylic Acid Plaster mass, this softens and dissolves the corn. Around this is a corn shield, this prevents pressure and protects the flesh.

Over all this is a strip of adhesive plaster that keeps everything in its place.

GLASS TOP BOXES.

Corn—144 in box.

Round, thin	per box	.60
Round, thick	per box	.75
Oval, thin	per box	.60
Oval, thick	per box	.75

Bunion—72 in box.

Oval, thin	per box	$ .60
Oval, thick	per box	.75
Square, thin	per box	.60
Square, thick	per box	.75
Round, thin	per box	.60
Round, thick	per box	.75

Zonas Corn Leaf.
In envelopes . . gross 9.00

LINT.

Perfect Absorbent Lint.

1 ounce cartons	per lb.	.75
1 pound cartons	per lb.	.55
Small packages	per gross	4.00

LINTINE.

Absorbent Cotton Felted into Sheets.

Lintine.

1 pound cartons	per lb.	.40
½ pound cartons	per lb.	.45
¼ pound cartons	per lb.	.50
1 ounce cartons	per lb.	.60

WOOL.

Cotton-Wool.
1 pound packages . . . . . per lb. .35

Sterilized Antiseptic Wool.

½ pound cartons	per lb.	1.50
¼ pound cartons	per lb.	1.60
1 ounce cartons	per lb.	1.80

WOOL TAMPONS.

14 inches long, 1 inch in diameter per dozen .75

TAMPONITE.

½ pound cartons	per lb.	1.50
¼ pound cartons	per lb.	1.50
1 ounce cartons	per lb.	1.50

ABSORBENT COTTONS.

Plain Absorbent Cotton.

1 pound cartons . . . . . per lb.	.30
½ pound cartons . . . . . per lb.	.35
¼ pound cartons . . . . . per lb.	.40
⅛ pound cartons . . . . . per lb.	.45
1 ounce cartons . . . . . per lb.	.50
½ ounce cartons	per lb. .70

Sterilized Plain Absorbent Cotton—Extra Quality.

1 pound cartons	per lb.	.65
¼ pound cartons	per lb.	.65
1 ounce cartons	per lb.	.75

MEDICATED COTTON.

Salicylated Cotton.

1 pound cartons	per lb.	.65
½ pound cartons	per lb.	.70
¼ pound cartons	per lb.	.75
⅛ pound cartons	per lb.	.80
1 ounce cartons	per lb.	.85

Iodoform Cotton.

1 ounce bottles	per dozen	2.00
¼ pound bottles	per lb.	2.00

Iodized Cotton.
1 ounce bottles per dozen 2.00

Styptic Cotton.
1 ounce bottles per dozen 1.75

COTTONOID.

Felted Absorbent Cotton for Dental Use.

1 pound packages	per lb.	$ .85

ANTISEPTIC GAUZES, LINTON MOIST.

One Yard Wide.

Please Specify Glass or Cartons when Ordering.

Glass Jars packed one dozen in case.

LABEL FROM LINTON MOIST GAUZE.

The Dressings are made by the use of special processes and apparatus. The highest grades of materials are used. They are charged with exact measures of Antiseptic Drugs held in stable solution. They are made, handled and packed under strict systems of surgical cleanliness and asepsis by skilled operatives.

The methods of production and packing ensure moist dressings that are clean, sterile, aseptic, soft, pliable and perfect; and will keep without change.

In ordering specify

LINTON MOIST DRESSINGS,

JOHNSON & JOHNSON.

Borated, Carbolated and Corrosive Sublimate Gauze, Linton Moist.

1 yard, in glass jar	per jar	.15
5 yards, in glass jar	per jar	.60
1 yard, in carton	per carton	.10
5 yards, in carton	per carton	.40
25 yards, in carton	per carton	1.80
100 yards, in carton		6.50

Iodoform Gauze—10 per cent. Linton Moist.

1 yard, in glass jar	per jar	.30
5 yards, in glass jar	per jar	1.25
1 yard, in carton	per carton	.25
5 yards, in carton	per carton	1.10

Iodoform Gauze—5 per cent.

1 yard, in carton	per carton	.20
5 yards, in carton	per carton	.90
25 yards, in carton	per carton	3.50
100 yards, in carton		15.00

Plain Gauze.

1 yard, in carton	per carton	.06
5 yards, in carton	per carton	.25
25 yards, in carton	per carton	1.25
50 yards, in carton	per carton	2.50
100 yards in cartons	per carton	4.75

Sterilized Aseptic Gauze.

1 yard, in glass jar	per jar	.20
5 yards, in glass jar	per jar	.75

Cyanide Mercury and Zinc Gauze.

Lister's Formula.

1 yard, in glass jar	per jar	.20
5 yards, in glass jar	per jar	.75

Salicylated Gauze.

1 yard, in glass jar	per jar	.20
5 yards, in glass jar	per jar	.75

LINTON MOIST GAUZE PLEDGETS.

Six Dozen in Bottle.

Iodoform	per bottle	1.25
Corrosive Sublimate	per bottle	1.25
Carbolated	per bottle	1.25

OAKUM.

Specially Prepared Oakum.

1 pound packages	per lb.	.18
50 pound bales	per lb.	.12

JUTE.

Plain Jute.

1 pound packages	per lb.	$ .25

Tarred Jute.

1 pound packages in tin cans	per lb.	.40

LINTON MOIST GAUZE.

The standard adopted for adjusting the strength of medication in Linton Moist Gauze is scientifically correct and accurate. It is uniform, definite, and thoroughly in accordance with the teachings and usages of surgery. It is based upon the use of standard gauze. The fabric is made absorbent by the most approved processes, sterilized and impregnated to saturation with a definite, stable solution of the antiseptic.

The saturation is adjusted definitely to both the measure and weight of the gauze. The exact amount of medication upon each square foot is stated upon the label.

Each jar is hermetically sealed.

BOROFORM GAUZE.

(Boro-Salicylate of Iodoform.)

LINTON MOIST.

Boroform Gauze is a name that has been given a compound gauze containing iodoform, salicylic acid, boric acid, combined as a boro-glycerole (or boro-salicylate of glycerin) and emulsified with starch glycerole.

A perfect substitute for iodoform gauze, especially free from the intense tell-tale odor and poisonous properties peculiar to free iodoform.

In glass jars only.

1 yard, in glass jar	per jar	.30
5 yards, in glass jar	per jar	1.25

GAUZE BANDAGES.

One Dozen in Box.

Plain Gauze Bandages.

1½ inches wide, 10 yards long	per dozen	.70
2 inches wide, 10 yards long	per dozen	.80
2½ inches wide, 10 yards long	per dozen	.85
3 inches wide, 10 yards long	per dozen	.90
4 inches wide, 10 yards long	per dozen	1.20

Carbolated and Corrosive Sublimate.

1½ inches wide, 10 yards long	per dozen	.75
2 inches wide, 10 yards long	per dozen	.95
2½ inches wide, 10 yards long	per dozen	1.10
3 inches wide, 10 yards long	per dozen	1.25
4 inches wide, 10 yards long	per dozen	1.50

Iodoform Gauze Bandages—10 per cent.

1½ inches wide, 10 yards long	per dozen	1.60
2 inches wide, 10 yards long	per dozen	1.80
2½ inches wide, 10 yards long	per dozen	2.20
3 inches wide, 10 yards long	per dozen	2.70
4 inches wide, 10 yards long	per dozen	3.50

ROLLER BANDAGES.

One Pound in Box.

Roller Cotton Bandages.

Assorted, 1½ inch to 2 inches	per lb.	.60
1 inch wide, 5 yards long	per lb.	.60
1½ inches wide, 5 yards long	per lb.	.60
2 inches wide, 5 yards long	per lb.	.60
2½ inches wide, 5 yards long	per lb.	.60
3 inches wide, 5 yards long	per lb.	.60
3½ inches wide, 5 yards long	per lb.	.60
4 inches wide, 5 yards long	per lb.	.60

"Johnson's Belladonna Plasters give better satisfaction than any other make."—Dr. D. H. Agnew.

Roller Cotton Bandages—Bleached.

Assorted 1½ to 4 inches	per lb.	$.70
1½ inches wide, 5 yards long	per lb.	.70
2 inches wide, 5 yards long	per lb.	.70
2½ inches wide, 5 yards long	per lb.	.70
3 inches wide, 5 yards long	per lb.	.70
3½ inches wide, 5 yards long	per lb.	.70
4 inches wide, 5 yards long	per lb.	.70

Roller Linen Bandages.

Assorted, 1½ inches to 4 inches	per lb.	1.25
1½ inches wide, 5 yards long	per lb.	1.25
2 inches wide, 5 yards long	per lb.	1.25
2½ inches wide, 5 yards long	per lb.	1.25
3 inches wide, 5 yards long	per lb.	1.25
3½ inches wide, 5 yards long	per lb.	1.25
4 inches wide, 5 yards long	per lb.	1.25

Roller Flannel Bandages, White or Red.

Assorted, 2 to 4 inches, 5 yards long	per lb.	2.00
2 inches wide, 5 yards long	per lb.	2.00
2 1-2 inches wide, 5 yards long	per lb.	2.00
3 inches wide, 5 yards long	per lb.	2.00
3 1-2 inches wide, 5 yards long	per lb.	2.00
4 inches wide, 5 yards long	per lb.	2.00

Crinoline Bandages.

1 1-2 inches wide, 5 yards long	per dozen	.65
2 inches wide, 5 yards long	per dozen	.75
2 1-2 inches wide, 5 yards long	per dozen	.85
3 inches wide, 5 yards long	per dozen	.90

Miscellaneous Bandages.

One Dozen in Box.

Plaster Paris Bandages—in Tin.

1 1-2 inches wide, 5 yards long	per dozen	1.20
2 inches wide, 5 yards long	per dozen	1.30
2 1-2 inches wide, 5 yards long	per dozen	1.50
3 inches wide, 5 yards long	per dozen	1.75
3½ inches wide, 5 yards long	per dozen	1.85
4 inches wide, 5 yards long	per dozen	2.00

Rubber Bandages.

2 inches wide, 3 yards long	per roll	.50
2 inches wide, 4 yards long	per roll	.75
2 inches wide, 5 yards long	per roll	.90
2 1-2 inches wide, 3 yards long	per roll	.55
2 1-2 inches wide, 4 yards long	per roll	.85
2 1-2 inches wide, 5 yards long	per roll	1.10
3 inches wide, 3 yards long	per roll	.80
3 inches wide, 4 yards long	per roll	.90
3 inches wide, 5 yards long	per roll	1.25

Red Cross Bandages.

Woven Elastic.

Greatest Elasticity, Absorbence and Porosity of any Bandage Made.

3 yards x 2 inches	per dozen	2.50
3 yards x 2 1-2 inches	per dozen	3.00
3 yards x 3 inches	per dozen	4.00
5 yards x 2 inches	per dozen	3.00
5 yards x 2 1-2 inches	per dozen	3.50
5 yards x 3 inches	per dozen	4.50

Zonas Oil Silk.

A decided improvement over the old ordinary oil silk. Very pliable, soft, flexible, and highly waterproof. It will not stick together nor adhere to the paper, will not harden, crack or change. We guarantee Zonas Oil Silk to remain in good condition for three years. The large sales and increasing demand prove that it gives universal satisfaction. Price the same as for the ordinary kind.

Oil Silk and Muslin.

Oiled Silk (Zonas) or Plain.

1 yard rolls or boxes, 28 inches	per yard	.70
5 yard rolls or boxes, 28 inches	per box	3.25
Extra heavy, 28 inches	per yard	.90
Extra heavy, 5 yards, 28 inches	per box	4.50

Carbolated Protective Silk—Green (Lister's).

1 yard boxes, 28 inches	per yard	$1.50
5 yard boxes, 28 inches	per box	6.50

Oiled Muslin.

1 yard rolls or boxes, 36 inches	per yard	.60
5 yard rolls or boxes, 36 inches	per box	2.50

Mackintosh Cloth.

1 yard boxes, 45 inches	per box	1.25
5 yard boxes, 45 inches	per box	6.00

White Rubber Sheeting.

1 yard boxes, 36 inches	per box	.75
5 yard boxes, 36 inches	per box	3.25
1 yard boxes, 45 inches	per box	1.00
5 yard boxes, 45 inches	per box	4.50

Miscellaneous.

Antiseptic Tablets.

Corrosive Sublimate, 25s	per dozen	2.00
Corrosive Sublimate, 50s	per dozen	3.25
Corrosive Sublimate, 100s	per dozen	6.00
Corrosive Sublimate, 500s or 1 lb.	each	2.75

Drainage Tubes.

Decalcified bone, assorted sizes	per dozen	4.80
Purified rubber, antiseptic, assorted sizes, 5 tubes in a bottle	per dozen	4.00
Purified rubber, 1-8 inch, No. 1	per foot	.06
Purified rubber, 3-16 inch, No. 2	per foot	.09
Purified rubber, 7-32 inch, No. 3	per foot	.12
Purified rubber, ¼ inch, No. 4	per foot	.20
Glass (Prof. Gross), Nos. 1 to 7, set, containing 7 tubes	per set	1.00

Felt—Gummed or Ungummed.

Thin	per square foot	.50
Thick	per square foot	.50

Iodoform Sprinklers.

Hard rubber	per dozen	9.00
Hard wood	per dozen	4.00

Surgeons' Sponges—Sterilized—Antiseptic.

12 in bottle	per dozen bottles	12.00

Spongio Piline.

1 yard x 36 inches	per yard	5.00

This Box is fire-proof.

Johnson's Sulphur Fumigators.

A safe, easy and sure way to fumigate, and the only way Sulphur can be used with comfort indoors.

Apply a match to the conical point, and the candle is lighted. Each box has four fumigators, one or all may be burned at once.

Sulphur Fumigators	per dozen	2.00

Catgut Ligatures.

3 Spools in Bottle—Assorted Sizes.

Carbolized 5 per cent	per dozen	6.00
Chromicized	per dozen	6.00
Corrosive Sublimate	per dozen	6.00
Oil Juniper	per dozen	6.00
Hospital Size	per dozen	12.00
Raw, 12 in bundle, assorted sizes	per bundle	1.00

Surgeons' Silk Ligatures.

3 Spools in Bottle—Assorted Sizes.

Carbolized, 5 per cent	per dozen	5.00
Corrosive Sublimate, 1-2000	per dozen	5.00
Oil Juniper	per dozen	5.00
Hospital Size	per dozen	10.00

"Johnson's Belladonna Plasters have met with approval."—British Medical Journal.

Surgeons' Twisted Silk Ligatures.

DRY.

On cards	per dozen	$ .75
In slide cases	per dozen	1.00
In skeins	per ounce	1.50

Surgeons' Braided Silk Ligatures.

DRY.

On cards	per dozen	1.50
In slide cases	per dozen	2.00
In skeins	per ounce	3.00

Silk Worm Gut.

100 in bundle	per bundle	1.00

Gelatole Ointments.

In Collapsible Tubes—all kinds—per Dozen, $2.00.

Acid Boracic, Br. P	per dozen	2.00
Acid Carbolic, U. S. P.	per dozen	2.00
Acid Salicylic, 20 per cent.	per dozen	2.00
Iodine, U. S. P.	per dozen	2.00
Mercury Metallic, U. S. P.	per dozen	2.00
Resorcin and Zinc Oxide	per dozen	2.00
Zinc Oxide, U. S. P	per dozen	2.00

Gelatole Emulsions.

In Collapsible Tubes, with Nozzle—all kinds—per Dozen, $2.00.

Boro-Glyceride	per dozen	2.00
Glycerine, 95 per cent	per dozen	2.00
Hydrastin	per dozen	2.00

Johnson's Baby Powder.

Antiseptic	per gross	18.00

Johnson's Antiseptic Soaps for Toilet Use.

For Infants, For Shaving and Bathing, For Cleaning Wounds.

Large Size. Each Cake in Decorated Tin Box.

Antiseptic Tar and Witch Hazel	per dozen	1.75

Johnson's Antiseptic Soaps.

Carefully made of purest materials, effective and agreeable.

Adapted for use in the toilet, bath and nursery, for cleansing wounds, ulcers and sores, for the treatment of diseases of the skin, for improving the complexion, etc., for disinfecting surgeons' hands.

Small Size. Three Cakes in Each Box.

Johnson's Corrosive Sublimate Soap	per gross	9.00
Johnson's Carbolic Soap	per gross	9.00
Johnson's Witch Hazel and Tar Soap	per gross	9.00

Papoid Preparations.

Subject to Special Discount.

Papoid, 1 ounce and 1-2 ounce bottles	per ounce	3.00
Papoid Tablets, 100's	per dozen	12.00
Papoid and Boracic Acid Tablets, 100s	per dozen	12.00
Papoid and Soda Bi-Carbonate Tablets, 100s, (Johnson's Tablets)	per dozen	12.00
Papoid and Soda Bi-Carbonate Tablets, 500s,	per bottle	3.50
Papoid and Soda Bi-Carbonate Tablets, 35s, (Johnson's Tablets)	per dozen	4.00
Papoid and Nux Vomica, 100s	per dozen	12.00
Papoid Glycerole	per dozen	12.00
Essence Carikola, bottles	per dozen	9.00
Carikola Tablets, 100s	per dozen	12.00

Kolafra Preparations.

Subject to Special Discount.

These preparations hold in active form all the constituents of Kola (*Cola acuminata*). The Kola nuts used in these preparations are gathered and prepared under our own supervision. Special and original processes have been devised by us so as to retain all the principles which give to this drug its value as a medicinal agent.

Kolafra, a substitute for Tea and Coffee, in cans	per dozen cans	$4.80
Kolafra, trial size cans	per dozen	.75
Vino Kolafra "quarts,"	per dozen	9.00
Extract Kolafra, pocket-size for athletes, bicyclers, etc.	per dozen	2.00

Dr. Simpson's Maternity Packet.

Holds in compact form the appliances needed in maternity cases. By its use the physician is assured that the proper articles, in cleanly form, will be at hand when needed. The contents are as follows:

One Waterproof Obstetric Sheet, for covering mattress and bedding.
One Pound Lintine, for forming cushions under patient. For use as compresses and pads to absorb and disinfect discharges, for bandages, etc.
Two Yards Sterilized Aseptic Gauze.
One Sterilized Silk Ligature.
One Cake Antiseptic Soap.
One Sterilized Sponge.
One Piece Chamois, for applying Toilet Powder. Can also be used as a wash-cloth.
One Package Johnson's Antiseptic Baby Powder.
One Tube Carbolized Petrolatum for lubrication.
One Muslin Binder, 15x48 inches, for mother.
One Muslin Binder, 5x18 inches, for baby.
One Package Safety Pins, large.
One Package Safety Pins, small.
One Dozen Lint Squares, for washing infant's eyes.

Dr. Simpson's Maternity Packet	each	2.00

Red Cross Suspensory Bandages:

Each Bandage on a Card

Half Dozen in Each Box. Army and Navy Style.

No. 1 Large No. 2 Medium No. 3 Small	Fine Cotton Sack, Non-Elastic Band.	per dozen	1.50
No. 4 Large No. 5 Medium No. 6 Small	Fine Lisle Thread Sack, Elastic Band,	per dozen	3.00
No. 7 Large No. 8 Medium No. 9 Small	Belfast Linen Sack, Elastic Band,	per dozen	4.50
No. 10 Large No. 11 Medium No. 12 Small	Bolting Silk Sack, Elastic Band,	per dozen	5.00
No. 13 Large No. 14 Medium No. 15 Small	Pure Silk Sack, Elastic Band,	per dozen	6.00
No. 16 Large No. 17 Medium No. 18 Small	Extra Fine Bolting Silk, Satin Finish Elastic Band,	per dozen	7.50

J. P. Suspensory.

No. 50 Large No. 51 Medium No. 52 Small	Cotton Sack	per dozen	2.00
No. 53 Large No. 54 Medium No. 55 Small	Silk Sack	per dozen	2.40

Johnson's Belladonna Plasters can be used in the place of all other Plasters.

Zonas Style.

No. 59 Large No. 60 Medium No. 61 Small	Ribbed Cotton Sack, Draw String,	per dozen	$3.00
No. 62 Large No. 63 Medium No. 64 Small	Ribbed Silk Sack, Silk Draw String,	per dozen	5.00

Diamond J Style.

No. 65 Large No. 66 Medium No. 67 Small	Ribbed Cotton Sack, Elastic Bands,	per dozen	6.00
No. 68 Large No. 69 Medium No. 70 Small	Ribbed Silk Sack, Elastic Bands,	per dozen	9.00

Johnson's Chest Protectors.

First-class in Make and Texture at Fair Prices.

ILLUSTRATED LISTS SENT ON APPLICATION.

WHITE.

Chamois Lined.

No. 1	Small size, Double	per dozen	7.00
No. 2	Medium size, Double	per dozen	9.00
No. 3	Large size, Double	per dozen	12.00

Felt Lined.

No. 4	Small size, Double	per dozen	4.00
No. 5	Medium size, Double	per dozen	5.50
No. 6	Large size, Double	per dozen	7.50

RED.

Chamois Lined.

No. 7	Small size, Double	per dozen	7.00
No. 8	Medium size, Double	per dozen	9.00
No. 9	Large size, Double	per dozen	12.00

Felt Lined.

No. 10	Small size, Double	per dozen	4.00
No. 11	Medium size, Double	per dozen	5.50
No. 12	Large size, Double	per dozen	7.50

DRAB.

Chamois Lined.

No. 13	Small size, Double	per dozen	7.00
No. 14	Medium size, Double	per dozen	9.00
No. 15	Large size, Double	per dozen	12.00

Felt Lined.

No. 16	Small size, Double	per dozen	4.00
No. 17	Medium size, Double	per dozen	5.50
No. 18	Large size, Double	per dozen	7.50

FAWN.

Chamois Lined.

No. 19	Small size, Double	per dozen	7.00
No. 20	Medium size, Double	per dozen	9.00
No. 21	Large size, Double	per dozen	12.00

Felt Lined.

No. 22	Small size, Double	per dozen	4.00
No. 23	Medium size, Double	per dozen	5.50
No. 24	Large size, Double	per dozen	7.50

BROWN.

Chamois Lined.

No. 25	Small size, Double	per dozen	7.00
No. 26	Medium size, Double	per dozen	9.00
No. 27	Large size, Double	per dozen	12.00

Felt Lined.

No. 28	Small size, Double	per dozen	4.00
No. 29	Medium size, Double	per dozen	5.50
No. 30	Large size, Double	per dozen	7.50

BLUE.

Chamois Lined.

No. 31	Small size, Double	per dozen	7.00
No. 32	Medium size, Double	per dozen	9.00
No. 33	Large size, Double	per dozen	12.00

Felt Lined.

No. 34	Small size, Double	per dozen	4.00
No. 35	Medium size, Double	per dozen	5.50
No. 36	Large size, Double	per dozen	7.50

Johnson's Chamois Jackets.

Handsomely and Durably Made. Seasonable Shades. Fast Colors.

These Jackets have proved fast sellers as they are worn in cold weather instead of heavy clothing. They afford good profits.

MALE.

Chamois—Felt Lined.

40-inch chest	per dozen	$27.00
38-inch chest	per dozen	24.00
36-inch chest	per dozen	22.50
34-inch chest	per dozen	21.00

FEMALE.

Flannel—Chamois Lined.

38-inch bust	per dozen	33.00
36-inch bust	per dozen	30.00
34-inch bust	per dozen	27.00
32-inch bust	per dozen	24.00

Kingstone Catheters and Bougies.

French, Woven Eye.

They are all made with the woven eye.

The coatings are made of elastic, pliable gums, uniform in flexibility, size and strength.

They are perfectly and durably finished.

The Kingstone instruments are sized by the French or Metric scale.

Kingstone Catheters, sizes 6 to 30, French scale.

Kingstone Bougies, sizes 1 to 30, French scale.

Send for illustrated list Kingstone Catheters and Bougies.

French Scale.

Corresponds to the American and English Scale by the Following Table:

Fr.	Am.	Eng.	Fr.	Am.	Eng.	Fr.	Am.	Eng.
3	2	00	14	9	6	24	16	13
5	3	0	15	10	7	26	17	14
6	4	1	17	11	8	27	18	15
7	5	2	18	12	9	29	19	16
9	6	3	20	13	10	30	20	17
10	7	4	21	14	11	32	21	18
12	8	5	23	15	12			

Kingstone, soft gum, French Catheters.

Cylindrical—Woven Eye.

Pure Silk	each	.60	dozen	6.50
Silketeen	each	.40	dozen	4.50
Black Linen, extra strong	each	.30	dozen	3.00
Linen	each	.30	dozen	3.00
Red Linen	each	.30	dozen	3.00

Open End—Woven Eye.

Black Linen, extra stroug	each	.50	dozen	5.00

Conical—Woven Eye.

Pure Silk	each	.65	dozen	7.00
Silketeen	each	.50	dozen	5.00
Black Linen, extra strong	each	.40	dozen	4.00
Linen	each	.40	dozen	4.00
Red Linen	each	.40	dozen	4.00

Mercier Condee, or Single Elbow.—Woven Eye

Pure Silk	each	.75	dozen	8.00
Silketeen	each	.60	dozen	5.50
Black Linen, extra strong	each	.50	dozen	4.50
Linen	each	.50	dozen	4.50

Mercier Bicondee, or Double Elbow. Woven Eye.

Pure Silk	each	.75	dozen	8.00
Black Linen, extra strong	each	.60	dozen	6.00

Curved Cylindrical—Woven Eye.

Pure Silk	each	.75	dozen	8.00

Curved Cylindrical Woven Eye.

Black Linen, extra strong	each	.60	dozen	6.00

Curved Olive Pointed—Woven Eye.

Black Linen, extra strong	each	.90	dozen	6.00

Kingstone Catheters *Continued.*

Funnel End—Cylindrical—Woven Eye.

Linen	each	.50	dozen	5.00

Embalming Catheter—Woven Eye.

Pure Silk	each	1.00	dozen	9.00

Double Channel Woven Eye.

Black Linen, extra strong	each	1.00	dozen	8.00

Œsophageal Tubes—Woven Eye.

Linen Funnel end	each	1.00	dozen	9.00

Olive Pointed—Woven Eye.

Pure Silk	each	.75	dozen	$8.00
Silketeen	each	.60	dozen	5.50
Black Linen, extra strong	each	.50	dozen	4.50
Linen	each	.50	dozen	4.50
Red Linen	each	.50	dozen	4.50

Kingstone Soft Gum French Bougies.

Long Olive Tipped.—Flexible End, Stiff Handle.

Pure Silk	each	1.00	dozen	9.00

Cylindrical.

Pure Silk	each	.60	dozen	6.50
Silketeen	each	.40	dozen	4.50
Black Linen	each	.30	dozen	3.00
Linen	each	.30	dozen	3.00
Red Linen	each	.30	dozen	3.00

Conical.

Pure Silk	each	.65	dozen	7.50
Silketeen	each	.50	dozen	5.00
Black Linen	each	.40	dozen	4.00
Linen	each	.40	dozen	4.00
Red Linen	each	.40	dozen	4.00

Olive Pointed.

Pure Silk	each	.75	dozen	7.50
Silketeen	each	.60	dozen	5.00
Black Linen	each	.50	dozen	4.50
Linen	each	.50	dozen	4.50
Red Linen	each	.50	dozen	4.50
Exploring or Bulbous, Black, extra strong	each	.75	dozen	7.50
Exploring or Bulbous, Red Linen	each	.75	dozen	7.50

Bougie a Ventre.

Elongated single bulb, extra strong	each	1.00	dozen	10.00
Double-elongated double bulb	each	1.00	dozen	10.00

Filiform Bougies.

Conical	each	.50	dozen	5.00
Cylindrical	each	.50	dozen	5.00
Olive Pointed	each	.50	dozen	5.00

Vulcanized Rubber Catheters.

We can supply, when desired, Vulcanized India Rubber Catheters of the finest French make. These goods are satin-smooth, well rounded and finished.

Each instrument is made with a funnel end.

Johnson's India Rubber Catheter.

Funnel end cylindrical	each	.40	dozen	4.00

Guarantee.

Johnson & Johnson guarantee the excellence of material used; the workmanship employed in the manufacture of all Catheters and Bougies bearing the Red Cross Kingstone label. (This label is worded as follows:)

PURE SILK. *FINEST QUALITY.*

KINGSTONE

Trade Mark Pat.

JOHNSON & JOHNSON,

New Brunswick, N. J.

The Red Cross Trade Mark.

By virtue of an Act of Congress the use of the Red Cross symbol has been vested in The American National Red Cross Society.

In recognition of the services of Johnson & Johnson in perfecting Surgical Appliances and Medicinal Preparations The American National Red Cross Society have granted to Johnson & Johnson the exclusive right to use the Red Cross trade mark upon this class of preparations.

Catalogues, Price Lists, etc.

We are constantly issuing descriptive lists, pamphlets, monographs to the medical profession. Many of these are handsomely illustrated in colors, etc.

We invite all readers of THE PHARMACEUTICAL ERA to send their name and address, and copies of our latest literature will be sent them.

In writing, state what literature is desired.

LIST OF RECENT PUBLICATIONS.

Physicians' Price List,

(Illustrated)

The following extract from our Physicians' Price List shows our policy in protection of the drug trade.

EXTRACT FROM JOHNSON & JOHNSON'S PHYSICIANS' PRICE LIST.

"NOTICE.—The prices in this list are the approximate prices usually charged physicians by dealers in our products. In localities remote from centers of traffic, an additional percentage must be allowed for freight.

"A full line of goods of our manufacture is carried by nearly all jobbers and leading retail dealers. From these sources our medical friends are requested to obtain their supplies. Recognizing the jobber and dispensing pharmacist as the proper distributing agents for medicinal preparations, we do not sell to physicians direct. Where our goods cannot be obtained from a local dealer or jobber, we shall esteem it a favor to be informed of the fact.

"Quality guaranteed on all goods of our manufacture.

"In ordering always specify J. & J.

"JOHNSON & JOHNSON."

Illustrated Trade Price List of medicinal and surgical plasters, improved absorbent and medicated cottons, antiseptic surgical dressings.

Special Illustrated Lists: Red Cross Suspensory Bandages; Johnson's Chamois Jackets and Chest Protectors; Descriptive List of Kingstone Catheters and Bougies.

Belladonna. A study of its history, action and uses in medicine.

Asepsis and Antisepsis. An illustrated reply to Drs. Lister and Gerster.

The Gauze Question. Reprints of recent articles in leading pharmaceutical and medical journals.

Gauze Dressings in Surgery. Illustrated. Synopsis of Contents: Gauze Dressings in Surgery; Antiseptic Gauze, Method of Preparation and Formula; The Standard for Gauze as discussed by leading Authorities; The Standard for Gauze according to Surgery; Moist and Dry Dressings; Juggler's Trick "Tests" for Gauze.

Kola Illustrated. A study of its history, physiological and therapeutic action, pharmacy and uses in medicine.

Papoid Digestion, by R. H. Chittenden, Ph. D., Professor of Physiological Chemistry in Yale University.

In ordering through jobbers, specify

Johnson & Johnson

New Brunswick, N. J.

Mellin's Food

for

Infants and Invalids

MELLINS FOOD OFFICES
ATLANTIC AVENUE AND INDIA ST

MELLINS FOOD WORKS
39-40-41-42-43-44-45 CENTRAL WHARF

Doliber-Goodale Company
Offices 291 Atlantic Avenue
Boston Mass. October 10. 1895.

homas Doliber
President and Treasurer

GOLD MEDAL
NEW ORLEANS
1885

SILVER MEDAL
NEW JERSEY
1881

DIPLOMA
BOSTON
1881

BRONZE MEDAL
NEW YORK
1887

MEDAL & DIPLOMA
WORLD'S FAIR
CHICAGO
1893

TWO GOLD MEDALS
AND
VO SPECIAL DIPLOMAS
OF HONOR
SAN FRANCISCO
1894

GOLD MEDAL
TACOMA
1894

OOLD MEDAL
DRESDEN
1895

SILVER MEDAL
FRANKFORT-ON-MAIN
1895

Our latest Price List of Mellin's Food is herewith submitted to the readers of the Pharmaceutical Era.

Mellin's Food is the Only Perfect Substitute for Mothers' Milk and the most nourishing diet for Dyspeptics, Nervous Invalids, Delicate Persons, Travellers and the Aged.

Mellin's Food has long been well and favorably known to the Trade, the Medical Profession and the Public

Mellin's Food is warranted to keep in all climates and to give satisfaction.

A liberal supply of very attractive advertising matter and samples furnished to any dealer on request.

Correspondence solicited.

Doliber-Goodale Co.,

Thomas Doliber.

President and Treasurer.

WHOLESALE PRICE LIST.

MELLIN'S FOOD

— FOR —

INFANTS AND INVALIDS.

For quantities of ONE GROSS or more
Which may be all large, or all small, or assorted in any proportion
the purchaser wishes.

Large Size, per gross	$78.00
Small Size, per gross	48.00

REBATE DISCOUNT.

Large Size, per gross	$8.00
Small Size, per gross	4.00

Terms, 30 Days. Discount for Immediate Cash, 2 per cent. from the net price.
Funds current in Boston or New York.

	LARGE.	SMALL.
Per Cross	$78.00	$48.00
Less Rebate Discount . . .	8.00	4.00
Net Price, 30 days	$70.00	$44.00
Less 2 % Immediate Cash	1.40	.88
Net Price, Immediate Cash	$68.60	$43.12

FREIGHT ALLOWED TO DESTINATION.

We ship goods by lines of our own selection. No charge for cartage in Boston. We do not allow for cartage at destination. Our responsibility ceases on delivery of the goods in good order to the transportation company; the goods thereafter are at the purchaser's risk, and the carrier is responsible to the consignee for delay, damage, or loss.

Invoices which are not settled within thirty days' time are subject to sight draft without notice; the payment, either at thirty days' time or for immediate cash, is not subject to the arrival or non-arrival of the goods at their destination.

The purchaser will be allowed the Rebate Discount after he has signed and returned to us the Agreement, of which the following is a copy:

To THE DOLIBER-GOODALE CO.,

BOSTON, MASS.:

In consideration of the rebate allowed us by the Doliber-Goodale Company, at the rate of $8.00 per gross from the list price of $78.00 per gross for the large size, and $4.00 per gross from the list price of $48.00 per gross for the small size, upon their sales to us of MELLIN'S FOOD for Infants and Invalids, we hereby agree that we will not sell, and that any employee or agent of ours shall not sell, either directly or indirectly, any MELLIN'S FOOD at less than the following prices:

		LARGE.	SMALL.
In quantities of less than half a gross, ...	per dozen,	$6.50	$4.00
In quantities of half a gross or more at one sale and one delivery,	per dozen,	6.25	3.80

We also agree that when we sell the quantity of half a gross or more, it shall be one sale and one delivery. We will not exchange the goods nor divide them with any other dealer.

DOLIBER-GOODALE CO., BOSTON, MASS.

THOMAS DOLIBER, President and Treasurer.

PRICE LIST.

TRUSLOW & COMPANY,

CORK MANUFACTURERS.

WAREHOUSE:
No. 4 and 6 Platt St., NEW YORK.

FACTORY:
BROOKLYN, N. Y.

FACSIMILE OF LABEL.

PRESCRIPTION CORKS.

THE FINEST SELECTED CORK IN THE MARKET.

REGULAR LENGTH.

No.	0,	$\frac{1}{2}$	in. long, per gross,		$0.28
"	1,	$\frac{5}{8}$	"	"	.28
"	2,	$\frac{11}{16}$	"	"	.28
"	3,	$\frac{3}{4}$	"	"	.32
"	4,	$\frac{13}{16}$	"	"	.38
"	5,	$\frac{7}{8}$	"	"	.46
"	6,	$\frac{15}{16}$	"	"	.54
"	7,	1	"	"	.68
"	8,	$1\frac{1}{16}$	"	"	.84
"	9,	$1\frac{1}{16}$	"	"	.98
"	10,	$1\frac{1}{4}$	"	"	1.22

EXTRA LONG.

No.	0,	$\frac{5}{8}$	in. long, per gross,		$0 32
"	1,	$\frac{3}{4}$	"	"	.32
"	2,	$\frac{13}{16}$	"	"	.32
"	3,	$\frac{7}{8}$	"	"	.38
"	4,	$\frac{15}{16}$	"	"	.46
"	5,	1	"	"	.54
"	6,	$1\frac{1}{16}$	"	"	66
"	7,	$1\frac{1}{4}$	"	"	.90
"	8,	$1\frac{1}{4}$	"	"	1.02
"	9,	$1\frac{1}{4}$	"	"	1.22
"	10,	$1\frac{1}{2}$	"	"	1.52

EXTRA EXTRA LONG.

Gross No.	0,	$\frac{3}{4}$	in. long, per gr.,		$0.38
" "	1,	$\frac{7}{8}$	"	"	.38
" "	2,	$\frac{15}{16}$	"	"	.38
" "	3,	1	"	"	.46
" "	4,	$1\frac{1}{16}$	"	"	.54
" "	5,	$1\frac{1}{8}$	"	"	.68
" "	6,	$1\frac{1}{4}$	"	"	.84
" "	7,	$1\frac{3}{8}$	"	"	1.00
" "	8,	$1\frac{1}{2}$	"	"	1.26
" "	9,	$1\frac{3}{4}$	"	"	1.70
" "	10,	$1\frac{3}{4}$	"	"	1.96

WRITE FOR DISCOUNTS.

[OVER.

TRUSLOW & CO., 4 and 6 Platt St., NEW YORK.

SUPERFINE TAPERED CORKS. — BLUE CROSS BRAND.

No.		Reg. Length.	Ex. Long.
0	per gross,	$0 49	$0 57
1	"	49	57
2	"	49	57
3	"	56	66
4	"	66	78
5	"	76	97
6	"	96	1 22
7	"	1 36	1 86
8	per gross,	$1 71	2 24
9	"	2 01	2 86
10	"	2 47	3 48
11	"	2 71	3 86
12	"	2 94	4 30
13	"	3 28	4 71
14	"	3 62	5 12
15	"	3 97	5 53

TAPERED CORKS. — EXTRA LENGTH.

No.		XXX	XX	X
1	per gross,	$0 64	$0 57	$0 24
2	"	64	57	24
3	"	76	66	28
4	"	92	78	33
5	"	1 08	97	53
6	"	1 32	1 22	64
7	"	1 80	1 86	1 09
8	per gross,	$2 04	$2 24	$1 34
9	"	2 44	2 68	1 80
10	"	3 04	3 48	2 11
11	"	3 28	3 86	2 37
12	"	3 52	4 30	2 69
13	"	3 84	4 71	2 94
14	"	4 16	5 12	3 20
15	"	4 48	5 53	3 46

TAPERED CORKS. — EXTRA EXTRA LENGTH.

No.		XXX	XX
1	per gross,	$0 76	$0 65
2	"	76	65
3	"	92	78
4	"	1 08	99
5	"	1 36	1 41
6	per gross,	$1 68	$1 71
7	"	2 00	2 18
8	"	2 52	2 75
9	"	3 40	3 70
10	"	3 88	4 21

TAPERED CORKS. — REGULAR LENGTH.

No.		XXX	XX	X
1 to 6, assorted	per gross,	....	$0 65	$0 33
3 to 6, "	"	....	74	39
000	"	....	49	22
00	"	....	49	22
0	"	$0 56	49	22
1	"	56	49	22
2	"	56	49	22
3	"	64	56	25
4	"	76	66	30
5	"	92	76	50
6	"	1 08	96	60
7	"	1 36	1 36	90
8	"	1 68	1 71	1 03
9	"	1 96	2 01	1 18
10	"	2 44	2 47	1 47
11	per gross,	$2 72	$2 71	$1 54
12	"	2 96	2 94	1 73
13	"	3 20	3 28	1 92
14	"	3 48	3 62	2 11
15	"	3 76	3 97	2 30
16	"	....	5 18	3 01
17	"	....	5 74	3 39
18	"	....	6 31	3 78
19	"	....	7 02	4 16
20	"	....	7 73	4 54
22	"	....	9 47	5 57
24	"	....	11 22	6 59
26	"	....	13 26	7 87
6 to 10, assorted	"	....	1 70	1 03
7 to 20, "	"	....	4 00	2 36
11 to 20, "	"	....	4 85	2 85

TRUSLOW & CO., 4 and 6 Platt St., NEW YORK.

TAPERED CORKS. — SHORT LENGTH.

No.		XXX	XX	X
0	per gross,	$0 40	$0 38	$0 22
1	"	40	38	22
2	"	40	38	22
3	"	44	42	24
4	"	52	49	28
5	"	60	63	40
6	"	72	77	50
7	"	1 08	1 07	68
8	"	1 24	1 22	80
9	"	1 36	1 38	93
10	"	1 96	2 06	1 22
11	"	2 16	2 22	1 28

No.		XXX	XX	X
12	per gross,	$2 36	$2 39	$1 41
13	"	2 56	2 66	1 54
14	"	2 76	2 88	1 73
15	"	3 00	3 16	1 88
16	"	....	3 50	2 10
17	"	....	3 86	2 36
18	"	....	4 26	2 68
19	"	....	4 75	3 04
20	"	....	5 14	3 36
22	"	...	6 30	4 00
24	"	...	7 75	4 60
26	"		9 25	5 40

SPECIE OR JAR CORKS. — X QUALITY.

(MEASURE LARGE END.)

		Length ½ in	Length ⅝ in.	Length ¾ in.
1 inch	per gross,	$0 88	$1 04	$1 28
1⅛ "	"	1 12	1 36	1 68
1¼ "	"	1 36	1 60	2 00
1⅜ "	"	1 60	1 92	2 48
1½ "	"	1 92	2 32	2 96
1⅝ "	"	2 32	2 80	3 52
1¾ "	"	2 80	3 28	4 16
1⅞ "	"	3 20	3 84	4 72
2 "	"	3 60	4 32	5 36
2⅛ "	"	4 08	4 88	6 08
2¼ "	"	4 56	5 44	6 80
2⅜ "	"	....	6 08	7 60
2½ "	"	....	6 72	8 40

		Length ⅝ in	Length ¾ in
2⅝ inch	per gross,	$7 60	$9 52
2¾ "	"	8 48	10 64
2⅞ "	"	9 36	11 68
3 "	"	10 24	12 80
3¼ "		12 24	15 28
3½ "	"	14 16	17 68
3¾ "	"	16 08	20 16
4 "	"	....	23 92
4½ "	"	....	32 00
5 "	"	....	41 52
5½ "	"	...	52 16
6 "	"	...	63 60

FOR XX JAR CORKS. DOUBLE THE ABOVE PRICES.

MACHINE CUT WINE CORKS. — STRAIGHT.

No.	Length.		XX	X & XX
7	1¼ inch	per gross,	$1 06	$0 80
7	1⅜ "	"	1 16	88
7	1½ "	"	1 26	96
7	1¾ "	"	1 48	1 12
8	1¼ "	"	1 20	92
8	1⅜ "	"	1 34	1 02
8	1½ "	"	1 50	1 18
8	1¾ "	"	1 70	1 30
8	2 "	"	1 98	1 52
9	1¼ "	"	1 44	1 10
9	1⅜ "	"	1 58	1 16
9	1½ "	"	1 68	1 32

No.	Length.		XX	X & XX
9	1¾ inch	per gross,	$2 00	$1 44
9	2 "	"	2 30	1 76
10	1¼ "	"	1 56	1 22
10	1⅜ "	"	1 72	1 34
10	1½ "	"	1 88	1 42
10	1¾ "	"	2 20	1 62
10	2 "	"	2 50	1 96
11	1¼ "	"	1 60	1 26
11	1⅜ "	"	1 88	1 48
11	1½ "	"	2 06	1 62
11	1¾ "	"	2 40	1 88
11	2 "	"	2 74	2 16

TRUSLOW & CO., 4 and 6 Platt St., NEW YORK.

OFFICE AND WAREHOUSE, 4 AND 6 PLATT ST., N. Y.

We call special attention to our brand of PRESCRIPTION CORKS quoted on page 21. These corks are certainly the finest selected corks to be had in the market, and we confidently solicit a trial order, feeling sure that after you have once used these corks you will order no other brand. They are carefully selected for the finest prescription trade, and are simply perfect.

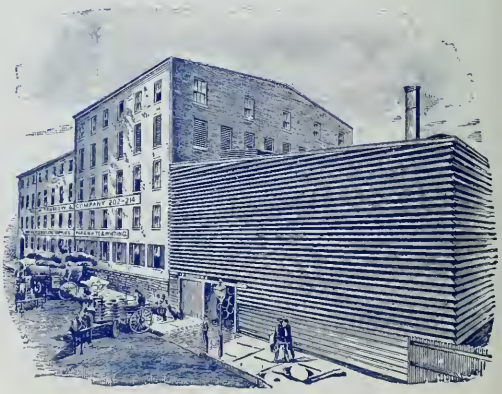
Manufacturers of CORK PRODUCTS of every description.

TRUSLOW & COMPY
ESTABLISHED IN 1827.

NOTICE.

We manufacture all kinds of corks for druggists trade. The accompanying PRICE LIST is only a small part of our full list. If you do not find what you want, write for our complete PRICE LIST.

4 AND 6 PLATT ST - NEW YORK.



CORK FACTORY, BROOKLYN, N. Y.

PRICE LIST. WRITE FOR DISCOUNTS.

COMPRESSED TABLETS

OF PURE DRUGS.

We make a Specialty of large

BULK ORDERS

for TABLETS and LOZENGES.

SEE PRICES ON NEXT PAGE.

Private formulæ for orders from

3,000 TO 1,000,000

receive our most careful attention and best possible prices.

WRITE FOR SAMPLES AND QUOTATIONS TO

BILLINGS, CLAPP & CO.,

BOSTON.

TABLET PRICES.

Chlorate of Potash,	50 lbs. in 1 lb. boxes incl.	26c. per lb.
	100 lbs in bulk,	25c. "
	Barrels, prices on application.	
Soda Mint,	50 lbs. in 1 lb. boxes incl.	26c per lb.
	100 lbs. in bulk,	25c. "
	Barrels. prices on application.	
Acetanilid,	25,000 at	50c. per M.
Aloin, Bellad. and Strychnia,	25,000 at	27c. per M.
Blaud's Pill,	25,000 at	23c. per M.
Iron, Arsenic and Strychnia,	25,000 at	30c. per M.
Migraine,	Price fluctuates with price of Caffeine.	
Seiler's Alk. Antiseptic,	25 lbs. in 1 lb. bottles,	54c. per lb.
Wilson's Antiseptic,	25 lbs. in bulk,	$1.20 per lb.
White or colored, with "Poison" in embossed letters.		
Headache Chocolates,	25 lbs. bulk at	65c. per lb.
	100 lbs. at	60c. "
Acetanilid and Caffeine.		
Quinine and Chocolate,	25 lbs. bulk at	90c. per lb.
	100 lbs. at	85c. "
Quinine Tannate, 1 gr.		
Bronchial Lozenges,	25 lbs. bulk at	38c. per lb.
Brown Mixture Lozenges,	25 lbs. bulk at	30c. per lb.
Santonin and Chocolate,	25 lbs. bulk at	42c. per lb.
Worm Lozenges.		

SLIPPERY ELM LOZENGES.

SPECIFY "B. C. & CO.'S."

In 5 lb. Enameled Glass Front Cans, . 25c. per lb.
In 25 lb. Boxes bulk, ... 21c. per lb.
In Barrels, price on application.

Quotations furnished promptly on any desired formula in bulk.

BILLINGS, CLAPP & CO.,

BOSTON.

MULFORD'S

Diphtheria Antitoxic Serum.

AMERICAN ANTITOXIN.

THE PRODUCT OF

AMERICAN LABORATORIES.

The only Serum that is subjected to a confirmatory test, each lot being tested by Department of Hygiene, University of Pennsylvania, and a certificate issued as to its strength and integrity.

Method of Preparation.

From numerous cultures of the *bacillus diphtheriæ* a particularly virulent one is chosen. To be very virulent ½ ccm. of a twenty-four-hour-old bouillon culture should kill a 500-gramme guinea-pig in from tweny-four to thirty-six hours. With this bacillus a number of tubes of alkaline peptone bouillon are inoculated and placed in the incubator. At the end of twenty-four to forty-eight hours the tubes are examined, and, if found pure, the contents of each is carefully poured into a very wide, flat flask, with a long neck and a tubulature at the side (Fernbach flask) containing about one litre of similar bouillon. These flasks after being inoculated are placed in the incubator for twenty-four hours, until the growth is well established, after which the cotton plugs which have closed the mouth and tubulature are pushed well down the tubes, rubber corks containing glass tubes inserted above the cotton, and the tubes connected with an aspirating apparatus, by which a current of air is kept passing through the flasks from mouth to tubulature for several weeks, or until the toxins are of sufficient strength.

Biological Department — Biological Laboratory — H. K. Mulford Company

The filtration of the toxins is a matter requiring considerable care as regards the filtrate, which, although devoid of bacilli when passed through the filter, is as good a culture medium for bacteria as ever. To obviate the possibility of contami-

nation, we add 0.4 per cent. of tri-kresol to the culture before filtration. The filter used is the Chamberland, which is too familiar to the profession to need description. The toxins should not be filtered too soon, as they deteriorate somewhat after the removal of the bodies of the bacilli.

The strength of the toxin is estimated by injection into guinea-pigs, the desired strength being sufficient for 0.1 ccm. to kill a 500 gramme animal in twenty-four hours.

If the filtered toxin be of the desired strength it can at once be used upon animals. If, however, as is the case, in a great number of instances, the toxin prove weak, it should be rejected, though it can be intensified by concentration by evaporation.

Importance of Selecting Healthy Animals.

The animal generally employed, and the only one recommended, is the horse, because it can furnish good serum in enormous amounts. Before beginning the treatment our horses are tested for tuberculosis and glanders with tuberculin and mallein. Much individual variation occurs among horses in their susceptibility to the action of the toxins, hence it is always well to begin the administration with a very small amount. We begin with 1.0 ccm. and repeat the injection about every eight days, according to the condition of the animal, doubling the amount as often as possible, and as rapidly as possible ascending to the enormous amount of 300 ccm.

The condition of the horse during all this time is most carefully watched and estimated.

When the treatment has been kept up for three or four months, and the animals have reached the point at which they can stand the injection of 300 ccm. without other general or local symptoms than a slight œdema at the point of injection, they are ready to furnish antitoxin of value.

If properly carried out, without haste, the horse being kept in good condition, the power of the serum should be sufficient in an almost infinitesimal amount to protect a guinea-pig against the ordinary fatal dose of diphtheria toxin. The exact value of the serum obtained by our method, to make it equal the accepted standard, is that one part of it shall protect against ten times the fatal dose of the standard toxin.

Biological Department Bacteriological Laboratory H. K. Mulford Company

Explanation of term Immunity Unit.

An immunity unit is an amount of antitoxic serum required to save a 500 gramme guinea-pig from ten times the minimum fatal dose of the diphtheria toxin. The number of immunity units per cc. gives us a standard strength of our Diphtheria Antitoxic Serum; for instance $\frac{1}{100}$ cc. will protect a 500 gramme guinea-pig, therefore 1 cc. would protect 50,000 grammes or 100 guinea-pigs against the minimum fatal dose. 1 cc. of our Diphtheria Antitoxic Serum, which protects 50,000 grammes of guinea-pig, contains 100 immunity units and would protect an individual weighing 100 times as much as a guinea-pig (about 120 lbs.) if the susceptibility were the same. As the susceptibility is not the same, and it is impossible experimentally to determine the minimum fatal dose of diphtheria toxin for the human species, the exact number of immunity units required for each administration must be based upon the results of clinical experience, which shows that about ten times as much of the antitoxin is required by the human species, in proportion to the body weight, as is required by the guinea-pig.

The number of units in each bottle, as well as the date of preparation of each marketed product, is fully displayed upon the label attached to the bottle in which the preparation is dispensed.

No ill effects need be feared from our Antitoxic Serum. We have introduced 25 ccm. into a 6-pound rabbit without the production of a single symptom, although 10 ccm. of that amount was injected into the ear veins. The reported cases in which ill effects have seemed to follow the use of antitoxin must be looked upon as simple coincidences, and not as being caused by the antitoxin.

Some have thought that the blood of the horse possessed, without any preliminary manipulation, a neutralizing property when brought in contact with the diphtheria toxin, but this is an error. *Normal horse serum does not contain a particle of protective substance, as our experiments and those of others have shown.*

Dose.—The average dose for an infant up to 20 lbs. is 5 cc.; for a child of 20 to 35 lbs., 7 cc.; for a child of 35 to 70 lbs., 10 cc.; for a larger child or adult 10 cc. is an ordinary commencing dose. In proportion a seeming larger dose for children of tender years is deemed necessary on account of their great susceptibility to the disease, and since the quantity of diphtheria toxin in their blood may be estimated to be as great as in larger children or adults. In ordinary cases a second injection should be given within from six to twelve hours if no improvement be noted.

Application.

WHERE THE DISEASE IS SEVERE, as manifested by the pulse, temperature, respiration and other constitutional symptoms, rather than by local manifestations, it is advisable that the ABOVE DOSES BE INCREASED BY ONE-HALF, and that a second injection be made in from four to eight hours. Early and vigorous dosage is to be commended, since the best results with Antitoxic Serum are secured where used in the first twenty-four to forty-eight hours of the disease, and since no ill results have been reported, from over-dosage of the serum.

Reports which we have received from reliable physicians who have used Mulford's Antitoxic Serum in nearly 1,000 cases of diphtheria, show a mortality of but 5.6 per cent., and in nearly every instance where the serum treatment did not save the patient (due to the advanced state of the disease before the remedy was employed) the symptoms were greatly relieved. **IN NO CASES WERE ANY UNFAVORABLE RESULTS NOTED.**

Reports.

We confidently believe if the Serum is promptly employed in the first 24 to 48 hours, a mortality not greater than 3 to 4 per cent. will be shown.

Our antitoxin is permanent and will retain its strength.

For the proper injection of the Diphtheria Antitoxic Serum we have designed a special syringe, the principal advantages of which are the soft rubber tube connecting the needle with the syringe, permitting free movement of the body without danger of breaking the needle or causing pain to the patient; the *packing is made of pure gum, which is more satisfactory than asbestos, which we have discarded, since it becomes soft and pulpy;* it is neatly packed with two needles in metal case, so that syringe and case may be sterilized.

Special syringe.

PRICE, - - $2.50.

WE HEREWITH APPEND A FEW OF THE MANY REPORTS RECEIVED.

H. K. MULFORD COMPANY. *Philadelphia, July 15th, 1895.*

Dear Sirs:—I have treated 4 cases of Diphtheria with your Antitoxic Serum, each case being verified by a bacteriologic examination from the Philadelphia Board of Health's Laboratory, Diphtheria Bacilli were found in all . . . at present each of these cases is reported well and out in the streets at play with other children; a bacteriologic after examination (after the fauces were clean again) proving the absence of the Diphtheria Bacilli.

Yours respectfully, SAMUEL P. GERHARD, M.D., 639 N. 16th St.

H. K. MULFORD COMPANY, Philadelphia, Pa. *St. Louis, Mo., July 28th, 1895.*

Gentlemen:—Have used Behring's and Mulford's Antitoxic Serum and find one as efficient as the other. Of late have only used Mulford's, as I could get it quickly and fresh, and have so far treated some 20 cases of Diphtheria and Diphtheretic Croup with it, and have had no fatal results.

Have used it in a baby of 16 months and another of 20 months, also in adults. Have seen no bad results from it so far. Am of course very careful to have syringe, needles, and skin aseptic. I fully believe that the Serum if used early is a specific, but would also advise local treatment with stimulants, etc.

Yours very truly, EUGENE F. HAUCK, M.D., 1638 S. Jefferson Ave.

MESSRS. H. K. MULFORD COMPANY. *Philadelphia, September 15th, 1895.*

Gentlemen:— * * * * * * I have used your Antitoxin in 8 cases, and all successful. Am very enthusiastic over it.

Yours, J. NEWTON SNIVELY, M.D., 2501 Oxford St.

H. K. MULFORD COMPANY. *Philadelphia, Pa., August 13th, 1895.*

Gentlemen:—I have treated *72 cases of Diphtheria* in this city with Antitoxin (H. K. Mulford Co.'s) with highly satisfactory results; prompt and complete recovery in all cases. Bacteriologic examinations were made by the Philadelphia Board of Health. I have used immunization in over *200 instances and in no case was Diphtheria contracted*, although patients were frequently in the room with the contagion. . . . . *I have found your Serum equally as efficacious as the foreign product, and shall continue using it.*

517 Pine St. EDWIN ROSENTHAL, M.D., Philadelphia.

H. K. MULFORD COMPANY, Philadelphia, Pa. *Akron, O., June 4th, 1895.*

Gentlemen:—I have treated 34 cases of Diphtheria in this city with Antitoxin (H. K. Mulford Co.'s) with but two deaths, and one of these cases had been sick 10 days before I saw it, so that it should not be counted in the statistics. L. S. EBRIGHT, Health Officer.

H. K. MULFORD COMPANY. *Haddonfield, N. J., July 12th, 1895.*

Dear Sirs:—I have used your Antitoxin in an infant 6 weeks and 3 days old, with marked pharyngeal, tonsilar and nasal patches. The child could not nurse for 2 weeks, and for over 1 week was fed small quantities of milk with a little whiskey every hour or two, could not accept more than 3 teaspoonfuls at each feeding. Your Antitoxin worked most successfully, and through it I attribute the child's recovery.

The mother also developed Diphtheria, as well as the sister 3 years and 3 months old; all improved greatly and cases terminated successfully, after the use of Antitoxin.

Yours very truly, W. S. LONG, M.D.

H. K. MULFORD COMPANY. *Fallsington, Pa., August 2d, 1895.*

Dear Sirs:—Although my experience in the treatment of Diptheria with Antitoxin is limited, I am free to confess that the experience which I have had with the Serum treatment is such that I would not feel that I had done my duty with my patient suffering with Diphtheria if I did not give to him the benefit of the treatment of Antitoxin.

Yours very truly, J. N. RICHARDS, M.D.,

H. K. MULFORD COMPANY. *Akron, O., June 6th, 1895.*

Gentlemen:—I am pleased with the effects of your Antitoxin.

Very respectfully, JAS. P. BOYD, M.D., 143 S. Summit St.

H. K. MULFORD COMPANY. *Red Wing, Minn., August 13th, 1895.*

Gentlemen:—I have used your Antitoxin in 9 cases, and am pleased to report complete recovery in each case. I have also used Antitoxin as an immunizing agent in 16 cases, and have not had a single patient to contract the disease after the immunizing dose was administered. Shall continue to use Antitoxin.

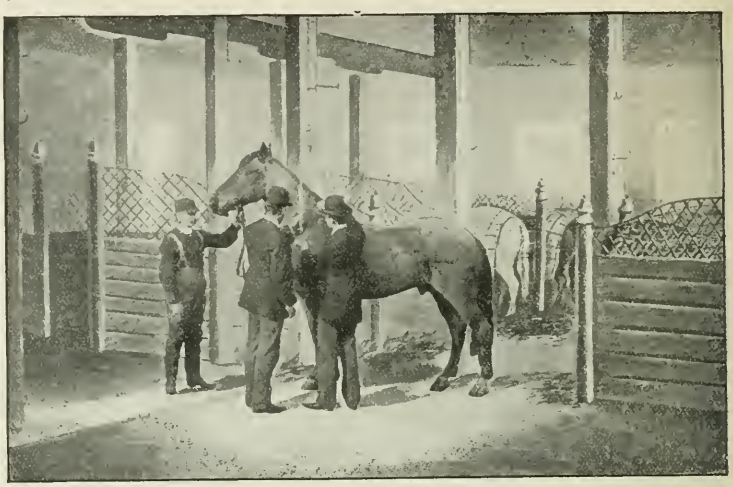
Very truly yours, CORYDON FARRAND, M.D.

SALE TO BE MADE THROUGH SPECIAL AGENTS.

It is our purpose to establish a local representative for the sale of our Diphtheria Antitoxic Serum in each city.

The demand for our product is already large, and now that the season is approaching when diphtheria prevails, it will be greatly increased.

As one of the first to establish a complete bacteriological laboratory in this country for the production of antitoxin, and our product having been on the market for some time, being thoroughly tested, we can guarantee a reliable and standard product. Our claim for superiority over the various other antitoxins is supported by the fact that it is the only Serum submitted to a confirmatory test, this test being made by the Department of Hygiene, University of Pennsylvania, who furnish us with a certificate of its purity and normal unit strength.



Biological Department — Injecting the Toxin — H. K. Mulford Company

The value of this test is greatly appreciated by Physicians using the Serum.

Conforms to all official requirements.

Mulford's Antitoxin will conform to all official requirements in that (*a*) it contains at the most but a slight sediment; (*b*) that a non-toxic preservative (*tri-kresol*) be used in the proper proportion (*0.4 per cent.*); (*c*) that the Serum have the date of preparation and immunizing strength expressed on label.

Our Serum is a highly concentrated one, and to avoid confusion is prepared in but one strength, each cc. containing 100 immunity units.

It is supplied in vials of 5 cc. (500 units), two immunizing doses, listed at $1.00.
vials of 10 cc. (1,000 units), full curative dose, " " 1.75.
vials of 20 cc. (2,000 units), two full curative doses, " " 3.25.

Special Discounts to Agents.

Permanency guaranteed.

We guarantee the permanency of our Antitoxin for at least twelve months, and if kept in a moderately cool place, it will remain unchanged for even a longer period.

Should you desire to secure the sale in your city we shall be pleased to hear from you promptly.

SPECIAL LITERATURE SUPPLIED AGENTS.

H. K. Mulford Company, CHEMISTS.

OFFICES: 412 TO 420 S. THIRTEENTH ST.,

PHILADELPHIA.

BIOLOGICAL DEPARTMENT:
3907 to 3911 Egglesfield Street.
(Opposite Fairmount Park).

CHICAGO OFFICE:
112-114 Dearborn Street.

Some of this season's Specialties

Copyrighted, 1895.

Trophy Whist

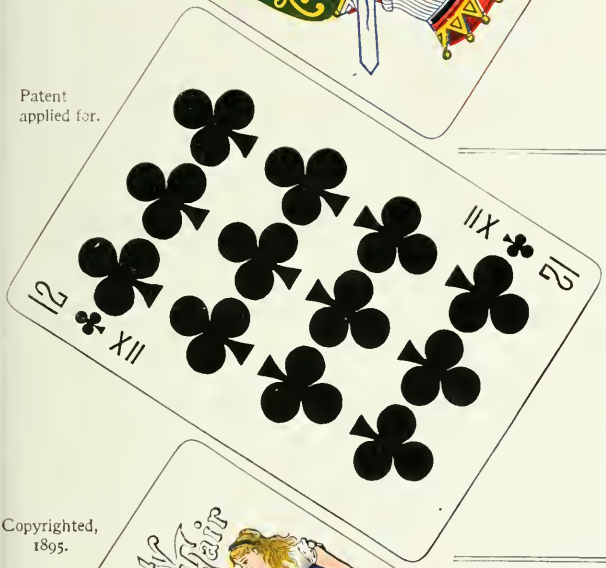
Playing Cards

(No. 39), are designed for regular and duplicate Whist, and other games where many cards are held at one time.
New style faces.
Extra large indexes.
No mistake in reading cards.
A novelty.
French size.
Linen stock, double enameled.
Just ready for market.

List price, $3.34 per dozen packs, revenue paid.

Write for samples.

Patent applied for.



No. 555.

Full=House

Poker Playing Cards.

This is a new, double enameled, linen brand, made with eleven and twelve spots of each suit (patent applied for) in the pack, to accommodate more players in a game and avoid filling out hands from the discard.

List price, $3.34 per dozen packs, revenue paid.

Samples sent on application.

Copyrighted, 1895.

No. 41.

Vanity Fair

Playing Cards.

A novelty, just out—sports and pastimes, etc., illustrated, 53 different subjects—every face card a picture in itself. Backs, Clowns' Heads—Hobgoblins—in two colors. Linen stock, double enameled, highly finished.

List price, $3.34 per dozen packs, revenue paid.

Write for samples.

When ordering a stock of "Bicycles" include one dozen each of the above novelties. They will sell readily.

The United States Playing Card Company,

CINCINNATI, U. S. A.

New backs in "Bicycles."

Why Shouldn't

Druggists carry an assortment of good playing cards—cards that have been tested and tried in all countries—cards that can be safely recommended when sealed under the government revenue stamp?

"Bicycles" sell readily,

◆ ◆

The peculiar slip, finish, dealing and wearing qualities of "Bicycles" are not found in other makes at same price.

they sell themselves

and the money paid out for internal revenue soon comes back to the dealer with profit.

"U. S." Playing Cards.

No.		Doz.	Gro.
	CLASS A.		
999.	**Steamboat,** round corners	$ .84	$10.00
999x.	**Ex. Steamboat,** gold edges	1.34	16.00
101.	**Tigers,** extra quality	1.00	12.00
101x.	**Ex. Tigers,** gold edges	1.50	18.00
155.	**Tourists,** hard process finish	1.34	16.00
155x.	**Ex. Tourists,** gold edges	1.84	22.00
343.	**Cadets,** toy size, 1¾ x 2½	.84	10.00
343x.	**Ex. Cadets,** gold edges	1.25	15.00
29.	**Fanatleroy,** toy size, 1¾ x 2½	1.25	15.00
29x.	**Ex. Fanatleroy,** gold edges	1.75	21.00
	CLASS B.		
808.	**BICYCLE, Ivory finish**	**1.84**	**22.00**
808x.	**Ex. Bicycle,** gold edges	2.50	30.00
45.	**Texan,** enameled	1.75	21.00
45x.	**Ex. Texan,** gold edges	2.34	28.00
48.	**Pinochle,** 48 cards	1.75	21.00
64.	**Pinochle,** 64 cards	2.34	28.00
21.	**Junior,** size, 2¼ x 3½	1.67	20.00
21x.	**Ex. Junior,** gold edges	2.25	27.00
303.	**Army and Navy "Seconds"**	2.00	24.00
89.	**Treasury "Seconds"**	2.00	24.00
	CLASS C.		
188.	**Capitol,** double enameled	2.25	27.00
188x.	**Ex. Capitol,** gold edges	3.00	36.00
707.	**Cabinet,** landscape backs	3.34	40.00
707x.	**Ex. Cabinet,** gold edges	4.00	48.00
202.	**Sportsman's,** linen, Club backs	3.34	40.00
202x.	**Ex. Sportsman's,** gold edges	4.00	48.00
39.	**TROPHY WHIST,** 2¼ x 3½, new large indexes	**3.34**	**40.00**
39x.	**Ex. Trophy Whist,** gold edges	4.00	48.00
93.	**IVORY,** extra Whist size	**3.34**	**40.00**
93x.	**Ex. Ivory,** gold edges	4.00	48.00
2.	**Skat** (German faces), 36 cards	3.00	36.00
2x.	**Ex. Skat** (German faces), gold edges	3.50	42.00
3.	**Gaigel** (German faces), 43 cards	3.00	36.00
3x.	**Ex. Gaigel** (German faces), gold edges	3.50	42.00
95.	**Spanish Cards,** size, 2⅜ x 3⅝	3.34	40.00
	CLASS D.		
606.	**Ex. Congress,** gold backs and gold edges; 100 kinds	4.00	48.00
303.	**Army and Navy,** linen cards	4.00	48.00
505.	**Ex. Army and Navy,** gold edges	4.67	56.00
89.	**Treasury,** "Club series," finest linen	6.00	72.00
89x.	**Ex. Treasury,** gold edges; "Floral aeries;" designed and printed in many colors	7.00	84.00
366.	**Squared Faro,** Snowflake Faro backs	9.00	108.00

"National" Playing Cards.

No.		Doz.	Gro.
	CLASS A.		
9.	**Steamboat,** round corners	$ .84	$10.00
10.	**Ex. Steamboat,** gold edges	1.34	16.00
11.	**Arrow,** Scotch plaids	1.00	12.00
12.	**Ex. Arrow,** gold edges	1.50	18.00
1001.	**Aladdin,** process finish	1.17	14.00
1002.	**Ex. Aladdin,** gold edges	1.67	20.00
22.	**Rambler,** process finish, hard surface	1.25	15.00
23.	**Ex. Rambler,** gold edges	1.75	21.00
	CLASS B.		
33.	**Apollo,** enameled, aluminum surface	1.67	20.00
34.	**Ex. Apollo,** gold edges	2.25	27.00
600.	**Pinochle,** 48 cards, enameled	1.67	20.00
600.	**Pinochle,** 64 cards, enameled	2.34	28.00
133.	**Columbia,** size, 2¼ x 3½	2.00	24.00
134.	**Ex. Columbia,** gold edges	2.67	32.00
75.	**National Club "Seconds"**	2.00	24.00
175.	**Whist "Seconds"**	2.00	24.00
	CLASS C.		
44.	**Crescent,** double enameled	2.25	27.00
45.	**Ex. Crescent,** gold edges	3.00	36.00
55.	**Boston,** double enameled, linen stock	3.34	40.00
56.	**Ex. Boston,** gold edges	4.00	48.00
555.	**Full-House Poker Cards,** eleven and twelve spots in each suit	3.34	40.00
144.	**Tennis,** size, 2¼ x 3½, Whist backs	3.00	36.00
145.	**Ex. Tennis,** gold edges	3.50	42.00
175.	**Whist,** size, 2¼ x 3½, Whist backs	3.34	40.00
176.	**Ex. Whist,** gold edges	4.00	48.00
	CLASS D.		
67.	**Lenox,** gold edges and gold backs	4.00	48.00
49.	**El Dorado,** gold edges, backs many colors	4.00	48.00
1.	**Bijou,** size, 2¼ x 3½; gold edges, backs six colors, elegant cases	7.00	84.00
75.	**National Club,** extra linen stock, Club designs	6.00	72.00
76.	**Ex. National Club,** gold edges	7.00	84.00

The United States Playing Card Company,

CINCINNATI, U. S. A.

LEHN & FINK

IMPORTERS OF DRUGS,

Wholesale Druggists,

AND

Manufacturing Chemists,

OFFICE AND WAREROOMS:

128 WILLIAM STREET.

LABORATORY:

33 & 35 GOLD STREET,

WAREHOUSE:

80 PEARL STREET,

NEW YORK.

This 16 page insert includes prices and descriptions of our leading specialties; these are all salable goods, which druggists can profitably add to their regular stock.
Our complete Price-list of Staples mailed free on request.

LEHN & FINK,

WHOLESALE DRUGGISTS

AND

Manufacturing Chemists,

128 WILLIAM STREET,

LABORATORY & WAREHOUSE:
33 & 35 GOLD STREET,
and 80 PEARL STREET.

P. O. Box 3083,
NEW YORK.

We present in the following pages a descriptive price list of the specialties, laboratory products, chemicals, sundries, etc., which we have widely introduced to the drug trade of the entire country. The list will be an interesting one for all who believe in buying salable goods and who recognize such goods when brought to their attention. Every article appearing in this list is *our specialty*, and enjoys popularity and wide sale; a few articles, such as German Proprietary Specialties (see end of this list), are inserted because a considerable demand exists for them and we have special facilities for supplying the goods advantageously. The descriptions are brief and accurate, and convey valuable information. The prices quoted, while carefully noted, are of course only *approximate*; they are subject to fluctuation, and *not binding*. The prices in all cases are inclusive of containers, except where otherwise noted.

Acetanilid, L. & F. (U. S. P.).

Acetanilid has long been known as a chemical compound, but its value as an antipyretic was only discovered about 10 years ago, and the general investigation of its therapeutical uses then followed.

It has been employed with excellent results as a pain reliever in neuralgic and rheumatic affections, as a sedative, as a febrifuge, as an antipyretic, and the medical press teems with communications pointing out other uses. It has lately found strong endorsement for antiseptic purposes.

According to Drs. Cahn and Hepp it produces prompt apyrexia best by the administering of large doses at long intervals, and acts quickly and four times as strongly as Antipyrin. Its action is without disagreeable effect on the nervous system and stomach. The dose for adults is five to ten grains, with daily maximum of thirty grains.

The article put up and sold unter the arbitrary, copyrighted name "*Antifebrine*" is of the same chemical composition ($NHC_6H_5C_2H_3O$) and absolutely identical in its nature and effects with Acetanilid, (see *U. S. Pharmacopœia*, 1890, the new *German Pharmacopœia*, 1890, and other standard works of reference), although sold at three times the price of Acetanilid, L. & F. ☞ Physicians should therefore prescribe the remedy by its true chemical name, Acetanilid, and discountenance the proprietary assumption.

Crystals, 1 oz. packages	oz.	.08
Crystals, 1 lb. "	lb.	.45
Powdered, 1 oz. "	oz.	.10
Powdered, 1 lb. "	lb.	.50

In bulk, according to quantity, at special prices.

Acid Boracic, C. P. Powd.

Impalpable powder, for insufflating. This C. P. grade should be used in prescriptions to the exclusion of commercial Acid.

1 lb. cartons ..... lb. .40

Acid Camphoric, L. & F.

A product of the oxydation of camphor; recommended by REICHERT as an antiseptic, astringent, and disinfectant for typhoid stools. In 1 to 2 per cent. solution, it is used as gargle or spray in angina and bronchitis; in 3 to 6 per cent. solution for laryngeal tuberculosis. Internally it has been administered in doses of 1 to 2 grammes, three times daily, to prevent the night-sweats in phthisis.

1 oz. vials ..... oz. .50

Acid Carbolic, crystals.

The acid which we offer with our label is manufactured for us by a leading firm, and is guaranteed to be of the utmost purity, crystalizing at 104° F., of more agreeable odor and taste, and less liability to discoloration than the impure grades. We furnish the crystals of pure, white color, and convince ourselves of this condition of each bottle before shipping; it is, however, impossible to prevent the pinkish discoloration—and scientists being unable to this day to even give a reason for such discoloration, it must be self-evident that no manufacturer can guarantee against the contingency—and we will not be responsible for any change of color, nor can we allow reclamations on this account.

Descriptive label, with full directions for all purposes, attached to every bottle and can. Quotations are subject to market fluctuations.

1 lb. bottles (50 lbs. lots @ 22c.)	lb.	.25
5 lb. cans	lb.	.19
10 lb. "	lb.	.18
25 lb. "	lb.	.16
50 lb. "	lb.	.15½

Acid Phosphates, Liquid, L. & F.

A popular Refrigerant and Nerve Tonic, for medicinal use and for the soda-water fountain. Contains about 10 per cent. of Phosphoric Acid, H_3PO_4, partly free and partly combined with calcium, magnesium, potassium, sodium and iron.

Dose:—1 to 4 cc. (¼ to 1 fl. dr.) in sweetened water, or in carbonated water with syrups.

For soda-water fountain use, add ½ pint of the liquid to 7½ pints of simple syrup.

1 pint bottles	pint	.20
5 pint bottles	each	.80
1 gall. jugs	each	1.00
5 gall. jugs	per gall.	.80

Acid Phosphoric, (Syrupy) Conc., C. P. (U. S. P.).

This Syrupy Phosphoric Acid, Sp. gr. 1.70 (85% H_3PO_4) is now official in the new U. S. P. One pound diluted with 11 oz. distilled water yields "Acid. Phosphor. conc. U. S. P. '80", Sp. gr. 1.347; one pound diluted with 7 lbs. 8 oz. distilled water yields "Acid. Phosphor. dil. U. S. P. '90", Sp. g . 1.057.

1 lb. bottles	lb.	.50
11 lbs. "	lb.	.38

Acid Tannic, C. P.

This imported Tannic Acid is absolutely chemically pure, makes a clear solution in water, and is recommended for prescription use, and in all liquid preparations.

1 lb. Cartons ..... lb. 2.00

Almond Meal, Compound, perfumed.

The compound preparation of almond meal enjoys great favor as a specialty for toilet use.

In bulk ..... lb. .35

Aluminum Aceto Tartrate.

Athenstaedt's patent. An excellent antiseptic, and widely used for ozœna and other rhinological affections. It occurs in shiny, gum-like, crystals, with an odor of acetic acid, and of a sweetish astringent taste; is soluble in cold distilled water, but not in alcohol, ether or glycerin. It is preferably applied by insufflation. To preserve full solubility this remedy must be kept in glass, carefully corked

1 oz. vials	oz.	.25
1 lb. bottles	lb.	2.00

Amylenhydrate, L. & F.

This hypnotic is considered preferable to chloral hydrate or paraldehyde, being free from the harmful and unpleasant effects of those two hypnotics; 3 to 4 grammes are sufficient to produce quiet and refreshing sleep, lasting from 6 to 9 hours; it is harmless even in doses of 5 grammes.

1 oz. vials	oz.	.45
1 lb. bottles	lb.	6.50

Amyl Nitrite, Pearls.

These pearls afford a convenient means for administering this important remedy for asthma, angina, spasms, hiccough, epileptic convulsions, etc.; they are made of thin glass, contain from 2 to 10 drops each, and are readily crushed in a handkerchief from which the vapor is inhaled and relief found. LEHN & FINK first introduced these pearls, and for years supplied the entire demand in this country.

Dose	2	3	4	5	8	10 drops.
Price	.30	.30	.35	.35	.40	.45 per Dozen.
Price	2.00	2.25	2.50	2.75	3.25	3.50 per 100.

Antitoxic Serum. See Diphtheria Antitoxic Serum.

New Remedies: For twenty years we have actively interested ourselves in the purveying and introduction of new therapeutic agents. In the earlier days botanical products; later, compounds of synthetic chemistry; and lately, biological products. We aim to always procure the earliest supplies of every meritorious introduction; our wide affiliations with firms in all countries enable us to maintain this record. When in need of new or rare remedies apply first to Lehn & Fink, New York.

Atomizer, Improved, "Blancoline."

This atomizer is specially designed for spraying Blancoline Liquid, and similar petroleum products and oils. It is of simple construction, and not easily broken or put out of order: the tube and spray are of hard rubber with an improved, newly patented, aluminium connection, which enables the use of the spray for all required purposes: nose, throat, ear, etc., and practically dispenses with different points necessary in other atomizers. It will break up into a perfect vapor every particle of Liquid Blancoline or other oil used, producing an even deposit of the liquid If solid Blancoline is used, put same into the bottle and heat in hot water or over a flame until the Blancoline liquifies After use, clean the hard rubber tube with hot water and a wire, or by suction. See also, "BLANCOLINE," in this list

Each Atomizer in separate box ..... doz. 9.00

Atomizers, German Steam.

These atomizers represent the perfection of workmanship; they are neat and elegant in appearance, of good material, durable and serviceable. Illustrated circular, with description and prices, mailed on request.

No. 1	dozen	6.00
No. 2	"	9.00
No. 3	"	12.00
No. 5	"	21.00
Glass Face Shields, for Atomizers, separate	"	2.00
Glass Spray Tubes, for Atomizers, separate	"	1.25

Atramin.

A convenient powder for extemporaneously manufacturing various varieties of ink, of intensely black color. It is free of acid, and dissolves readily in water; mix in glass preferably. Directions for preparing: Writing Fluid, 1 oz. Atramin, 3 pints water; Copying Ink, 1 oz. Atramin, 5 drs. Dextrine, 1 pt. water; Stamping Ink, 1 oz. Atramin, 1 oz. water, 2 ozs. glycerine.

1 oz. cartons ..... oz. .15
1 lb. cartons ..... lb. 1.50

Bassorin Paste.

A Neutral Vehicle or Ointment Base for Dermatologic Use.

Bassorin paste is a new base recently coming into use for applying remedies to the skin; it is a soft, smooth, homogeneous paste, resembling petrolatum in consistency; dissolves or suspends all remedial substances—except tannates and iron compounds; dries quickly on the skin, and can be easily removed with sponge and water. Applied as a salve and covered with absorbent cotton, it forms a permanent coating, like a plaster. The combination of advantages thus offered commend the substance for general use. Highly recommended by Dr. P. G UNNA, of Hamburg, by Dr. GEORGE T. ELLIOT, of the N. Y. Skin & Cancer Hospital, and Lecturer on Dermatology at the N. Y. Post-Graduate School, etc., and by other equally prominent authorities.

NEW OINTMENT BASE BASSORIN PASTE

Price per 1 lb. bottle ..... incl. .75
In 5 lbs. packages ..... per lb. .65

Bay Essence, Soluble, L. & F.

For making Bay Rum of finest quality. Take 2 ozs. of "L. & F. Soluble Essence of Bay," 4¾ pts. of alcohol, and 3¼ pts. of water; mix and color with caramel to suit. The result will be one gallon of a superior, full strength Bay Rum of natural and agreeable fragrance and odor.

1 lb. bottles ..... lb. 3.00

Bay Rum, Imported.

Our own importation, from St. Thomas, W. I. Superior quality guaranteed

1 gall.	container extra	gall. 2.25
5 gall.	" "	gall. 2.15
10 gall.	" "	gall. 2.10
½ barrel, 25 gallons	incl.	gall. 2.00
1 barrel, 45 gallons	incl.	gall. 1.95

Beef, Wine and Iron. See under Druggists' Specialties.

Bismuth Salicylate, Basic, 64 per cent., L. & F.

Bismuth Salicylate, $Bi(C_7H_5O_3)_3 Bi_2 O_3$, containing 64% of oxide (Bi_2O_3). An amorphous, whitish-yellow powder; insoluble in water, and not affected by alcohol, chloroform or ether. This preparation should be invariably dispensed on prescription; inferior grades contain free salicylic acid, and have an irritating effect. Specify "L. & F."; we guarantee the quality. *Externally* it is used as an iodoform substitute. *Internally* it has proved valuable as an astringent and antifermentative, specially useful in chronic diseases of the digestive organs and intestines, in diarrheas, and to prevent fermentation in the intestines, in typhoid fever, etc.

DOSE:—5 to 15 grains daily, or the same amount in smaller doses frequently repeated, in wafers, cachets or capsules, with sugar of milk; for children proportionately smaller doses, with ½ grain as minimum single dose.

1 oz. vials ..... oz. .25
1 lb. bottles ..... lb. 3.00

BISMUTH SALICYLATE, 40 per cent.—This is the current commercial product, frequently supplied on unspecified orders by the trade. We furnish this grade only if especially designated.

1 oz. vials ..... oz. .20
1 lb. bottles ..... lb. 2.00

Blancoline.

SOLID AND LIQUID BLANCOLINE OL. PARAFFIN. PUR. A BLAND, NEUTRAL VEHICLE FOR SPRAY OR OINTMENTS.

SOLID.—A perfectly white, odorless, superior ointment base, conforming to the U. S. P. requirements for pure petrolatum; will not turn rancid. Specially designed for medicinal and pharmaceutical use, and recommended for the preparation of elegant toilet requisites, such as cold cream, camphor ice, etc.

LIQUID.—The same as above, but in permanently liquid form; it is colorless—water-clear, odorless, tasteless, and will not become rancid. Suitable for fine preparations, for injecting and spraying. (See Blancoline Atomizer.)

Put up in 1 lb. tins (Solid) and 1 lb. bottles (Liquid); and in 5 lb. cans.

1 lb. bottles or tins ..... lb. .35
5 lbs. cans ..... lb. .30

Special quotations for larger quantities.

Bonbons, Toussaint's Extract of Malt.

An elegant "cough drop" confection for the retail trade. Put up in cartons to retail at 10 cents each; 2 dozen cartons in a box.

In boxes to retail at 10 cts., (2 dozen in box) ..... box 1.60
In 5 lb. boxes, in bulk ..... box 1.50

Bromoform, L. & F.

A colorless liquid, boiling at 151° C., and solidifying at 2.5° C. Specific gravity is 2.83 at 0° C. Bromoform has long been known as an anaesthetic, but has lately received new importance as a remedy for whooping cough. Doses vary from two to six drops for children of one to eight years of age; the dose should be given in a teaspoonful of water. Bromoform has a pleasant taste and is readily taken by children. Its mollifying effect on the cough is very prompt; cures are effected in form one to three weeks.

In 1 oz. vials ..... oz. .30

Brushes, Camels Hair.

Imported; made of best quality, fully guaranteed.

Swan Quill	gro.	4.00
No. 0	gro.	2.50
No. 1	gro.	2.00
No. 3	gro.	1.50
No. 5	gro.	1.00
No. 7	gro.	.75

Brushes, Throat.

Imported, extra hand-finished, Camel's Hair.

Camel's Hair, wire handle ..... doz. .75
Camel's Hair, wood handle ..... doz. .60

Cachets, Medicinal Wafers.

Our own importation; put up 1000 in a box. (See also Wafers.)

No. 1, large	box	1.10
No. 2, medium	box	1.00
No. 3, small	box	.90

Camphor Ice, Warren's.

An elegant preparation of camphor and glycerin; neat and salable.

Per dozen ..... .75

Candelae Fumalis. See Fumigating Pastilles.

Capsules, Creasote. See Creasote.

Capsules, Empty.

Our Empty Capsules are made of best quality gelatine; the capsules are clear and transparent, and the ends carefully trimmed; the sizes are accurately graded and numbered, from No. 00 to No. 5. (seven sizes.)

100 in box ..... doz. 1.25
1000 in box ..... 1000 .75

Special quotations for large quantities.

Capsules, Filled.

Jambol Seed, 3 grains, 100 in box 100 2.00
Warburg's Tincture, representing 1 drachm each, boxes of 1 doz. .25

"	with	"	"	1	"	"	"	" 100 ..	2.00
"	or	"	"	2	"	"	"	" 1 doz.	.40
"	without Aloes	"	"	2	"	"	"	" 100 ..	3.00

OUR STOCK OF FINE AND RARE **Chemicals** FOR MEDICINAL, TECHNICAL AND ALL USES

is the most complete, comprehensive and reliable of any in this country. We draw our supplies from the leading manufacturers of the world, procuring each article from its best and most direct source. We fill orders from stock, and contract for specified deliveries on special import orders. Outfits for Educational Purposes a Specialty.

Cathartic Salt, German. See Salt, German Cathartic.

Chalk Drops, select.

lbs. boxes.....lb. .08
n bulk.....lb. .05

Chalk, Precipitated, English.

Imported specially on account of its purity, whiteness, and bulky, light weight; suitable for tooth and face powders, and other preparations of like kind.

lbs. bundles.....lb. .09
n bulk, 100 lb. Kegs.....lb. .07
n bulk, 300 lb. Bbls.....lb. .06½

Charcoal, Willow.

Our own powdering, as fine as possible and bolted through fine sieves; a pure, impalpable powder, for tooth powders and fine preparations.

lb. cartons.....lb. .16

Chloralamid (Schering's).

Chloralamid, the safe and efficient hypnotic, manufactured by Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany, possesses undoubted advantages over other similar preparations, and the many trials made and reported since its introduction, have been unanimously favorable.

Chloralamid has been incorporated in the new German Pharmacopoeia,—a most significant triumph for so new a remedy, discovered and introduced about simultaneously with the completion of the revision. Also included in the British Official List of Materia Medica.

Chloralamid is an addition-product from chloral anhydride and formamide; it is a white crystalline body, of slightly bitter taste; it is decomposed in alkaline solutions, and is, therefore, best given in a slightly acid one. It dissolves in nineteen parts of water, but should not be dissolved in boiling water. The dose is from fifteen to forty-five grains.

Descriptive pamphlet, containing exhaustive papers by many eminen clinicians and general practitioners, will be mailed to any physician or pharmacist on request.

5 grammes in a package.....pkge. .80
n lots of 25 packages.....pkge. .70
n " " 100 " .....pkge. .65

Chloralamid (Schering's), Elixir of.

Chloralamid is a superior hypnotic: an efficient and safe sleep producing agent; its use is not attended by unpleasant and untoward side or after-effects, nor will confined use develop a habit or necessitate increasing dosage. Eminent medical authorities have endorsed Chloralamid, and its popularity is steadily increasing.

To obtain the best effect from chloralamid it is necessary to dispense it in convenient solution, and knowing that this sometimes offers difficulty to those unfamiliar with all the facts regarding chloralamid—and that the remedy consequently fails of effect from no intrinsic fault, we have prepared this Elixir of Chloralamid, an elegant preparation: a clear and perfect solution, and palatable.

Each tablespoonful of Elixir contains one gramme (15 grains) of Chloralamid-Schering. Directions:—A tablespoonful at a dose, taken one-half hour before sleep is desired; if effect is not prompt and satisfactory the dose may be repeated at intervals of 15 minutes—not more than twice.

Put up only in 8 ounce bottles.....doz. 9.00

Chloral Hydrate, L. & F.

We absolutely guarantee the purity and general superiority of this article; it is put up in bottles and jars of all sizes, with Lehn & Fink's label. Inquiries for special puotations on large lots solicited; special terms will be made for supplying on contract.

Crystals, ¼ lb. bottles.....lb. 1.30
" ½ lb. " .....lb. 1.20
" 1 lb. " .....lb. 1.10
" 5 lbs. " .....lb. 1.05
" 28 lbs. jars.....lb. .95

Chlorophyll, Schuetze's.

A purely vegetable green coloring for use of pharmacists, perfumers, soap-makers, confectioners, and manufacturers generally. Write for detailed descriptive circular.

Pure Chlorophyll.....(per lb. $4.50).....oz. .30

For soaps, fats, ointments, oils etc.; 1 part will color 400 to 500 parts of material.

Vegetable Green Coloring, No. 1.....(per lb. $3.00).....oz. .25

For confectionery, syrups, liquors, cordials, sauces, pickles, preserves, etc.; 1 part will color 500 to 800 parts of material.

Vegetable Green Coloring, No. 2.....(per lb. $3.00)..... oz. .25

For strong alcoholic solutions, containing 90 per cent. alcohol; 1 par will color 300 parts of material.

Chocolate Syrup. See Syrup, Dutch Chocolate.

Cineraria Maritima, Juice of.

A remedy of peculiar potency in arresting and improving partial blindness induced by cataract of the eye, or from other causes; introduced into England by Dr. Mercer, of Venezuela (where the plant is indigenous), whose testimony was conclusive, as his experiments were made on his own eyes, after failure to find relief under the care of eminent specialists. Two drops of the juice are dropped into the pupil three times daily, continued for several months. The application causes no inflammation, and only a temporary burning sensation with lachrymal flow of short duration. Confirmatory testimony has been gathered in England and this country during the past few years, and there is no reasonable doubt as to the efficacy of the remedy.

Original bottles of about ½ oz.....each 3.00

Cocain, Hydrochlorate, Crystals, L. & F.

A pure, effective and reliable muriate of cocain, in absolutely anhydrous crystals, of pure white color, and free from organic matter. We lay particular stress on our claim that no purer, handsomer, or superior salt can be produced. Copies of standard tests, all of which are applicable to L. & F. Cocain Muriate, will be furnished on request

⅛ oz. vials.....⅛ oz. .70
1 oz. vials.....oz. 4.90
In bulk.....lb. 4.75

Special quotations on large quantities furnished on request.

Coca Wine. See Druggists' Specialties.

Cocoa, L. & F. Dutch.

Powdered and soluble; for use in syrup form at the Soda Fountain, and likewise for home use as a "Breakfast Cocoa." It is an absolutely pure powdered cocoa, free from cocoa butter, and containing no sugar, flour, starch, or other foreign ingredient. One teaspoonful will make a delicious cup of chocolate; one-half pound will make a gallon of soda-water syrup, yielding an unsurpassably rich and delicious beverage with soda-water. Directions for use accompany each can. Put up only in 5 lbs. cans. (See also Chocolate Syrup.)

Price by single can.....per lb. .50
In lots of five cans.....per lb. .45
In lots of twenty cans (1 case).....per lb. .42

Cocoa Butter, Refined, L. & F.

This article is imported by us from the European markets, where we are direct buyers; we guarantee the absolute purity of the product. (*Syn*—Ol. Theobromæ, Cacao Butter).

½ lb. cakes.....lb. .50
12 lbs. boxes, ½ lb. cakes.....lb. .42

Cod Liver Oil, Lofoden (Norwegian).

We import direct from the Lofoden Islands, Norway, in original, tin-lined barrels, the finest quality of pure, ice-refined, non-freezable Norwegian Cod-liver Oil brought to this country; our trade mark name for our oil is "BRILLIANT WHITE." We claim, without qualification, that no better oil is made or sold anywhere in the world, and we invite the closest comparison with any other brands. Besides being brilliantly transparent, and of pleasant odor and taste, its freezing point is at the lowest degree, insuring against precipitation of stearic acid, and other deterioration by changes of temperature.

In barrels of 30 gallons.....Bbl.53.00
In 10 gall. cans.....container extra gall. 1.90
In 5 " " .....container " gall. 1.95
Less quantity.....container " gall. 2.10
In 12 oz. bottles, lithographed label, for counter sale...doz. 3.50

Cologne Oil, L. & F.

For making Cologne Water. Four ounces of this oil dissolved in one gallon of rectified spirits, to which five per cent. of water is added, yield a strong, superfine Cologne Water, closely resembling the genuine Farina: should the product be too strong, it may be diluted to desired strength.

1 oz. vials.....oz. .50
¼ lb. bottles.....lb. 6.50
1 lb. " .....lb. 6.00

Chloralamid-Schering.

A Prompt, Sure and Safe HYPNOTIC—is official in European Pharmacopeias—used and endorsed by leading authorities—*write for* our 64 page pamphlet, giving full monograph and opinions of Practitioners Everywhere.

Supplied in 25 Gram Packages; Dose: 1 to 3 Grams.

LEHN & FINK, Sole Agents, New York.

Cones. See Santonine.

Cottons, Antiseptic, L. & F.

Absorbent, 1 oz.	lb.	.50
" 2 oz.	lb.	.45
" 4 oz.	lb.	.40
" 8 oz.	lb.	.35
" 1 lb.	lb.	.30
Borated, 1 oz.	lb.	.70
" 2 oz.	lb.	.65
" 4 oz.	lb.	.60
" 8 oz.	lb.	.55
" 1 lb.	lb.	.50
Carbolated, 1 oz.	lb.	.70
" 2 oz.	lb.	.65
" 4 oz.	lb.	.60
" 8 oz.	lb.	.55
" 1 lb.	lb.	.50
Corrosive Sublimated, 1 oz.	lb.	.70
" " 2 oz.	lb.	.65
" " 4 oz.	lb.	.60
" " 8 oz.	lb.	.55
" " 1 lb.	lb.	.50
Salicylated, 1 oz.	lb.	.85
" 2 oz.	lb.	.80
" 4 oz.	lb.	.75
" 8 oz.	lb.	.70
" 1 lb.	lb.	.65

Creosote, C. P., (From Beechwood Tar), U. S. P.

The only official product for medicinal use.

This has become a popular remedy for phthisis and pulmonary troubles, and is highly recommended in communications to the medical press by Prof. Julius Sommerbrodt, of Breslau, Germany, Prof. Dr. Beverly Robinson, New York, Dr. G. W. Daywalt, San Francisco, Dr John A. Jeffries, Boston, Prof. Guttman, Berlin, Prof. Bourget, Geneva, and many others. All agree that only an absolutely pure creosote is at all of value, and that L. & F. Creosote is of such quality is readily proved by applying to it all tests of the new U. S. P. and Germ. Pharm., the requirements of which it meets perfectly. There is no purer or better C. P. Creosote in the market than the L. & F. brand, which has been in use now for several years and has always been of the present uniform standard.

1 lb. bottles ..... lb. 1.00

Larger quantities on special terms.

Creosote Capsules, Prof. Sommerbrodt's.

Prof. Dr Julius Sommerbrodt's latest reports on the use of C. P. Creosote for the cure of tuberculosis *(Berliner Klinische Wochenschrift*, No 43, Oct., 1891), giving the results and conclusions of an experience in many thousands of cases extending over twelve years, has aroused new interest in, and induced the general adoption of, his method of treatment He uses and recommends these capsules, and disapproves of administering creosote in any different form, particulary objecting to the combination with balsam of tolu, and the pill form.

Directions:—As instructed by Prof. Sommerbrodt, these capsules contain each 0 1 gramme (2 minims) of C. P. Creosote, from Beechwood-tar, with suitable cod-liver oil vehicle. The dose for patients over ten years of age is at least 10 capsules (1 gramme) per day, to be increased in accordance with indications in each case—age, constitution, severity of disease, etc.—to as much as 40 capsules (4 grammes) per day. The remedy should never be taken on an empty stomach, but always after the three principal meals of the day.

By special contract we are the sole agents in America for Prof. Sommerbrodt's Creosote Capsules. Every package contains 100 capsules, and label and outside wrapper bear the *facsimile* signature of Prof. Sommerbrodt to guarantee against imitations and unauthorized substitutes.

In bottles containing 100 capsules ..... per doz. bottles 9.00

Creosote Inhaler, "Acme."

This apparatus was specially designed for the inhalation of Creosote, after the modified suggestions of Dr. G W. Daywalt, of San Francisco. Since their introduction many of these Acme Creosote Inhalers have been extensively used in practice by physicians in all parts of the country, and the reports have uniformly endorsed the simplicity and practicability of the apparatus. Full, illustrated description, with treatise on C. P. Creosote, from beechwood-tar, and its uses, will be mailed on application.

Acme Creosote Inhaler, packed in separate box, ... each 4.50

Diphtheria Antitoxic Serum, Gibier's.

We are sole wholesale agents for the sale of *Gibier's Antitoxic Serum for Diphtheria*, produced according to Roux' formula at the New York Pasteur Institute. This serum was first supplied Nov. 26, 1894, and regularly thereafter in constantly increasing quantities. On March 1, 1895, and for some time previously, sixty horses were under control of the Institute, all inoculated to the highest obtainable degree, and furnishing serum of an immunizing power equivalent to 1 to 100,000; i. e. 1 ccm sufficient to immunize body weight up to 100,000 ccm. (100 kilo, or 220 lbs.) This serum was the first produced in America; it has been extensively employed, with best results, and is now in regular use by scores of Boards of Health, as many Hospitals, and by hundreds of physicians in all parts of the United States and Canada. Descriptive circular, with clinical reports and all other information, will be supplied on request.

Only one grade or strength of this serum is supplied; viz., 1 to 100,000, the highest obtainable. It is put up in small tubes, sufficient for immunizing a dozen children or treating a mild, incipient case, and in large vials containing enough for two or three days' treatment of advanced cases.

Small tubes, 7 ccm ..... each 1.25
Large vials, 25 ccm ..... each 3.00

(Discount to Drug Trade).

Diphtheria Antitoxin, Dry, Gibier's.

Made at the New York Pasteur Institute.

The advantages of this product are many: Primarily, it preserves its antitoxic qualities and resists deterioration for an indefinite length of time. Wherever the fresh Antidiphtheritic serum is not obtainable, this dry Antitoxin should be procured and held in reserve by the physician or kept in stock by the druggist. It may be transported any distance without being injured by heat or frost. It is easily dissolved in sterilized water, and is at once ready for use. On account of the elimination of certain principles of the serum from which the dry antitoxin is extracted, it is expected that urticaria and other sequellæ will not follow these injections.

Directions: Add 10 ccm. sterilized water to the Antitoxin in the vial and dissolve, aiding solution by shaking.

For Immunizing: Inject ½ to 2 ccm., according to age and weight. It is well, for instance, to give children under two years of age only ½c cm.; from two to ten years, 1 ccm.; over ten years, 2 ccm. The Antitoxin is innocuous for all but the diphtheria germ, and hence it is safe and advisable to give a little more rather than the exact dose.

For Treatment: The contents of one vial (1500 units), or one-half for children, will suffice in incipient cases; for advanced cases, from one to two vials per day are requisite, and, on the plan of Roux, Behring and others—that too much of the remedy cannot be given, while too little may risk chances of success—as much as three vials may be advantageously injected on the first day in severe cases.

In 10 ccm. vials, cont'g 1 gramme Antitoxine ..... each 1.80

(Discount to Drug Trade).

Druggists' Specialties.

Prepared in our own laboratory, and put up in attractive style for general sale. In 3 dozen lots and over, buyers' name printed on labels and cartons without extra charge.

BEEF, IRON AND WINE.

A superior, elegant preparation of this popular specialty. Composed of a pure fruit wine (imparting a distinct and characteristic aroma and gratefully aromatic taste), genuine Liebig's extract of beef, and soluble iron. We supply the article of uniformly excellent quality, and it can be adopted and successfully introduced as a leading specialty anywhere.

Put up in attractive style for general sale; in 3 dozen lots we print buyers' name and card on labels and wrappers without extra charge.

8 oz. bottles	doz.	2.00
12 oz. bottles	doz.	3.00
1 pint bottles	doz.	3.50
5 pint bottles	each	1.00
5 gallon jugs	gall.	1.50

In larger quantities, special quotations on request.

COMP. EXTK. SARSAPARILLA, with Iodide of Potash.

1 gall. jugs	gall.	2.50
5 pint bottles	each	1.75
1 pint bottles, in carton	doz.	3.75
8 oz. bottles, in carton	doz.	2.00

EMULSION COD LIVER OIL.

1 gall. jugs	gall.	2.25
1 pint (nominal) bottles, in carton	doz.	4.50
8 oz. (nominal) bottles, in carton	doz.	2.50

EMULSION COD LIVER OIL, with Hypophosphites of Lime and Soda.

1 gall. jugs	gall.	2.25
1 pint (nominal) bottles, in carton	doz.	4.50
8 oz. (nominal) bottles, in carton	doz.	2.50

WINE OF COCA.

1 gall. jugs	gall.	3.00
5 pint bottles	each	2.00
1 pint bottles	doz.	6.00

Special quotations on large bulk quantities of above.

Dulcin.

Made by J. D. Riedel, Berlin, Germany. An artificial sweetening agent, 200 times sweeter than cane sugar. It has a pure and agreeable, natural sweet taste; and as physiological tests (Kobert and others) have proved that the amount necessary for use does not cause disorders in the human organism, Dulcin can be advantageously employed for all purposes as a perfect substitute for cane sugar.

L. & F. Dutch Cocoa

For Soda Fountain or Home Use.
Powdered and Soluble.
Free from cocoa butter, and contains no sugar, flour, or starch.

Put up in 5 lbs. cans. Imported solely by
LEHN & FINK, - New York.

Makes a Rich, Delicious, and Nutritious Beverage.

Dulcin, or paraphenetolcarbamid, CO NH_2.NH.C_6H_4.OC_2H_5, introduced by Berlinerblau, is prepared by bringing urea to act upon hydrochlorate paraphenetidin or diparaphenetolcarbamid at high temperature under pressure. It melts at 173 to 174° C.; is soluble in 25 parts alcohol, 50 of boiling water and not less than 800 of cold water; it can be boiled in water without decomposing and will not escape in the steam, but it must not be heated beyond its melting point.

In 1 oz. vials ..... oz. 1.00
In bulk ..... lb. 14.00

Duquesnel's Granules.

We are sole agents for the below quoted Granules of Duquesnel, and are prepared to supply any of the granules prepared by this well-known manufacturer.

Aconitine, cryst., ¼ milligr. (about 40 in bottle) ..... bot. .75
Colchicine, cryst., 1 milligr. " 60 " " ..... bot. .75
Digitaline, cryst., ¼ milligr. " 60 " " ..... bot. .75

Effervescent Salts, L. & F.

The Eff. Bromide (or Hydrobromate) Caffein is confidently recommended as a superior product of its kind. It is manufactured for us by one of the largest manufacturers of Caffein in the world, and this product combines with unquestioned purity and strength, beautiful appearance and guaranteed efficacy.

Caffein Hydrobromate, ¼ lb. bottles ..... doz. 3.50
" " 1 lb. " ..... lb. .50
Magnesia Citrate, ¼ lb. bottles ..... doz. 2.50
" " 1 lb. " ..... lb. .40

Elixir Chloralamid (Schering's). See Chloralamid.

Elixirs.

Our Elixirs are carefully prepared by an experienced pharmacist, in our own laboratory, from select material, according to U. S. Pharmacopoeia, National Formulary, and other standards. In the following list only pints are quoted; in 5 pints or larger quantities we prefer to make special quotations.

See Regular List in this issue.

Emulsion of Cod Liver Oil. See Druggists' Specialties.

Essence of Pepsin.

A Reliable Digestive Aid; Palatable and Convenient for Administration. A teaspoonful of this Essence taken immediately before or after meals, will aid the digestive process, and judiciously continued use of the preparation will afford permanent relief from the suffering due to chronic indigestion.

Our Pepsins of different grades have been in the market for many years, and have earned an enviable reputation for uniformity, reliability and general superiority. This Essence is made from our highest grade pepsin, and shares equally the good qualities which distinguish that scale product in therapeutic use.

5 pint bottles ..... each 3.00
1 gall. demijohns ..... each 4.50

Extracts, Fluid, L. & F.

"L. & F. Fluid Extracts" are now regularly supplied from our own laboratory, where they are manufactured by most approved processes, from select crude drugs, by an experienced pharmacist in special charge of this department. We invite examination and comparison with other makes, and trust our friends will hereafter specify, "L. & F." when ordering.

See Regular List in this issue.

Extracts, Powdered, L. & F.

Accurately prepared of U. S. P. strength, finely powdered, and will keep in this condition if ordinary care is exercised.

See Regular List in this issue.

Extracts, Solid, L. & F.

Standard preparations, imported from Germany or manufactured in our laboratory, from select crude drugs, by approved process.

See Regular List in this issue.

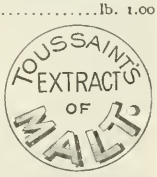
Extract of Malt, Powdered, L. & F.

This is a preparation of malt occuring in the form of a flocculent powder, of exceeding lightness, bright color and ready solubility. An admirable liquid preparation is obtained by mixing 10 parts of this dry extract with 4 parts of water, milk, beer, or wine.

¼ lb. bottles ..... lb. 1.20
½ lb. " ..... lb. 1.10
1 lb. " ..... lb. 1.00

Extract of Malt, Toussaint's.

This justly popular preparation is a pure product, made in vacuo, according to special and approved methods. It is of syrup consistency, agreeable taste, and readily mixes with milk, beer, or other customary vehicle. It is offered in bulk for hospital use, and in regular 12 oz round bottles, holding 1 lb. by weight, in the following combinations:



TOUSSAINT'S EXTRACT OF MALT, WITH

CASCARA SAGRADA. A popular and excellent combination of Tonic Laxative and Nutritive properties. Each tablespoonful contains thirty grains of Cascara Sagrada. Price, per bottle, 65 cts.

PYROPHOSPHATE OF IRON. For Anæmia and Chlorosis. Each tablespoonful contains six grains, or 2 per cent. of Pyrophosphate of Iron. Price, per bottle, 65 cents.

DIALYSED IRON. For Anæmia and Chlorosis. Each tablespoonful contains twelve grains of Dialyzed Iron. Price, per bottle, 65 cents.

IODIDE OF IRON. For Scrofula, Syphilis, etc. Each tablespoonful contains one grain of Iodide of Iron. Price, per bottle, 65 cents.

IRON AND PEPSINE. Each tablespoonful contains three grains each of Iron and Pepsine. Price, per bottle, 65 cents.

IRON AND LIME. For all diseases of the Lungs. Each tablespoonful contains three grains each of Iron and Lime. Price, per bottle, 65 cents.

IRON AND QUINIA. For Strengthening the System. Each tablespoonful contains two grains of Citrate of Iron and Quinia. Price, per bottle, 65 cents.

PEPSINE. For Promoting Digestion. Each tablespoonful contains six grains of Pepsine. Price, per bottle, 65 cents.

IODIDE OF CALCIUM. For Phthisis. Each tablespoonful contains three grains of Iodide of Calcium. Price, per bottle, 65 cents.

IODIDE OF POTASSIUM. For the Absorption of Products of Inflammations, Effusions, etc. Price, per bottle, 65 cents.

HYPOPHOSPHITE OF LIME. For Phthisis and all Diseases of the Lungs. Each tablespoonful contains six grains of the Hypophosphite of Lime. Price, per bottle, 65 cents.

HYPOPHOSPHITES. For Phthisis and all Diseases of the Lungs Each tablespoonful contains six grains of the Hypophosphites. Price per bottle, 65 cents.

COD LIVER OIL. For all Diseases of the Lungs. Each tablespoonful contains one dram of Cod Liver Oil. Price, per bottle, 65 cents.

COD LIVER OIL AND LIME. For all Diseases of the Lungs. Each tablespoonful contains thirty grains of Cod Liver Oil and six grains of Hypophosphite of Lime. Price, per bottle, 65 cents.

COD LIVER OIL AND IODIDE OF IRON. For all Diseases of the Lungs Each tablespoonful contains thirty grains of Cod Liver Oil and one grain of Iodide of Iron. Price, per bottle, 65 cents.

COD LIVER OIL AND CITRATE OF IRON AND QUINIA. For all Diseases of the Lungs and for Strengthening of the Blood. Each tablespoonful contains two grains of Citrate of Iron and Quinia, and thirty grains Cod Liver Oil. Price, per bottle, 65 cents.

QUINIA. (Tasteless.) Each tablespoonful contains three grains of Quinia. Price, per bottle, 65 cents.

HOPS. An Excellent Aromatic Tonic. Each tablespoonful contains two grains of Extract of Hops. Price, per bottle, 65 cents.

Plain, in bottles ..... doz. 4.00
Plain, in bulk ..... gall. 3.50
All Combinations, in bottles ..... doz. 5.00
All Combinations, in bulk ..... gall. 3.75

Extract of Malt, Bonbons. See Bonbons, Toussaint's Malt.

Extracts, Triple. Duval Frères.

Uniform and superior quality, made especially for us at Grasse, Alpes-Maritimes, France. Put up in 4 oz. and 8 oz. round, glass-stoppered bottles, bearing attractive, lithographed labels. We recommend these odors as equal to any of the popular lines of extracts sold in the United States.

SPECIAL TRADE-MARKED ODORS:

"ELKA BOUQUET,"
and "COLUMBUS BOUQUET."

¼ pint bottles ..... Pint 3.25
½ pint bottles ..... Pint 3.00

"RIVIERA VIOLETS."

¼ pint bottles ..... Pint 4.25
½ pint bottles ..... Pint 4.00

REGULAR ASSORTMENT OF ODORS:

Heliotrope.	Mai-Glöckchen.	White Heliotrope.
Jasmin.	Musk.	White Lilac.
Jockey Club.	Patchouly.	White Rose.
Lily of the Valley.	Violet.	Ylang Ylang.

¼ pint bottles ..... Pint 3.00
½ pint bottles ..... Pint 2.75

Extract Vanilla.

This flavoring extract is carefully prepared from best quality of vanilla beans, according to our own, long approved formula, and may be recommended as absolutely pure and of the very highest quality.

1 pint bottles ..... pint 1.75
1 gall. jugs or demijohns ..... gall. 12.00

Do you make
YOUR OWN
PERFUMES
AND
SACHETS ?

It is time now to prepare for the Holiday Trade.

We import the Ingredients, and will sell you the choicest, purest, finest supplies required for Perfumes and Sachets, as for instance: Oil Rose, Kesanlik; Oil Neroli, Petale; Oil Lavender, Mt. Blanc; Oil Geranium, French, African and Bourbon; Orris Root; Rose Leaves, etc. Write for Quotations to LEHN & FINK, New York.

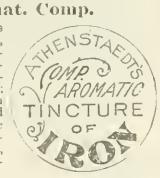
Ferri Albuminati, Drees' Liquor.

This preparation of iron was first introduced by Dr. Friese, in 1877, as the most palatable form for internal administration; its excellence of combination was at once recognized, and very general discussion in medical circles led to improved formulas, the admittedly most perfect being that by Dr. H. G. Drees, of Bentheim, Germany.

We are the sole agents for Dr. Drees in this country, and receive the preparation direct from his laboratory. It is put up in a 14 oz. panelled square bottle, also in 5 pint bottles for hospital use, with lithographed label, design protected by trade-mark.

Regular size ..... doz. 8.00
5 pint bottles ..... each 3.25

Ferri, Athenstaedt's Tinct. Aromat. Comp.



An elegant tonic preparation, containing as a constant ingredient, exactly fixed and warranted, one-fifth of one per cent. of metallic iron; the combination is the same and permanent at every temperature; it has a very pleasant taste, the disagreeable ink-like flavor of iron being totally disguised; it causes no inconvenience to digestion, not even after long continued use, but improves appetite and digestion; it is not in the least injurious to the teeth; chemically it is a peculiar preparation, containing the iron in an organic oxide combination, *masked, i.e.*, dissolved without retaining the slightest taste; and *it is free from alkali and acid.*

Put up in 1 pt. bottles ..... doz. 9.00

Fever Thermometers. See Thermometers.

Filtering Paper.

We make a specialty of importing superior quality, chemically pure, white filtering paper, and constantly carry a large stock of various kinds, suitable for all purposes: Regular for ordinary laboratory use; No. 1 and Machine for finer and analytical work; Extra Heavy for syrups and thick and heavy liquids.

Regular	18½ x 21½	quire	.25	ream 4.50
No. 1	17½ x 22	"	.35	" 5.50
Extra Heavy	27½ x 27½	"	1.00	" 14.00

Flowers, Lavender. Extra Cultivated.

Our own special importation, and designed for sachet use. The flowers are specially cultivated, light, stemless, fine color, and of unsurpassed natural odor.

In bulk ..... lb. .75

Food, Liebe's (Liebig's) Soluble.

The popular cereals extract Infant Food, prepared according to Prof. Liebig's directions. Of it Dr. I. Burney Yeo, Professor of Clinical Therapeutics, King's College Hospital, London, in *Hare's System of Practical Therapeutics*, 1892, vol. 1, page 709, says: "Many varieties of "malted foods" are now in common use, but "Liebig's Infants' Food" may be taken as the prototype of all these. It contains ground malt, wheat flour, potassium bicarbonate, and milk. This food is highly nutritious; besides the constituents of the milk, it contains predigested starch (dextrin and maltose) and the albuminates (gluten and albumin) of the wheat flour and the malted barley."

Put up in bottles ..... doz. 4.00

Formaldehyde (40%). Antiseptic of Great Power.

The 40% aqueous solution of Formic aldehyde, introduced in 1890 by Berlioz and Trillat, and commercially obtainable and known variously as Formaldehyde and Formic-aldehyde, or by the proprietary names: Formalin and Formol.

In 1 lb. bottles ..... lb. 1.00

Special quotations for bulk lots.

Fruit Juices, L. & F.

Our Concentrated Fruit Juices are expressed from fresh, ripe and selected fruits, and concentrated by evaporation in vacuo, thereby retaining in full the flavor and aroma of the fresh fruits. They are not the cheapest in nominal price, but they never spoil, and are so concentrated that in actual service and value they are the cheapest in the end. They are ready for use, and may be diluted with 7 to 10 parts of syrup. The leading flavors are:

Raspberry,	Strawberry,	Pineapple,
Orange,	Blackberry,	Currant,
Blood Orange,	Wild Cherry,	Peach,
Concord Grape,	Catawba Grape.	

1 quart bottles	doz. 8.50
1 gallon jugs	gall. 3.00
5 gallon jugs	gall. 2.75
20 gallon kegs	gall. 2.50

Fumigating Pastilles.

Black, in 1 lb. cartons	lb.	.50
Red, in 1 lb, cartons	lb.	.60

Fumigating Powder.

A combination of aromatic and perfumed substances, carefully mixed and blended; of exceeding and uniform fineness, bright and attractive color; an agreeable and grateful perfume for drawing-room and sick-room.

In bulk	lb.	1.00
In 1 quart, glass stoppered, show bottles	each	1.00

Gelatine, in sheets.

Gold label	lb.	.60
Silver label	lb.	45

Special quotations in large quantities

Glass Wool.

An imported product of spun glass, employed for filtering acids, and otherwise for laboratory use. The article is white and fluffy, very much like cotton.

1 oz. packages	oz.	.75
1 lb. packages	lb.	9.00

Glonoin. See Nitro-Glycerin Solution.

Guaiacol, C. P., L. & F.

Guaiacol is gaining in popularity as a concentrated substitute for creasote for internal administration; it constitutes 60 per cent. of creasote, and when absolutely pure is admittedly a superior remedy in phthisis and tubercular troubles. Dr. Max Schueller, Dr. Sahli, Berne, Switzerland, Dr. Daywalt, San Francisco, Dr. Arnold Schetelig, and others have reported very satisfactory results from its use. The reports referred to were based on trials made with the Guaiacol which is sold in this country under our label.

1 oz. vials	oz.	.45
1 lb. bottles	lb.	5.75

Gutta Percha Solution. See Traumaticin.

Hellebore, Pure Powd. White.

INSECT DESTROYER.—This powder is especially serviceable for destroying insects, lice, etc., on flowers, bushes, trees, and plants generally.

Directions:—Apply with a powder gun, spraying the powder liberally over the plants to be protected. Hellebore can be mixed to advantage with Insect powder, the value of both insecticides being enhanced in the mixture.

In bulk, as wanted	lb.	.15
In bulk, 25 lbs. boxes	lb.	.10
In bulk, 50 lbs. boxes	lb.	.09
In 1 lb. cartons, incl	lb.	.16
In ½ lb. " "	lb.	.18
In ¼ lb. " "	lb.	.20

Herbs, Narcotic, L. & F.

Conceding to a popular demand from leading pharmacists, we have made a specialty of importing regularly extra cultivated narcotic herbs, which are again selected, and packed in 1 lb. packages (not pressed). Nothing more select can be obtained, and the quality is confidently contrasted as at least equal to the English products.

Aconite	lb.	.45
Belladonna	lb.	.50
Conium	lb.	.45
Digitalis	lb.	.50
Henbane	lb.	.50
Pulsatilla	lb.	.45
Stramonium	lb.	.45

Insect Powder, True, L. & F.

Pure powder from the true Dalmatian Chrysanthemum Flowers; our own direct importation, and powdered by us here. In order to meet the views of many consumers with varying standards, we supply this powder uncolored, and also with a small addition of bright yellow coloring matter.

Natural, in bulk	lb.	.24
" 25 lbs. cans	lb.	.20
" 50 lbs. kegs	lb.	.19
" 100 lbs. kegs	lb.	.18
" 200 lbs. barrels	lb.	.17½
Colored, in bulk	lb.	.24
" 25 lbs. cans	lb.	.20
" 50 lbs. kegs	lb.	.19
" 100 lbs. kegs	lb.	.18
" 200 lbs. barrels	lb.	.17½

You are looking for a Perfect Antiseptic— You want it for Physicians' use; for Household use; for Veterinary use; for killing Insects of all kinds—on animals, flowers, trees, etc. Such an agent ought to be **efficient**, clearly **soluble** in water, **harmless** and **cheap.**

No agent now known meets these requirements as perfectly as does **LYSOL.**

Thousands of physicians and surgeons say so; it is officially endorsed by the Austrian and German authorities. Prominent Veterinary Surgeons say so; so do the Horticultural Journals and other authorities. For Pamphlet address the agents, LEHN & FINK, 126 William St., New York.

Insect Powder Guns.

QUICK-LOADER, handsomely decorated tin guo, with opening on top ..... doz... .60
1 gross lots ..... grs. 6.00

Iron Preparations. See Ferri.

Jambul Seed.

The seeds of Eugenia Jambolana, or Syzygium Jambolanum. Habitat: Australia, India, and the Indian Archipelago. It has been successfully employed, in Europe and here, in the treatment of diabetes. Dose, 3 to 10 grains of the powder three or four times daily. Because of its ready liability to ferment it is sold in the powdered state. See also, "Capsules, Jambul," in this list.

Powdered ..... oz. .25
Powdered ..... lb. 2.50

Juices, Fruit. See Fruit Juices.

Juices, Medicated. See Medicated Juices.

Kefir, L. & F.

For preparing Koumyss; the matured grains, imported direct from the Caucasus, and retaining the full property of fermenting. Many gallons of the beverage, Koumyss, can be made from a single ounce of Kefir; directions furnished with each package.

oz. packages ..... oz. 1.00

Lard Products, Crescent Brand.

We have secured the sole wholesale agency for this justly favorite brand of pure Hog's lard products, manufactured by the Brophy New Process. The lard is always fresh and sweet, and will not turn rancid, nor granulate. No Alkalies or other Chemicals are introduced in the Process. We guarantee the quality absolutely.

(Put up only in full weight 5 lb. Cans.)

Dehydrated ..... per can 1.25
Benzoinated ..... per can 1.25
Carbolic Acid Ointment, U. S. P. ..... per can 1.50
Oxide Zinc Ointment, U. S. P ..... per can 2.00
Simple Cerate ..... per can 1.75
Resin (Basilicon) Cerate ..... per can 1.75

Benzoinated Mutton Tallow ..... per can 1.25

These products can be obtained from us direct, or through any Jobbing and Wholesale Druggist in the United States and Canada.

Lavender Flowers. See Flowers.

Licorice, L. & F.

Our Stick Licorice has developed into a specialty, and the immense and constantly increasing demand for it justifies our claims for its purity and superiority. It is manufactured for us expressly, from prime, selected licorice root, and is as pure as any other brand, domestic or imported, and superior to most. Sticks 4, 6, 8, 12, and 16 to a pound.

In 5 lbs. boxes ..... lb. .25
50 lbs. one or assorted sizes ..... lb. .21
100 lbs. one or assorted sizes ..... lb. .20
In bulk, 1 c. per pound less.

Licorice Lozenges.

Small cylindrical lozenges; pure licorice extract.

In 5 lbs. cans ..... lb. .20

Licorice Lozenges, sugar coated.

Small, cylindrical lozenges, coated with easily soluble sugar, vanilla flavor; an agreeable confection.

In 5 lbs. cans ..... lb. .20

Lint, Absorbent, L. & F.

lb. packages ..... lb. .55
oz. packages ..... lb. .85

Lipanin, Von Mering's.

A superior substitute for Cod Liver Oil, easily borne by weak stomachs, obtained by saponification from Virgin Olive Oil; has received continued recommendation from physicians here and in Europe, and is now being employed in combination with malt-extract and other remedies.

Favorable references and reports on Lipanin can be found in *Hare's Practical Therapeutics* (1891), *Shoemaker's Materia Medica* (1892), *Sajous' Annual* (1890, Vol. V, A 87, B 25; and 1891, Vol. V, B 23), *International Medical Annual* (1891), etc.

In 10 oz. bottles ..... doz. 7.00

Lozenges, Medicated.

We supply a full line of staple medicated lozenges, and can furnish, special formulas at advantageous prices, and of best quality, on short notice Of the staple kinds we quote only, in 5 lbs. boxes:

Chlorate Potash, octagonal shape, either Plain, or flavored Almond, Wild Cherry or Wintergreen ..... lb. .35
Bronchial ..... lb. .25
Guaiac, and Thymol.—See under Pastilles.

Lycetol (Schering's).

This tartrate salt of Piperazin has been employed to same extent as a uric acid solvent, and in effect and characteristics closely resembles the base.

In ½ and 1 oz. vials ..... per oz. 4.25

Lysol.

A Liquid Disinfectant and Antiseptic; Soluble in Water; superior to Carbolic Acid or Creolin.

Lysol (Lysolum purum) is the latest antiseptic, and was brought to notice by Dr. Gerlach in a paper read before the medical society at Vienna. Lysol is described as a product of coal-tar, by boiling of tar oil, alkali fat, resinous acid and resin; it contains no phenol, but principally cresol. Lysol is superior to carbolic acid and creolin as a bactericide. It it is less poisonous than carbolic acid or creolin; it is of permanent constituency. Lysol, being easily soluble in water, is suitable for general disinfection (closets, laundry, sick-rooms, etc.), and especially for medicinal uses, aseptic or antiseptic, because non-irritating and practically non-toxic. For treatment of wounds a 1 per cent. solution, for internal washing ½ per cent. solutions are recommended. Lysol is now the officially prescribed antiseptic in many parts of Europe for hospital practice, etc. It is the most popular disinfectant and antiseptic in veterinary practice; and it has latterly proved an effective insect destroyer for horticultural use. *Write for full descriptive pamphlet.*

In 1 lb. bottles ..... doz. 7.20
In 1 gall. jugs ..... gall. 4.00

Magnesia, Calcined, L. & F.

1 lb. bottles ..... lb. .55
1 lb. cans ..... lb. .50

Magnesia Carbonate, L. & F.

1 oz. blocks ..... lb. .20
2 oz. blocks ..... lb. .18
4 oz. blocks ..... lb. .16
Small squares ..... lb. .50
Powdered, 1 lb. packages ..... lb. .20
" in kegs, about 20 lbs. ..... lb. .13
" in barrels, about 50 lbs. ..... lb. .12½

Magnesia Citrate, L. & F. See Effervescent Salts.

Malt Extract. See Extract.

Malt Extract Cough Drops. See Bonbons, Toussaint's Malt.

Medicated Juices.

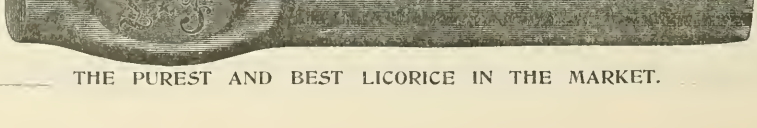
Succus Conii ..... lb. 1.30
" Juniperi ..... lb. .30
" Sambuci ..... lb. .30
" Taraxaci ..... lb. 1.50

Methyl-Blue, C. P., for Medicinal Use.

Methyl-Blue, C. P., is used internally as an antiseptic in diphtheria, and in other affections. Dr. H. Beyer, of Staten Island, in a report published in the *Medical News* (Philadelphia), in 1891, gave the remedy its therapeutic introduction. The directions are to locally apply a mixture of 2 parts of methyl-blue and 98 parts fine powdered sugar; Dr. Beyer also gives it to patients in tablet form. The remedy is also used in cancer and other affectioos.

In 1 oz. vials ..... oz. 1.00

SELL THE (L★F) BRAND



Other Brands May be as good; NONE BETTER.

THE PUREST AND BEST LICORICE IN THE MARKET.

Methyl-Violet, C. P., free from Arsenic.

Methyl-violet is an antiseptic for use in general surgical practice and ophthalmology; it should be employed *externally only*, in dry powder form, mixed with amylum, in ointment, in solution, in cotton or gauze dressings, etc.; the preparations should contain 1-2 to 4 : 1,000 up to 1 per cent. of the product, according to application.

This is the product employed by Prof. Dr. STILLING, of Strassburg, on whose reports the introduction of *Pyoktanin* was based.

In 1 oz. vials ..... oz. .50

Methylene-Blue, C. P., Medicinal.

Methylene-Blue (C. P. medicinal) is given internally in doses of about 3 grains (in capsules or pills) for rheumatism in the joints and muscles. It is also recommended as an analgesic, applied by subcutaneous injection in doses of 0.01 to 0.8 gm. (1/10 to 3 grains). It has lately been recommended in a very prominent manner by Drs. GUTTMANN and EHRLICH (see NOTES ON NEW REMEDIES, Oct., 1891) as a specific remedy for malaria, in doses of 1½ grains, with a maximum daily dosage not exceeding ten grains. Most commercial grades of this product contain chloride zinc, an impurity in this case which disqualifies for indicated use. Our Methylene-Blue, C. P., Medicinal, is guaranteed free from chloride of zinc.

In 1 oz. vials ..... oz. .75

Milk Sugar. See Sugar of Milk.

Mocking Bird Food, Warren's.

A popular preparation, of best quality; put up in 20 oz. screw-top bottles, with attractive labels; packed 3 doz. in a case.

Single case, or less ..... doz. 2.25
In 1 gross lots ..... gro. 24.00

Mosquitod.

Insecticide Candles (fumigating pastilles), insuring prompt destruction of and relief from mosquitoes, flies and other annoying insects. Put up for popular sale, in boxes to retail at 10 cts.

1 Dozen boxes ..... doz. .75
In 1 gross lots ..... gro. 8.00

Mullein Oil, L. & F.

A favorite remedy (first sponsored by homœopaths) for ear-ache and incipient deafness; also internally—ten to twenty drops in water—for nocturnal enuresis.

1 oz. vials ..... oz. .50
1 lb. bottles ..... lb. 5.00

Mustard, Yellow, XX, Strictly pure.

L. & F. special brand, without coloring matter; superior quality guaranteed.

6 lbs. cans ..... lb. .28
10 lbs. cans ..... lb. .26
28 lbs. kegs ..... lb. .24

Mustard, Yellow, D. S. F.

Corresponding to the popular English standard brand.

6 lbs. cans ..... lb. .28
10 lbs. cans ..... lb. .26
28 lbs. kegs ..... lb. .24

Naphthalin.

An effective and economical substitute for Camphor, Carbolic Acid, Tar Paper, and other protectives against Moths, Mildew and Infection.

Directions for Scale Naphthalin: Sprinkle liberally among the articles to be protected, and wrap tightly in paper or put away in closet or chest. The Naphthalin, being pure—and this is a necessity, not observed by some manufacturers, whose product consequently brings occasional discredit on the article—will not injure the finest fabrics, and the odor will quickly disappear on exposure.

NAPHTHALIN, in scales, pure, white, crystallized.

In bulk, as wanted ..... lb. .05
50 lbs. lots ..... lb. .04
Barrel lots ..... lb. .03½
¼ lb. cartons } attractively put up for retail trade ..... lb. .20
½ lb. cartons } In 100 lbs. lots, assorted, we print ..... lb. .15
1 lb. cartons } buyers' name and card on label ..... lb. .12

NAPHTHALIN, in balls.

In bulk, as wanted ..... lb. .05
50 lbs. lots ..... lb. .04½
Barrel lots ..... lb. .04

Nitro-Glycerine Solution, L. & F.

Also designated Glonoin, and Trinitrin; a remedy in cases of cardiac debility, conditions involving cerebral anæmia, etc. (see Nat'l Disp. page 1022). For medicinal use the 1 per cent. solution is employed; dose 1 drop in ½ oz. of water every four hours, according to condition of patient and nature of disease. We also supply 10 per cent. solution, for convenience in transportation, to be diluted with alcohol for use.

1 per cent. solution, 1 oz. vials ..... oz. .20
1 " " " 1 lb. bottles ..... lb. 1.25
10 " " " 1 oz. vials ..... oz. .30
10 " " " 1 lb. bottles ..... lb. 2.00

Nitrous Ether, concentrated, L. & F.

For making Spirits Nitrous Ether, extemporaneously.

℞ Conc. Nitrous Ether, L. & F. ..... 1 lb.
Alcohol ..... 19 lbs.

Mix. The product is of the exact strength required by the U. S. Pharmacopœia, 1880.

¼ lb. bottles ..... lb. 1.50
½ lb. " ..... lb. 1.40
1 lb. " ..... lb. 1.30

Oil, Pini Pumilionis.

A beneficial inhalant for asthma, in bronchitis, laryngeal catarrh, etc. Known in Germany as *Krummholzöl* and *Latschenöl*; in England under proprietory names, as *Pinol*, *Pumiline*, *etc.* It is used as a gargle and inhalant, and internally in 3 and 5 drop doses in water. Full descriptive circulars furnished on request.

1 oz. vials ..... oz. .50
1 lb. bottles ..... lb. 6.00

Ointment. See Ungt. Caseini (Unna).

Olive Oil, Lucca Cream, L. & F.

Our own importation. In original bottles and cans, with L. & F. labels, seals and brand. Guaranteed of superior, unsurpassed purity and quality.

½ pint bottles, 2 doz. in case ..... doz. 2.75
1 pint bottles, 2 doz. " " ..... doz. 4.00
1 quart bottles, 1 doz. " " ..... doz. 7.00
1 gall. cans, 10 in case ..... gall. 2.10
2 gall. cans, 6 " " ..... gall. 2.00
3 gall. cans, 3 " " ..... gall. 1.85
5 gall. cans, 2 " " ..... gall. 1.70

Orris Root, select fingers.

Prime, select orris root, trimmed, straight pieces, with hole at one end for stringing with ribbon; for first-class retail trade.

1 lb. boxes, (about 75 pieces to a lb.) ..... lb. 1.75

Pancreatin (Absolute), Concentrated, L. & F.

A product specially designed for meeting the requirements of the National Formulary.

1 oz. vials ..... oz. .80

Pancreatin (Active), Pure, L. & F.

One part will dissolve thirty parts of egg albumen, change eight parts of starch into sugar, or digest ten parts of fat; it is an even more important factor in the digestive process than pepsin, as it digests the fat which pepsin does not affect. The dose is 7 to 20 grains, two or three times daily, in soup, beef-tea, or sweetened water; for children, in dysentery, reduced doses in sweetened milk.

1 oz. vials ..... oz. .35
¼ lb. bottles ..... lb. 5.00
1 lb. bottles ..... lb. 4.50

Pancreatin, Saccharated, L. & F.

This is a standard preparation of our pure Pancreatin with sugar of milk, and of required peptonizing power.

1 oz. vials ..... oz. .30
¼ lb. bottles ..... lb. 4.00
1 lb. bottles ..... lb. 3.50

ESSENTIAL OILS.

We import direct from original sources—from the makers—all essential oils; we order the best—and get the very best; every lot that comes in is examined and tested, and when we send out an oil with our label we guarantee that it is absolutely reliable. Quality in such products is the first consideration. And we make bottom prices, too.

Papain, L. & F.

L.&F. Papain The VEGETABLE PEPSIN

Papain: Succus Carica Papaya, Inspissated Papaw-Juice; a *vegetable pepsin. (An instructive, complete treatise sent by mail on request.)*

The important property possessed by the juice of the PAPAW TREE, of rendering tough flesh tender, has long been known to the natives of tropical climates, but such statements were met with much incredulity by the civilized world. In October, 1880, samples of the leaves, fruit and seeds were exhibited in London, and this was followed promptly by considerable investigation of their therapeutic value. German and French savants excelled in their results, and soon established the value of the PAPAW FRUIT as a digestive aid, and an excellent remedy for tape-worm, diarrhœa, cancer, croup and diphtheria, and other ailments. In Brazil, the tree is scarcely cultivated, and its propagation, like that of the banana, is self-effected, but with the difference that instead of shoots from the root it is done by the seeds of the fruit falling to the ground.

It can easily be grown as a pot plant where a sufficient temperature can be maintained for its growth in winter; the plant grows quickly and bears fruit in three years. The fruit is pleasant to the taste, and in India it is both pickled and preserved for curries.

The dried juice or milk of the fruit has proven the most efficacious. In diphtheritic cases, a solution of 10 or 20 drops, applied as a paint, rapidly dissolves the false membranes. In Germany, it is in addition administered internally in doses of 4 to 5 centimnes. For tape-worm, it is mixed with Dover's Powder, 3 to 10 grs. with 4 grains of the latter, one-sixth to be taken night and morning.

For indigestion, dyspepsia, etc., the following is recommended:

℞. Papain, gr. xii. } In severe pain, add:
Glycerine, q. s. } Pulv. Ipecac. gr. xii.
M. F. Pilul, No. xii. } Pulv. Rad. Rhei, gr. xxxii.

One pill to be taken at meal time.

Like Pepsin it digests albuminous substances, but is distinguished from it by the property of dissolving fibrine, not only in the presence of a small quantity of acid, but even in a neutral, or slightly alkaline solution

Numerous communications have appeared of late in medical journals, showing that physicians here are deriving excellent results from the use of PAPAIN, and its use will no doubt become very general, and it will in a measure supplant Pepsin and its preparations.

We have succeeded in obtaining a regular supply of PAPAIN, accurately prepared from the fruit by competent chemists, and uniform, reliable effects can be depended upon by employing "PAPAIN, L. & F."

1 oz. vials ..... oz. 1.50

Paper, Filtering. See Filtering Paper.

Paraldehyde, L. & F.

Paraldehyde is especially valuable, hypnotic and anæsthetic, in the treatment of mania, melancholia, and nervous affections generally; also in the insomnia of bronchial catarrh, lobar pneumonia, and heart disease. It is necessary that only an absolutely pure Paraldehyde be employed and that guarantee is made for the product labeled, "*Paraldehyde, L. & F.*"

¼ lb. bottles ..... lb. 2.25
1 lb. bottles ..... lb. 2.00
5 lbs. bottles ..... lb. 1.85

Special quotations for larger quantities.

Paraldehyde, Elixir of. L. & F.

An elegant preparation of this popular hypnotic: in clear solution, and of agreeable taste. Each ounce contains 2 drams of paraldehyde; the dose for an adult is one tablespoonful or more, as the case may suggest.

1 pint bottles ..... doz. 8.00

Paris Green, L. & F.

Purest quality Paris Green, put up neatly in turned-wood boxes, with poison labels, for retail trade.

1 ounce boxes ..... doz. .40
2 ounce boxes ..... doz. .70
4 ounce boxes ..... lb. .32
8 ounce boxes ..... lb. .30
16 ounce boxes ..... lb. .28

Pastilles. See Fumigating Pastilles.

Pastilles, Antiseptic.

These pastilles were prepared to fill a demand created by publications in the *Medical Record*, in which they were recommended for antiseptic treatment, and as prophylactics against diphtheria and throat affections—especially in children. Only two medicaments are offered:

Guaiac (Formula of Dr. A. Szara) ..... lb. 2.00
Thymol (Formula of Dr. J. Bergman) ..... lb. 2.50

Pencils, Caustic. (Aetz-Stifte.)

These points of alum and blue vitriol have come into very general use among careful practioners; they are imported by us, and are of assured purity, and elegant in appearance; supplied either mounted on polished wood holder, or uamounted.

Alum points ..... doz. 1.00
Alum points, mounted ..... doz. 4.00
Copper Sulphate points ..... doz. 1.00
Copper Sulphate points, mounted ..... doz. 4.00
Menthol. See Mentho!.
Silver Nitrate (Mounted Caustic Points, 10 cts. retail) .... doz. .60

Pental. A New Anæsthetic.

SAFE AND RELIABLE PENTAL THE NEW ANESTHETIC

Pental is the new name applied by Prof. J. v. MERING to *Trimethyl æthylen*, a product of amylenhydrate heated with acids; it is recommended by the distinguished clinician as a safe and effective anæsthetic.

From reports already furnished, notably that of Prof. HOLLAENDER, of Halle a. S. (*Therap. Monatshefte*, Oct., 1891), which was read before the Dental Section at the Convention of German Naturalists and Physicians, at Halle, this year, the new anæsthetic is shown to be suitable and efficient for minor surgical operations, and particularly in dentistry.

Pental (C_5H_{10}) occurs as a colorless liquid, of low specific gravity; its boiling point is 38° C.; it burns with an illuminating flame, and is readily inhaled without affecting the membranes of throat or passages. It is insoluble in water, but miscible in all proportions with alcohol, chloroform or ether, and being inflammable like the latter, must be protected from possible ignition. It is exceedingly volatile, but does not decompose on exposure to air or light.

The inhalations are simply conducted—10 to 25 cc. of the fluid sufficing, and narcosis ensues within 50 to 90 seconds (Dr. HOLLAENDER), without influence on respiration or the action of the heart, and causing no unpleasant side or after-effects. From a careful consideration of Dr. HOLLAENDER'S report, a most favorable impression of the value of Pental is gathered, and the product is in good demand in consequence.

Put up in tubes of 10 grammes each ..... per tube .30
In boxes holding 10 tubes ..... per box 2.70

Pepsin Essence, L. & F. See Essence of Pepsin.

Pepsin, Fink's Scale. 1:3000.

FINK'S SCALE PEPSIN NON-HYGROSCOPIC SOLUBLE

This pepsin is specially designed to meet the requirements of the highest artificial digestive standard now accepted by a numerous class of practitioners, and made official in the U. S. Pharmacopoeia: viz., one part Fink's Scale Pepsin will artificially digest (*i. e.* dissolve) 3000 parts albumen under prescribed test conditions within 6 hours. It is, therefore, *The Official Pepsin, U. S. P. 1890.* Furnished either in scales or powder: non-hygroscopic, and readily soluble. When ordering, please specify "scales" or "powder."

1 oz. vials ..... oz. .50
¼ lb. bottles ..... lb. 7.20
1 lb. bottles ..... lb. 7.00

Pepsin, German Scale, L. & F. 1:2000.

By the same U. S. P. test, this pepsin dissolves 2000 parts of albumen, in 6 hours. German Scale Pepsin is positively non-hygroscopic, and can be dispensed in paper or exposed to the air; it dissolves very readily, and is recommended for extemporaneous preparation of all liquid pepsin compounds. Furnished in powder or scale form, as desired. When ordering, please specify "scales" or "powder."

1 oz. vials ..... oz. .40
¼ lb. bottles ..... lb. 5.50
1 lb. bottles ..... lb. 5.00

Pepsin, Lactated, L. & F.

This preparation, composed of pepsin, pancreatin, lactic acid, maltose, diastase and hydrochloric acid, is designed to meet a popular demand for such a preparation without patent or copy-right drawbacks.

1 oz. vials ..... oz. .40
¼ lb. bottles ..... lb. 4.50
½ lb. bottles ..... lb. 4.25
1 lb. bottles ..... lb. 4.00

Botanical Products,

Foreign and Domestic, are now being gathered and prepared for commerce, and we are receiving daily new supplies of select standard goods.

The stock of this class of drugs should be replenished promptly at this season in every pharmacy. **The Best is Just Good Enough.** Customers will note the difference between new and old, and will appreciate fresh and prime drugs.

Write for Quotations. **Ask for Our Price-List.** **Send us your Orders.**

Pepsin, pure powdered, Germ. Pharm. III.

Will dissolve 450 parts of albumen, conforming strictly to the requirements of the *German Pharmacopœia*, and especially favored by physicians of German education and practice.

1 oz. vials	oz.	.25
¼ lb. bottles	lb.	3.25
1 lb. bottles	lb.	3.00

Pepsin, Saccharated, L. & F. 1:300.

Will dissolve over 300 parts of albumen, and is the exact preparation prescribed by the new U. S Pharmacopœia.

1 oz. vials	oz.	.15
1 lb. "	lb.	1.25

Peroxide of Hydrogen, U. S. P.

The nature of this article renders it liable to loss from breakage or evaporation, especially during hot weather. In bottling and packing we exercise utmost care, and such precautions as long familiarity with the article has suggested; but after leaving our hands it is at buyers' risk, and we will not be responsible for any damage.

We have two grades of Peroxide of Hydrogen:

MEDICINAL. 15 Volumes Capacity.
TECHNICAL. 13 Volumes Capacity.

When ordering please specify "Medicinal" or "Technical" Peroxide of Hydrogen, L. & F.; when dispensing care must be exercised never to give the "Technical" for medicinal purposes, as it is unfit for such uses and even dangerous owing to poisonous impurities. The "Medicinal" (H_2O_2) in absolutely chemically pure and harmless for internal administration

MEDICINAL Peroxide of Hydrogen, L. & F..

Most powerful antiseptic, and recently possessed of great popularity as a germicide, bactericide and microbicide Indicated in various affections of the lungs, nose and throat, specifically for diphtheria, pneumonia, consumption, croup, whooping-cough, hay-fever, women's diseases, leucorrhœa, catarrh, yellow fever, small-pox, cholera, and other epidemic and infections diseases. Dose, 1 tablespoonful in 2 to 5 tablespoonfuls of water—according to disease and indications—applied by atomizer spray, or by snuffing into nostrils from palm of hand, and by moderate gargling with swallowing of part of the solution

¼ lb. bottles	doz.	2.50
½ lb. bottles	doz.	4.00
1 lb. bottles	doz.	6.00

TECHNICAL Peroxide of Hydrogen, L. & F.

For bleaching purposes exclusively.

DIRECTIONS FOR USE. I. To bleach woolen articles or to whiten flannels that have turned yellow: Wash in soapsuds to remove the dirt and grease, and place in a wooden or stone-warevessel containing one part of Peroxide of Hydrogen to three parts of water. Keep in a warm place at a temperature of from 80 to 100° F. for about 12 hours; then thoroughly wash in soap liquor.

Linen, Silk and Cotton Goods, treat similarly, adding a few drops of ammonia.

II. To bleach Feathers or Human Hair: Immerse entirely in undiluted Peroxide of Hydrogen with 5% Ammonia added, and stir occasionally Use only wooden, glass or stone vessels.

To bleach growing human hair. Wash the scalp with borax and then moisten with Peroxide of Hydrogen mixed with an equal part of water and a few drops of ammonia.

III. To bleach Bone and Ivory Goods: Immerse in an equal quantity of Peroxide of Hydrogen and water, for 24 hours; then rinse in water.

1 lb. bottles	lb.	.40
5 lb. bottles	lb.	.35

Special quotations for larger quantities.

Petrolatum, U. S. P.

Our petrolatum, yellow or white, is as perfect a product as is offered the trade from any source. We have taken great pains to procure a product of uniform, reliable quality, complying with pharmacopœial requirements, of transparent color, and odorless.

White,	5 lbs. cans	lb.	.18
"	10 lbs. cans	lb.	.17
"	25 lbs. cans	lb.	.15
"	50 lbs. cans	lb.	.13
Yellow,	5 lbs. cans	lb.	.11
"	10 lbs. cans	lb.	.09
"	25 lbs. cans	lb.	.07
"	50 lbs. cans	lb.	.06½
"	200 lbs., ½ barrels	lb.	.05½
"	350 lbs., barrels	lb.	.05

Phenocoll Hydrochloride (Schering's).

SCHERING'S PHENOCOLL HYDROCHLORIDE ANTIPYRETIC ANTI-RHEUMATIC AND ANALGESIC

Phenocoll hydrochloride is an improved antipyretic, anti-rheumatic, analgesic and nervine, and superior to its principal competitors, antipyrin and phenacetin, because combining the best characteristics of both and being free from their shortcomings. It has been called "the soluble phenacetine," and, as a matter of fact, differs from that product only slightly in chemical composition—just enough to make it soluble and therapeutically superior.

Phenocoll occurs in white powder form, is soluble in sixteen parts of water and readily in any alcoholic solution; the dose is 8 to 15 grains, administered in any desired form: solutions, powders, pills, etc., with 75 grains maximum per day. Favorable clinical reports indicate its value in typhoid, in phthisis and other pulmonary affections, to reduce rheumatic swelling of the joints, for neuralgic affections, headaches, etc., and it has made an excellent record as a specific, even superior to quinine, for malaria.

Put up only in 25 grammes vials	vial	1.50
In lots of 25 vials	vial	1.35

Pills, Compound Cathartic, L. & F.

Gelatine-coated, 1 lb. in bottle	lb.	1.50
Sugar-coated, 1 lb. in bottle	lb.	1.00
Uncoated, 1 lb. in bottle	lb.	2.00

Pills, Quinine Sulphate and Bisulphate, L. & F.

Gelatine-coated,	1 grain...	per 100	.18.	per 500	.65.	per 1000	1.10
" "	2 grain...	" 100	.22.	" 500	.85.	" 1000	1.55
" "	3 grain...	" 100	.30	" 500	1.25.	" 1000	2.40
" "	4 grain...	" 100	.35.	" 500	1.55.	" 1000	3.00
" "	5 grain...	" 100	.42.	" 500	1.95.	" 1000	3.75

Special quotations for bulk lots of 5000 or more.

Pine Needle Wadding, Schmidt's.

This German proprietary specialty is in considerable demand in some localities.

In packages	per doz.	6.00

Pinol. See Oil, Pini Pumilionis,

Pinus Pumilio. See Oil, Pini Pumilionis.

Piperazine, pure (Schering's).

SCHERING'S PURE PIPERAZIN URIC ACID SOLVENT

Piperazine is a new synthetical compound, ($C_4H_{10}N_2$), which has proved under competent experiments to be the strongest and most effective *Uric Acid Solvent* now known. It takes up in the cold twelve times as much uric acid as will carbonate of lithium under the same conditions, and the salt formed always the neutral urate, even in the presence of excess of acid) is taken up by one-seventh of the volume of water required to dissolve the same quantity of lithium urate. Favorable initial reports of clinical trials were published by such eminent authorities as Prof. J. v. MERING, Drs. BOCK, VOGT, VIGIER, BARDET, UMPFENBACH, PERETTI, and others, and its therapeutical value as a cure for gout, rheumatism, gravel, and other renal troubles and diseases due to uric acid diathesis is assured and will be widely appreciated. The dose of pure Piperazine is one gramme (15 grains) per day, best exhibited by dissolving in about one quart of pure or carbonated water, which patient must drink in convenient doses at frequent intervals during the day, preferably a wine glassful at a time to quench the thirst. *Write for full descriptive pamphlet*

Supplied in *crystals* and in 1 gramme *tablets*.

Put up in 10 grammes vials	vial	1.50
In lots of 30 vials	vial	1.35
In lots of 60 vials	vial	1.25

Crystals also supplied in ½ oz. and 1 oz. vials.

In ½ or 1 oz. vials	oz.	4.25
In lots of 10 ounces	oz.	3.85
In lots of 20 ounces	oz.	3.50

Piperazine Water (Schering's).

Piperazine Water is therapeutically vastly superior to Lithia, Lithia-Water, and other like preparations; it consists of Carbonated Water with one gramme each *Piperazine* and *Phenocoll*. The combination of these two excellent remedies yields a preparation which has proved a specific cure for diseases due to excess of uric acid: gout, rheumatism, gravel, and other renal troubles. This Water produces a double effect of great value and importance: first, the analgesic (pain-relieving) symptomatic action of PHENOCOLL, and *second*, the uric acid solvent (radical curative) action of PIPERAZINE. Dose:—One bottle per day under continuous treatment.

Put up in so-called quart mineral water bottles, holding about 24 ounces of water; packed 1 dozen in a case	doz.	5.00

Plasters, L. & F.

Products of our own laboratory, accurately and carefully prepared from selected pure materials. In ½ lb. rolls.

See Regular Price List.

This Advertisement appears regularly in the leading weekly journals of America, and the demand for Piperazin Water thus created is increasing continuously in all parts of the United States. **Do you stock it?**

GOUT? For Sale by Druggists. PAMPHLET FREE. LEHN & FINK, Agents, New York.

SCHERING'S **PIPERAZIN WATER**

RECOMMENDED FOR Gravel, Calculus, Lazy Liver, and all Uric Acid Troubles.

WILL CURE IT.

Plaster-Mulls, Dr. Unna's (Beiersdorf's).

Prepared according to directions of the originator, Dr. P. G. UNNA, the eminent dermatologist, by P. BEIERSDORF & Co., Hamburg, Germany.

Plaster-Mulls are an ideal improvement on the ordinary spread plasters. The medicament is dissolved in a minimum quantity of a suitable vehicle, and is evenly spread on the thinnest possible layer of gutta-percha, backed by fine gauze (or mull). The gutta-percha layer hermetically seals the covered skin-surface and prevents transpiration (or exhalation) of the pores; thereby the medicament is more deeply absorbed, and the therapeutic effect is more intense and powerful. The stratum of plaster is very thin, consisting of a non-irritant vehicle and the medicament the former in smallest possible proportion, and the latter in exact dosage perfectly dissolved, so that every particle will act its full remedial part. So perfect is this distribution of the medicament that every square piece, subdivision of a metre, will contain its exact proportion of the total quantity of medicament in a metre roll. Exact dosage and effect is thus guaranteed. The gutta-percha being elastic and pliable, the Plaster-Mulls allow of closest affinity to the skin, and any part of the body can be perfectly covered without necessity for cutting the plaster. Thus, in every particular these Plaster-Mulls are vastly superior to the old-style thickly-spread plasters and ointments.

These Plaster-Mulls have been used and favorably endorsed by many authorities, such as: NEGA, WILL, JANOWSKY, MCCALL ANDERSON, FRANK, MORRISON, J. C. MCGUIRE, SCHWIMMER, CHOTZEN, BULKLEY, BORCK, and many others.

We supply Plaster-Mulls in 1 metre rolls, in tin canisters.

No.	MEDICAMENT.	AMOUNT OF MEDICAMENT IN A 1 METRE ROLL	A SQUARE INCH	SELLING PRICE.
2	Boric Acid	10 grammes	1.30 grain	$1 00
3	Boric Acid	20 "	1.15 "	1 00
4	Carbolic Acid	5 "	1.60 "	1 00
5	Chrysarobin	10 "	1.30 "	1 50
7	Pyrogallic Acid	10 "	1.30 "	2 00
10	Salicylic Acid	10 "	1.30 "	1 00
10 *e*	Salicylic Acid	5 "	1.60 "	1 00
10 *i*	Salicylic Acid	2 "	1.150 "	1 00
15	Mercury	20 "	1.15 "	1 00
16	Mercury and Carbolic Acid	20 "	1.15 "	1 00
		7.5 "	1 40 "	
24	Oxide Zinc	10 "	1.30 "	1 00
25	Oxide Zinc	20 "	1.15 "	
27	Oxide Zinc and Tar	10 "	1.30 "	1 00
		5 "	1.60 "	
29	Oxide Zinc and Corros. Sublim	10 "	1.30 "	1 25
		.25 "	1.1200 "	
33	Oxide Zinc and Hydr. Alumina	10 "	1.30 "	1 00
		5 "	1.60 "	
34	Tar	10 "	1.30 "	1 00
38	Diachylon	25 "	1.12 "	1 00
46	Carbon. Lead & White Precipit.	10 "	1.30 "	
		5 "	1.60 "	1 00
51	Acet. Alumina	20 "	1.15 "	1 00
66	Ichthyol	10 "	1.30 "	1 25
72	Resorcin	15 "	1.20 "	1 50
72 *a*	Resorcin	5 "	1.60 "	1 25
72 *b*	Resorcin	10 "	1.30 "	1 50
73	Oxide Zinc and Salicylic Acid	10 "	1.30 "	1 25
		5 "	1.60 "	
75	Oxide Zinc and Proto-ox. Merc.	20 "	1.15 "	1 25
		1 "	1.300 "	
76	Salicylic Acid and Creosote	10 "	1.30 "	1 75
		20 "	1.15 "	
78	Salicylic Acid and Creosote	20 "	1.15 "	2 00
		40 "	2.15 "	
90	Oxide Zinc and Precip. Sulph.	10 "	1.30 "	1 00
		5 "	1.60 "	
126	Menthol	5 "	1.60 "	1 00
130	Thiol	10 "	1.30 "	1 25

The above quoted assortment we now carry regularly In stock; other medicaments and combinations will be added as the demand increases. We are prepared to furnish other or special medicaments on short notice—two weeks if ordered by cable, three weeks by mail. Physicians are invited to investigate the merits of these Plaster-Mulls; a trial is sure to merit continued preference.

Potash, Chlorate, C. P. granular.

An imported product, of exceeding beauty: absolutely pure, white, and finely granulated; recommended for prescription use, and for manufacture of tablets and other preparations.

In bulk, as wanted ..... lb. .25
25 lbs. boxes ..... lb. .22

Special quotations for larger quantities.

Potpourri, L. & F.

This Rose Leaf mixture was first introduced by us a few years ago, and has since run a course of greatest popularity as a Japanese specialty perfume for filling "Rose Leaf Jars." Our sales during past seasons have run into many thousands of pounds, and were due primarily to the fact that none of the imitations equalled the article, either in brilliancy of the combination of colors, or the lasting odor.

1 lb. cans ..... lb. 1.25

Special quotations for larger quantities.

Powders.

Our own powdering, from selected drugs; mentioned here only because of special claims for superiority.

Powd. Fennel and Licorice ..... lb. .30

Rad. Glycyrrhizæ 2 parts, Sem. Foeniculi 1 part: both of extra choice quality and powdered together. The mixture has been suggested and recommended by pharmaceutical authorities, for preparing the PULVIS GLYCYRRHIZÆ COMPOSITUS, U. S. P. It yields a superior compound, because the volatile oil of Fennel Seed, in part or wholly lost during powdering, is absorbed by the fibrous Licorice Root when powdered together, thus enhancing the strength of the officinal preparation.

Powd. Licorice Root, Russian ..... lb. .30

From peeled Russian root, bright yellow color, of bolted fineness, and intended for prescription and fine pharmaceutical use.

Powd. Licorice Compound ..... lb. .30

Powders, Sachet, L. & F.

Quality of ingredients the very best; combinations according to best approved formulas; odors lasting; can be supplied in either *powdered* or *granulated* form; put up in attractive style for counter display, in ½ pint (¼ lb.) and 1 quart (1 lb.) mush-room glass-stoppered, flint glass, shelf bottles. The following popular odors always in stock:

"ELKA BOUQUET" (Registered).

Ess. Bouquet,	Musk,	Tea Rose,
Frangipanni,	New Mown Hay,	Violette,
Heliotrope,	Opoponax,	West End,
Jasmin,	Patchouly,	White Lilac,
Jockey Club,	Rose,	White Rose,
Lily of the Valley,	Rose Geranium,	Ylang Ylang.
Mille fleurs,	Stephanotis,	

In ¼ lb. bottles ..... lb. 2.00
In 1 lb. bottles ..... lb. 1.75

Pulpoline. FLAXSEED POULTICE SUBSTITUTE.

Cataplasma Artificiale. Superior to the ordinary poultices of Flaxseed, Elm Bark, etc., because cleanlier, simpler in application, cheaper, and more efficacious. Directions for use: Dip a piece of PULPOLINE, of requisite size, in hot or even warm water until it commences to swell; then apply to the affected part, cover it with enclosed gutta percha tissue, and fasten with a bandage, ribbon or twine. Renewals are necessary only once in twelve hours.

In Envelopes to retail at 10 cts. each ..... doz. .75

Rosin, powdered.

This article is carefully and finely pulverized; put up in tightly sealed, air-tight, 1 lb. cartons, in which it keeps well in powdered condition.

1 lb. cartons ..... lb. .12

Sachet Powders. See Powders, Sachet, L. & F.

Pharmaceutical Preparations.

FLUID, SOLID AND POWDERED EXTRACTS.
ELIXIRS, TINCTURES, EMULSIONS.
PHARMACOPEIAL CHEMICALS.
SCALE SALTS, ETC., ETC.

We have a fully equipped Laboratory, in charge of an experienced, modern-trained superintendent, where products of Official and Standard Formulas are conscientiously made from select crude ingredients, by approved methods, and with latest and best apparatus. Specify "L & F."

Salipyrin, Riedel.

Antipyretic, Analgesic, Anti-rheumatic.

DOSE:—½ to 2 grammes; daily maximum, to 8 grammes.

SALIPYRIN ($C_{18}H_{18}N_2O_4$) is a *chemical combination* of 57.7 per cent. phenyl-dimethyl-pyrazolon and 42.3 per cent. salicylic acid; it dissolves readily in alcohol, and in about 200 parts of water. It is best administered in powder form (in wafers, cachets, capsules, etc.), or in mixture—rubbed up with glycerin and flavored with raspberry syrup.

Its chief advantages are comparative harmlessness, no cardiac influence, and freedom from unpleasant side and after-effects. Especially favorable results achieved with it in Influenza, Neuralgia, and all Rheumatic affections.

1 oz. packages ..... oz. 1.25
In 25 oz. lots ..... oz. 1.15
In 100 oz. lots ..... oz. 1.10

Salocoll—Schering.

Salocoll (Phenocoll Salicylate) combines the action of salicylic acid and Phenocoll, which in the form of the hydrochloride salt has proved a superior antipyretic, antineuralgic and antirheumatic. Salocoll possesses the same properties, and will receive preference where salicylates are indicated in connection with the antipyretic. In influenza this product has furnished good results. The dose for adults is 15 to 30 grains, repeated.

1 oz. packages ..... oz. 1.25
In 25 oz. lots ..... oz. 1.15
In 100 oz. lots ..... oz. 1.10

Salt, German Cathartic.

This article is prepared exactly according to the formula in the German Pharmacopœia for Sal Thermarum Carolinensis, or Sal Carolinum Factitium, and is designed to supply a popular demand from all parts of the country.

In bulk, as wanted ..... lb. .14
25 and 50 lbs. boxes ..... lb. .10

Salve-Mulls, Dr. Unna's (Beiersdorf's).

Salve-Mulls resemble the superior Plaster-Mulls, except that they lack the Gutta-percha covering, and are consequently less conveniently and neatly applied. We carry two favorite numbers in stock, but will supply any other medicament on about three week's notice.

DIRECTIONS:—Cover the affected part with Salve-Mull, place a layer of cotton over it, then cover with a sheet of gutta percha, wax-paper, or oiled silk, and fasten with a gauze bandage.

11	Zinc Oxide	10 grammes	1-30 grain	Eczema.	0.50
13	Zinc Oxide and Salicylic Acid	10 "	1-30 "		0.60
		2 "	1-150 "		

Santonine Cones, L. & F.

An old German specialty, widely popularized in this country also; consists of pure sugar, made into light, porous candies (Schaum-Confect) of spiral form, containing each 1 grain of Santonine.

Red, 100 in a box ..... per box .55
White, 100 in a box ..... per box .50

Sapo Kalinus, L. & F.

This elegant preparation, made from Pure Olive Oil and C. P. Caustic Potash, is offered in response to a frequent demand from discriminating buyers. It replaces the more or less offensive smelling *common green soap*, as an efficient curative agent in all skin affections.

In 1 lb. jars ..... lb. .50
In 5 lbs. jars ..... lb. .40

Scales, Hand.

These imported scales, horn pans, silk strings, metal beam, are of approved pattern, best quality, and finest workmanship.

Length of beam	4	4½	5	5½	6	7	8	9	11 inches.
Price for each	1.00	1.20	1.35	1.50	1.60	1.75	2.00	2.50	3.25

Hand Saddle Scales, same as above, but with graduated beam and sliding weight indicator.

Graduated on one side, $\frac{1}{10}$ to 5 grains ..... each 3.50
Graduated on both sides, $\frac{1}{10}$ to 5 gr. and ½ to 25 c. gr. . . each 3.75

Scoops, Horn.

Imported; superior quality. Used by German apothecaries for filling paper powder capsules.

No.	1	2	3	4	
Length	3⅛	4⅛	4¾	5⅝	inches.
Price	1.25	1.75	2.00	2.50	per dozen.

Sea Tangle Tents.

Laminaria Digitata. For dilating the os and cervix uteri; introduced by Sir JAMES SIMPSON, M. D., and specially imported in answer to a general demand.

1 doz. in box ..... box. 1.25

Silk, Oiled, L. & F.

1 yard rolls ..... each .75
5 yard rolls ..... each 3.25

Simulo.

The tincture from the fruit of Simulo, or *Capparis Coriaceae*, has been introduced in England and here, with distinguished recommendations, as a relieving agent in hysteria and epilepsy. It is administered in doses of 1 to 2 drachms, with a maximum of ½ ounce.

Tincture, 1 oz. vials ..... oz. .35
Tincture, 1 lb. bottles ..... lb. 4.50
Fruit of Simulo ..... lb. 3.00

Snuff, Schneeberg.

A popular German specialty, in great demand, and with some reputation for colds, catarrh, sniffle, and similar affections.

In 1 dozen lots ..... doz. .15
In 1 gross lots ..... gro. 1.20
In 5 gross lots ..... gro. 1.00

Soap, Castile, White, "Eagle Brand."

This soap is made to order for us, by a leading soap manufacturer in Italy, from pure Olive Oil. The quality is guaranteed equal to any Castile Soap produced, or for sale in this market. Wherever introduced the "Eagle Brand" Castile Soap makes permanent trade, and our sales are constantly growing in the most promising and satisfactory ratio. The soap is made in bars of about 3 pounds each, twelve bars in a case; we do not sell the soapby weight, but by the bar and box.

Specify "Eagle Brand" Castile Soap when you order.

In bars ..... per bar .35
1 case ..... per box 3.75
5 cases ..... per box 3.65

Soap, Castile, Green, "Eagle Brand."

Put up and made same as the WHITE, described in preceding paragraph, and sold at same schedule of prices.

Soap, Cocoanut-Soda, imported.

J. S. Douglas' Söhne, Hamburg, Manufacturers.

Cocus-Nuss-Oel-Soda Seife, small ..... (gro. $4.00) .... doz. .38
" " " " " medium .... (gro. 8.00) .... doz. .75
" " " " " large ..... (gro. 10.50) .... doz. 1.00

Soap, Crescent Carbolic.

Crescent Carbolic Toilet Soap ..... doz. 1.50
Crescent Carbolic Animal (Dog) Soap No. 1 ..... doz. 1.00
Crescent Carbolic Animal (Dog) Soap, No. 2 ..... doz. .75
Crescent Carbolic Urinal Soap ..... doz. .75

In 1 gross lots, assorted, 10% discount.

Soap, German Green.

Our importation, in original kegs of 110 lbs. invoice weight. This product is the staple green soap, made according to standard official formulas. —See also SAPO KALINUS.

1 lb. cans ..... lb. .18
5 lbs. jars ..... lb. .12
100 lbs. kegs ..... lb. .08

Soap, Ichthyol, Douglas'.

We are Sole Agents for this favorite brand, and call attention to the fact that our firm name is printed on every wrapper of genuine packages.

Wrapped, 3 cakes in box ..... doz. 1.75

Soaps, Thomas Douglas' (Hamburg).

We carry in stock only the below quoted kinds, but can import special wants to order.

UEBERFETTETE SEIFEN:
Basis Seife ..... per doz. 2.00
Ichthyol Seife, 10% ..... per doz. 4.00

Soda Foam.

This preparation is designed to mix with soda water syrups for the purpose of imparting increased sparkle, improved appearance, and a compact, inviting flower of foam.

Only ½ oz. "L & F. Soda Foam" need be added to one gallon of syrup to insure the improvement.

In 1 pint bottles ..... pt. .40

Soda Water Fountain Supplies.

We furnish Fruit Juices, Essences, Syrups, and all other current supplies for Fountain Use, all of guaranteed first-class quality, under our label. For descriptions and prices, see this list under respective headings; viz.:

Acid Phosphates, Liquid.—L. & F.
Chocolate Syrup.—L. & F.
Cocoa, Dutch.—L. & F.
Effervescent Salts.—L. & F.
Fruit Juices.—L. & F.
Soda Foam, L. & F., etc., etc.

SOAP— The best soap for any use: for the bath and toilet of man, woman and child; for the fairest and most delicate skin of woman and of infant; for dressing wounds; for washing fine woolens and other fabrics; in short, for every purpose—is a **Pure Olive Oil Soap.** And there is none purer than **Eagle Brand White Castile Soap.** It will satisfy, and make and hold trade.

Solvine.

Solvine, also known as "Polysolve," is the result of a recent discovery in chemical combination, and forms a notable addition to the wonderful inventions made during recent years. It is a concentrated liquid—oily, viscid and neutral; soluble in alcohol in any proportion, and miscible with a limited quantity of water without losing its oily character. The specific gravity is 1.023; it may be heated to 212° F. without decomposition, and when cooled to 32° F. it congeals to a light yellow mass of the consistency of Vaseline and other ointment bases.

The chief value of Solvine is its property of holding in a clear solution a mixture of water with oils, as benzine, terpentine, etheral oils, etc.; it is a ready solvent, by the aid of heat, of organic and inorganic substances, metals, alkaloids, etc., as Sulfur 2 per cent., Iodoform 3 per cent., Camphor 25 per cent. Naphthalin, salts of Mercury, Copper, Silver, Carbolic Acid, etc.; it is superior to Vaseline, Oleic Acid, Glycerine and other ointment bases, as a vehicle for external remedies, holding the remedy more diffusively dissolved, and penetrating the pores of the skin more easily; its solubility in water and its soapy character make it an admirable base for toilet preparations, combined with Bisulfide of Carbon it is an eminently suitable antiparasitic in horticulture. It is impossible to indicate all the uses for which Solvine is peculiarly fitted, but it is safe to state that its value will increase as investigation proceeds.

Solutions of various antiseptics, styptics, irritants, antiparasites, and other external, dermatological remedies furnished to order.

Solvine, pure ..... pint .75
Solvine, pure ..... gall. 5.00
Solvine, Solution, for detergent use ..... gall. 1.50

Spatulas, Horn.

Imported; of elegant appearance, and superior quality. Wide spatula at both ends, with rounded corners.

No.	1	2	3	4	5	6	
Length	5⅝	6⅜	7¼	8	9⅜	12	inches.
Price	1.20	1.50	1.75	2.00	3.00	5.00	per dozen.

Spatulas, Iron.

Imported; all iron; spatula at both ends.

No.	1	2	3	4	5	6	
Length	5	6	7½	9	10	11½	inches.
Price	1.50	1.75	2.00	2.25	2.75	3.00	per dozen.

Spoons, Bone.

Imported; best quality; plain handle.

No.	1	2	3	4	
Length	4½	5½	6	6¾	inches.
Price	1.50	1.75	2.00	2.25	per dozen.

Spermine-Krieger.

A sterilized solution, prepared from various glands from healthy young animals, and representing the natural tonic and stimulating agent in cell and tissue reconstruction. Employed with success in anemia, asthma, catarrh, pulmonary affections, dyspepsia neuralgia, nervous debility, cholera, typhoid, syphilis, etc.

Dose: 3 to 6 minims for children, 5 to 10 minims for children, hypodermically administered; dose to be increased by 1 minim per day to maximum of 15 minims.

Boxes of 12 one gramme flasks ..... per box $3.00
(Discount to Druggists.)

Spoons, Horn.

Imported; best quality and appearance; distinguished for depth of spoon.

Plain handle, prices in line A below.
Spatula handle, prices in line B below.

No.	1	2	3	4	5	6	7	8	9	
Length	4¼	4¾	5⅝	6⅜	7⅛	7⅞	9⅜	11	12	inches.
Price A	1.00	1.10	1.25	1.50	1.75	2.00	3.00	5.00	6.00	per dozen.
Price B	1.25	1.35	1.50	1.75	2.25	2.50	3.50	5.50	6.50	per dozen.

Finished pointed handle.

No.	1	2	3	4	
Length	5⅝	7⅛	9⅜	12	inches.
Price	1.50	2.00	3.50	6.50	per dozen.

Double spoon, large and small.

No.	1	2	3	4	
Length	5¼	6	7¼	8	inches.
Price	1.80	2.25	3.00	3.50	per dozen.

Strophanthus.

Strophanthus Hispidus, the specie employed medicinally, is a plant of Western Africa, the seeds of which are employed by the natives for the preparation of arrow-poison; the tincture has gained considerable prestige in Europe and here as a muscle poison, a substitute for digitalis and like familiar narcotics. The tincture is prepared by percolating 2½ ozs. of the seed with 2 pints of alcohol, the fatty matter having previously been eliminated by treatment with ether; the dose is from four to twenty minims, three times daily. The active principle, Strophantin, is injected hypodermically, in doses of 1/120 to 1/60 of a grain.

Seed ..... lb. 1.25
Seed, powdered ..... lb. 1.50
Tincture, U. S. P. ..... lb. .75
Strophantin, the active principle ..... grain .18

Styrone, L. & F.

Styrone, according to Dr. Beach, of the Massachusetts General Hospital is a compound extracted from liquid storax and balsam of peru. Applied unmixed to a raw surface it is somewhat irritating, but in emulsion with water, liquid vaseline or olive oil, it is an agreeable dressing, a prompt deodorizer, and in an 8 per cent solution a reliable antiseptic, capable of completely disinfecting a foul and ulcerating surface. In the pleural or peritoneal cavities weaker solutions in water, 1 to 50, 1 to 100, or 1 to 200, may be safely and effectively used. In the form of a 4 per cent. spray it sometimes gives great relief in phthisis, and its action upon the cholera bacillus outside the body leads to the hope that it may prove a valuable internal remedy in cholera. ("Med. Stand.") The preparation enjoys considerable popularity and demand in Massachusetts, especially in Boston.

In 1 oz. vials ..... oz. 1.25

Sugar Drops.

Imported small round drops, of pure sugar, and designed for medication: peppermint flavor, etc. Not flat lozenges, but with solid base and rounded top.

In bulk ..... lb. .30

Sugar of Milk.

We are sole agents for this product of a superior brand and can furnish from stock, or on contract, in any desired quantity. This sugar of milk is of absolute purity; special whiteness; odorless—and will remain so indefinitely if properly protected. The powder is not precipitated before crystallization, but ground from the crystals, and bolted through finest sieves; this makes it particularly serviceable and preferable for manufacturing compressed tablets, granules, etc.

Crystals ..... lb. .25
Granular ..... lb. .28
Powdered ..... lb. .25
Powdered in 50 lbs. lots ..... lb. .18
Powdered, by the barrel of 250 lbs. ..... lb. .16

Syringes, Hypodermic.

Koch's, bulb, 1 ccm. capacity ..... each 1.25
Koch's, bulb, 10 ccm. capacity ..... each 2.50
Pasteur's, piston, 25 ccm. capacity, L. & F. ..... each 3.00

Syrup, Dutch Chocolate, L. & F.

For Soda Fountain Use. This is a concentrated Chocolate Syrup made from L. & F. Pure Dutch Cocoa, guaranteed to keep well, and can be diluted with water and simple syrup to double its volume without impairing its flavor. It makes a Delicious Beverage, of Full, Rich and True Chocolate Flavor. Suited both for Hot Soda Water or Ice Cold Soda Water—for Winter or Summer use. It will give a delightful drink, of unsurpassed aroma.

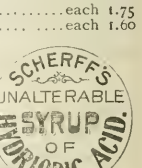
It is the best and cheapest Chocolate Syrup in the market: Cheapest because Best, and also because of lower cost by actual comparison with other brands. Put up only in 1 gallon cans.

Price per single can ..... each 1.75
In 5 can lots ..... each 1.60

Syrup Hydriodic Acid, Scherff's.

Scherff's Syrup of Hydriodic Acid is a superior preparation of standard strength, unalterable, and *will not discolor, i. e.*, will not develop free iodine.

The guarantee that it will not discolor is its chief advantage; and next the 16 ozs. by measure instead of one pound by weight, make it profitable and preferable for the druggist.



In sixteen (16) fluid ounce bottles ..... doz. 9.00

Our Salesmen

regularly visit every section of the United States; they carry only samples of Drugs, Chemicals, Essential Oils, New Remedies and Pharmaceutical Products. A sample outfit of this kind is the most compact representative and interesting exhibit of materia medica possible. If the reader has not seen one of our salesmen with his outfit, a request by letter will soon bring one eager for

New Customers.

Syrup White Pine Compound.

A valuable Remedy in pulmonary affections.—Each 30 ccm. (fluid ounce) represent: White Pine Bark, 2.0; Wild Cherry Bark, 2.0; Spikenard, 0.26; Balm Gilead Buds, 0.26; Blood Root, 0.20; Sassafras Bark, 0.13; Morphia Sulphate, 0.013; Chloroform 9.26 cc.

Dose: 3.75 to 7.50 ccm. (1 to 2 teaspoonfuls), or as may be directed by physician in attendance.

In 1 pint bottles ..... each .60
In 5 pint bottles ..... each 2.00
In 1 gallon jugs ..... each 3.00

Syrups, L. & F. See Regular List, Page 19.

Tablets, Compressed, L. & F.

Ammonia muriate ..... lb. .60
In bottles for retailing at 10 c. ..... doz. .60
Potash chlorate ..... lb. .45
In bottles for retailing at 10 c. ..... doz. .60
Soda Mint ..... lb. .60
In bottles for retailing at 10 c. ..... doz. .60
In 1 gross lots, of one or assorted, with buyer's name on label ..... gross 6.00

Tannin. See Acid Tannic.

Tapers. German Night Lights.

Superior quality, imported, our own brands, green label, riveted boxes.

3 months	J. C. W.	doz. .45	gross	4.50
	J. C. P.	doz. .40	gross	4.25
	S. S. W.	doz. .38	gross	4.00
	S. S. P.	doz. .36	gross	3.75
6 months	J. C. W.	doz. .75	gross	7.50
	J. C. P.	doz. .70	gross	7.00
	S. S. W.	doz. .55	gross	5.50
	S. S. P.	doz. .52	gross	5.25

Subject to discount in large quantities.

New style, improved, with reflector:

3 months ..... doz. .60 ..... gross 6.00
6 months ..... doz. .85 ..... gross 9.00

Tar, North Carolina, L. & F.

A carefully selected, pure quality of this staple article; neatly put up in screw-mouth cans, with minimum danger of leakage.

2 oz. cans ..... doz. .35
4 oz. cans ..... doz. 5
½ pint cans ..... doz. .75
1 pint cans ..... doz. 1.00
1 quart cans ..... doz. 1.80
½ gallon cans ..... doz. 2.50
1 gallon cans ..... doz. 4.50
5 gallon cans ..... gall. .25

Tea, Medical.

Breast Tea (Species Pectoralis) bulk ..... lb. .30
Domestic Hamburg Purgative Tea ..... doz. .60
In 1 gross lots ..... gro. 6.00
In 5 gross lots ..... gro. 5.50
Von Sterneck's Three King's Tea ..... doz. 1.25
In 1 gross lots ..... gro. 13.50
Warren's Alpine Herb Tea ..... doz. .75
In 1 gross lots ..... gro. 8.00

Terebene, L. & F.

Terebene was recognized for the first time by the U. S. P. 1890. This authority gives the boiling point between 156 and 160° C. and the sp. gr. as 0.862 at 15° C.

According to recent researches terebene prepared by the action of Sulphuric Acid on oil of turpentine until an optically inactive liquid results, shows a sp. gr. of about 0.855 at 15° C. and boils between 170° and 185° C.

Our product corresponds to these figures.

Terebene has been employed with good success as an antiseptic dressing for wounds, ulcers, etc. It is applied pure in the proportion of 1 part to 6 of olive oil

Internally it is used in the treatment of bronchitis; dose from 5 to 20 drops three times a day.

1 oz. vials ..... oz. .10
1 lb. bottles ..... lb. .75

Thermometers, Clinical.

Self-registering; two years old; reliable; in hard-rubber cases

Plain ..... doz. 7.00
Lens front, magnifying ..... " 10.00
Lens front, magnifying, with patent case ..... " 12.00

Thiol-Riedel.

Thiol is produced by artificially sulfureting unsaturated hydrocarbon, and charging the resultant crude oil with 12% of sulfur, the active ingredient of Ichthyol to which the curative power is ascribed.

Thiol has been found equally as efficacious as Ichthyol in all diseases where the latter has been employed, and it is preferable because lacking altogether the obnoxious taste and disagreeable odor and dangerous toxicity of Ichthyol.

Thiol, liquid ..... (1 lb. @ $3.00) ..... oz. .25
Thiol, powder ..... (1 lb. @ $10.00) ..... oz. .75

Thioresorcin.

Thioresorcin is the chemical product of varied action in combination of resorcin, sodium hydrate, sulphur and muriatic acid. It is a grayish, flocculent powder, insoluble in ordinary solvents, but dissolving freely in solutions of the alkalies, alkaline carbonates, and alkaline sulphides. It is an odorless, powerful, and non-irritating antiseptic, satisfying all the purposes for which iodoform is used, and, therefore, an acceptable substitute.

1 oz. vials ..... oz. .75

Thyroids, Desiccated, L. & F.

From the glands of sheep.—Prepared from fresh, healthy glands, carefully dried and pulverized. Ten grains of the powder represent the active constituents of one entire gland and thus the therapeutic effect of the active principle of the gland is assured.

Recommended as a certain remedy for Myxœdema; also use I successfully in goitre, cretinism, and—according to latest reports—in psoriasis and for treatment of skin diseases generally.

1 oz. vials ..... oz. 1.00

Tokayer, Stein's, Medicinal.

We have accepted the sole agency for Stein's Genuine Hungarian Medicinal Tokay Wines, and unhesitatingly recommend them for their superior quality and purity; and as they are cheaper also than any other imported or California substitute Tokay Wines, they possess every qualification for popularity.

These wines have been analyzed and endorsed—not for the wine growers, but at the request of European buyers—by such leading practitioners as Dr. M. Freitag, Bonn; Dr. C. Bischoff, Berlin; Dr. Kayser, Dortmund; Dr. Heinrich, Rostock; Dr. Fresenius, Wiesbaden, and many others, the authentic certificates of whose investigations and commendatory reports are in our possession.

Supplies are received in original bottles and cases direct from TOKAY, Hungaria, where the firm ERN. STEIN are the owners of the leading and largest vineyards; viz., Benczik, Baksa, Diokút, Hoszú, Omlas, Fekete, Veres, Parlag and Raffay, besides controlling the product of the vineyards of relatives.

The term "Medicinal Tokayer" is legally protected by copy-right, but to insure the genuine wine at reasonable prices for patients, physicians should specify:

Stein's Medicinal Tokayer, retail at ..... $1.25 per bottle
Stein's Medicinal Tokayer Ausbruch, retail at .. 1.75 per bottle

These brands are supplied in 1 pint bottles, 2 doz. in a case, and are quoted:

Stein's Medicinal Tokayer ..... doz. 10.00
" " " " ..... case 18.00
Stein's Medicinal Tokayer Ausbruch ..... doz. 14.00
" " " ..... case 24.00

Tokay Wines, L. & F.

We also supply Medicinal Tokay Wines of our own selection, of superior quality. This wine is put up in pint bottles, our labels, and packed 2 dozen in a case. We invite preference for our brand, and guarantee satisfaction.

L. & F. Medicinal Tokayer ..... doz. 14.00
L. & F. Medicinal Tokayer ..... case 24.00

MAIL ORDERS

are appreciated; they receive personal attention; best selected goods are sent: lowest prices charged; prompt shipment guaranteed.

Outfit Orders are likewise carefully executed. We frequently fit up a new store complete on one to three days notice. The dealer who contemplates opening a NEW STORE is cordially invited to correspond with us. Terms will be satisfactory.

Toluol, L. & F.

Toluol, C_6H_5 —*Syn*, Toluene, Methyl-benzene, Phenyl-methane—is a colorless, refractive liquid; product of coal-tar.

Toluol has lately come into demand for medicinal use, in the treatment of diphtheria, on the recommendation of Prof. Loeffler. His directions for its use are: Dissolve 10 gm. Menthol in Toluol to 36 ccm., then add 60 ccm. absolute alcohol and 4 ccm. Liq. ferri sesquichlor. The solution is applied with a cotton-wrapped probe, first removing the mucus as much as possible, and 5 to 10 seconds' application sufficing to destroy the bacilli.

1 lb. bottles ..... lb. .60

Traumaticin, L. & F.

A solution of gutta percha, and a superior substitue for collodion for surgical use, the covering produced being thicker and more pliable.

1 lb. bottles ..... lb. 2.50

Ungt. Caseini (Unna).

A new ointment base, lately introduced by Prof. P. G. Unna, prepared under the author's control by Beiersdorf & Co., Hamburg, and highly endorsed by dermatologists.

In ¼ kilo cans ..... can .75

Vaccine Virus.

We have made arrangements for a regular supply of imported Pasteur Institute Bovine Virus, put up perfectly sterilized in sealed tubes, containing 5, 10 and 20 vaccination doses each. This virus is absolutely reliable, and far superior to the ordinary virus tipped ivory points. Directions accompany each tube.

Tubes containing	2 doses	per tube	.25
" "	5 "	" "	.45
" "	10 "	" "	.75
" "	20 "	" "	1.25

(Discount to the Drug Trade).

Wafers, Medicinal, L. & F.

For the administration of noxious medicines. An imported specialty (See also Cachets.)

Round, small	30 in a box.	doz. .45	gross	4.50
" medium	30 " "	doz. .50	gross	5.00
" large	30 " "	doz. .60	gross	6.00
Square small	30 " "	doz. .50	gross	5.00
" large	30 " "	doz. .60	gross	6.00
" large sheets,	100 in a package	100 .60	1000	5.00

Warburg's Tincture, L. & F.

This preparation is made according to the original formula of Dr. Warburg, with the only omission of *Confectio Democratis* (an obsolete compound long ago discarded), for which Confection Theriac, Ph. G. is substituted. Each fluid ounce contains 10 grains of Sulphate of Quinine. The original directions are: ½ ounce is given alone without dilution, after the bowels have been evacuated by any convenient purgative, all drink being withheld. In three hours another ½ ounce is administered in the same way. It seldom happens that a second administration is required; if so, the dose must be repeated as above.

When "Warburg's Tincture" is called for, the original preparation, with aloes, should be dispensed; the tincture, "without aloes," should be taken only when so specified. To restore the full purgative effect to "Warburg's Tincture without aloes," 28 grains aqueous extract of aloes must be added to 16 fluid ounces of the tincture.

The solid and powdered extracts are designed for making capsules. Four grains of the extract represent one fluid drachm of Warburg's Tincture. To make Warburg's Tincture from the extract, dissolve 1 ounce extract in sufficient alcohol to yield 1 pint after filtering.

WARBURG'S TINCTURE, WITH OR WITHOUT ALOES

¼ lb. bottles ..... lb. 1.70
½ lb. bottles ..... lb. 1.60
1 lb. bottles ..... lb. 1.50

WARBURG'S TINCTURE, MODIFIED WITH OR WITHOUT ALOES.

¼ lb. bottles ..... lb. 1.20
½ lb. bottles ..... lb. 1.10
1 lb. bottles ..... lb. 1.00

WARBURG'S TINCTURE EXTRACT.

Solid, with aloes, 1 oz. jars ..... oz. .75
Solid, without aloes, 1 oz. jars ..... oz. .75
Powdered, with aloes, 1 oz. vials ..... oz. 1.00
Powdered, without aloes, 1 oz. vials ..... oz. 1.00

WARBURG'S TINCTURE CAPSULES.

Representing one drachm Tincture,	boxes of	1 doz.	box	.25
" one "	" "	" 100	box	2.00
" two "	" "	" 1 doz.	box	.40
" two "	" "	" 100	box	3.00

Waters, Floral, or Toilet, Imported.

Our own importation, direct from the manufacturers, Tombarel Freres, Grasse, Alpes-Maritimes, France; of guaranteed superior quality; in original bottles and cans.

Orange Flower, 5 litres bottles ..... each 2.00
" " 10 " coppers ..... each 3.60
" " 24 " " ..... each 6.50
Rose, 5 litres bottles ..... each 2.20
" 10 " coppers ..... each 4.00
" 24 " " ..... each 8.00
Lavender, White ..... gall. 3.50
" Ambree ..... gall. 3.50
Violet ..... gall. 4.50

Wax, Yellow.

This wax is not pure bees-wax, but a compound, nicely molded in 1 oz. cakes, for Laundry use.

1 oz. cakes, 4 dozen in box ..... box 1.00

Weights, Metric.

We can supply these weights in sets of great variety and of all sizes. We quote a few serviceable sets, such as are usually sufficient for druggists' use.

	Per Box	Per Block
From 10 grammes down to 1 centigramme	1.00	.80
" 50 " " " 1 "	1.60	1.35
" 200 " " " 1 "	3.25	2.75

Weights, Nuremberg.

1 gr. to ½ oz. ..... per set. .40

Wine Colchicum, English.

This English Wine of Colchicum (Vin. Colchici, T. Willson, London) is recommended as a thoroughly reliable and standard preparation, and is widely esteemed and employed. Both Seed and Root supplied.

1 pint bottles ..... pt. 1.25

Imported Proprietary Specialties.

Dr. Dahmen's Hæmalbumin, in 1 oz. pkgs. ..... oz. .50
" " " in 1 lb. pkgs. ..... lb. 7.00
Dallmann's Tamarinden Essenz ..... doz. 12.00
Harlem Oil, imported (gross lots @ 3.25) ..... doz. .50
Hommel's Haematogen ..... doz. 12.00
Kaiser Pillen ..... lb. 6.50
Kiesow's Lebens-Essenz, small ..... doz. 4.50
" " " large ..... doz. 8.50
Liebe's Cascara-Wein, small ..... doz. 8.00
" " " " ..... doz. 12.00
Loefflund's Extract of Malt (German label) ..... doz. 6.00
Loefflund's Food (Kinder-Nahrung) ..... doz. 6.00
Mainzer Tropfen ..... doz. 6.00
Marienbader Reduction Pillen ..... doz. 15.00
Pfeuffer's Haemoglobin Extract, small ..... doz. 6.00
" " Tablets, small ..... doz. 9.00
Romershausen's Augen Essenz, small ..... doz. 10.00
" " " " large ..... doz. 14.00
Schering's Essence of Pepsin ..... doz. 7.00
Schweizer Pillen, Rich'd Brandt's, small ..... doz. 2.25
" " " " large ..... doz. 3.60
Wunder-Kron-Essenz ..... doz. 1.25

When you have finished

looking over this list, please remember that it is part of our regular list (staple Drugs, Chemicals, Oils, New Remedies, etc., and of Specialties) which we publish Quarterly. If you want the full list at regular intervals, please send us your request. **LEHN & FINK, 128 William St., New York.**

Use Dr. Kilmer's Sure Headache Cure

$5.40 FOR $1.75.

For the purpose of introducing our **Sure Headache Cure** into every city, town, village and hamlet in the land, until November 1, 1895 we make the following startling and unprecedented offer, viz:—On receipt of $1.75 in New York or Chicago Exchange, we send—

1 Dozen Sure Headache Cure, 25c. size,
2 " " " " 10c. "
500 Circulars 6 x 11 inches, with dealers imprint; Split Head trade mark 4 inches square at the top.
2 Hangers, with Split Head 6 inches in diameter.

Our Trade Mark is the most striking, and always insures a reading of the circular, which is most convincing, and is sure to induce a purchase by any one in need of a headache remedy, and the unusual excellence of the remedy never fails to please, and creates for it a constant demand, making it, as well as the best, the fastest selling remedy on the market.

The sale of the 10c. packages produces $2.40 which is 65 cents more than the entire outlay, and the $3.00 from sales of the 25c. size is that much additional profit. The returns therefore are $5.40 on an outlay of $1.75,—a net profit of over 200%. Is that not enough to attract any one looking for a profitable investment?

The 25c. boxes contain 25 tablets each.
The 10c. packages contain 5 tablets each,

and each kind is put up in an attractive Show Case Easel.

If you are looking for a rapidly selling article and large profits we are sure we will hear from you.

With order for ¼ gross and upwards as above, we include also a large muslin window sign or banner 3 x 6 feet, in the center of which is our Split Head trade mark 20 inches in diameter, and around it in large letters, "Stop that Splitting Headache by using Dr. Kilmer's Sure Headache Cure." This is a very attractive transparency and every one passing the store will stop to look at it, then walk away to talk about it, and in a very short time every one in the town is familiar with the remedy and the store where it is sold.

ADDRESS ALL ORDERS TO

Dr. Kilmer & Company,

Sole Proprietors and Manufacturers,

South Bend, Ind., U. S. A.

For the merits and selling qualities of this remedy see the next page.

See what Druggists say of the Selling Qualities of this Remedy.

DR. KILMER & CO., South Bend, Ind.

Cures Every Time when Others Fail. Please send me one-half gross of Dr. Kilmer's Sure Headache Cure. The one-half gross bought of you a short time since is all gone. It is the best and quickest headache remedy that I ever handled, and I have had most all of them. Yours Cures every time when others fail. Very Respectfully,

Dowagiac, Mich., June 13, 1894. HI ARTHUR.

DR. KILMER & CO. South Bend, Ind.

Cures Every Case Gents:—We have placed an additional order for 3 dozen more Dr. Kilmer's Sure Headache Cure. We cannot say too much in praise of this medicine. As yet we have not found a case of Headache that it has not cured.

Yours Respectfully,

Albion, Mich., March 22 1894 GLEASON & KNAPP, Druggists.

DR. KILMER & CO., South Bend, Ind,

Every Box Cures. Enclosed find $18.00 for one gross of Dr. Kilmer's Sure Headache Cure. It goes like wild-fire and every box gives perfect satisfaction.

Hartwick, N. Y., March 17, 1894 S. A. BESSEMER.

See also what the Users Say.

Worth its Weight in Gold. "Dr. Kilmer's Sure Headache Cure is worth its weight in Gold, and has cured every case that tried it. W. E. MOORE,

House, N. C.

DR. KILMER & CO., South Bend, Ind.

Worth $1.00 a Tablet. Find enclosed 25 cents, for which please send by return mail, one box of your Sure Headache Cure. It is worth to me, when I have sick headache, $1.00 a tablet. It cures me every time My husband is also delighted with it, as it has cured him various times of different kinds of headache. Most Respectfully,

High Gate, Va., April 4, 189-. MRS. T. E. BERRYMAN.

DR KILMER & CO., South Bend Ind.

King of All Headache Cures. Yours is surely the King of all Headache Cures. Myself and daughter have both tried it as well as other Headache Cures, and unhesitatingly pronounce your Sure Headache Cure the very best. It will do what you claim for it every time. JAS. M. FREEMAN,

Waycross, Ga. Editor Headlight.

We have stacks of similar testimonials from all over the United States.

PRICE LIST OF

DR. KILMER & CO.,

SOUTH BEND, INDIANA.

	Per Dozen.	Per Bottle
Dr. Kilmer's Dyspeptic Delight,	$7.50	$1.00
Dr. Kilmer's Cough Cure (50c size)	3.25	.50
Dr. Kilmer's Cough Cure (25c size)	1.75	.25
Dr. Kilmer's Rose Bloom,	5.00	.75
Dr. Kilmer's Iron Tonic,	7.50	1.00

	Per Dozen	Per Box.
Dr. Kilmer's Olive Branch,	$7.50	$1.00
Dr. Kilmer's Pile Remedy,	7.50	1,00
Dr. Kilmer's Blood, Liver and Stomach Tablets,	7.50	1.00
Dr. Kilmer's Sure Headache Cure,	1.75	.25

Prices are net F. O. B. South Bend, Ind. No charge for package.

PRICE LIST OF

The S. B. Medicine Co.,

SOUTH BEND, INDIANA.

		To Retail Druggists.	To Physic'ns
Cocaine Compound Suppositories, Per dozen boxes,		$4.50	$5.00
Cocaine Compound Bougies, Per dozen boxes,		5.00	6.00
Caffacemon Tablets 7 gr.	℔ M.	3.50	4.00
" " 4 gr.	"	1.75	2.00
" Cincho Tablets.	"	1.25	1.50
" Quinia "	"	2.75	3.50
" Salicyl. Soda Tablets,	"	2.50	3.00
" Powdered,	℔ lb.	2.50	3.00
Stomach Tablets,	℔ M.	1.25	1.50
Aphrodisiac "	"	2.75	3.50
Diarrhœa "	"	1.25	1.50
" " (Mild, Soluble),	"	1.00	1.25
Digestive "	"	1.65	2.00

		To Retail Druggists.	To Physic'ns.
Laxative Tablets,	℔ M.	1.25	1.50
Rheumatic "	"	1.65	2.00
Spermatorrhœa Tablets,	"	2.50	3.00
Uterine Tablets (Systemic),	"	2.00	2.50
Vaginal "	"	2.00	2.50
Elixir Cascara,	℔ gallon	2.50	3.00
" Palmetto Compound	" "	3.50	4.00
" Simple,	" "	1.65	2.00
Cherry Cough Compound.	" "	2.50	3.00
White Pine Expectorant,	" "	2.50	3.00
Iron-Wood Tonic,	" "	2.50	3.00
Elixir of Iron,	" "	3.50	4.00
Stomachic Elixir.	" "	3.50	4.00

Special discount on orders for large quantities in Bulk. No charge for containers, except Caffacemon in bottles of 100 tablets each, price 25 cents per 1,000 advance on above quotations.

ALL PRICES ARE F. O. B., SOUTH BEND, INDIANA.

McKESSON & ROBBINS,

Importers, Exporters and Jobbers of

Drugs, Chemicals, Essential Oils, Druggists' Sundries, Sponges, Etc.

AND MANUFACTURERS OF

Chemicals, Pharmaceutical Preparations, Corks, Etc.

JOHN McKESSON, JR.,
WM. HULL WICKHAM,
GEO. C. McKESSON,
HERBERT D. ROBBINS.

Laboratories:
74, 76, 78 and 80 Ann St.

Offices:
91, 93 and 97 Fulton St.

Warehouses:
91, 93, 95 and 97 Fulton St.

NEW YORK.

New York, Oct. 10, 1895.

TO THE TRADE

Foreign correspondence solicited regarding all American Crude Drugs and Essential Oils; Cascara Bark; Damiana and Coca Leaves; Seneca, Mandrake, Jalap and Sarsaparilla Roots; Peppermint, Spearmint, Pennyroyal, Sassafras and Wintergreen Oils; Podophvllin, Leptandrin and Euonymin Resins; Pure White Alkaloid Hydrastin, &c., &c.

CORKS.

We have increased our Cork-cutting Department and we invite all proprietary medicine manufacturers and large users of Corks to write us for Special Prices.

We have a large, varied and well-selected stock of Druggists' Sundries, Sponges, Chamois, Fancy Goods, Perfumery, Cut Glassware, &c., for holiday trade, which will well repay a personal visit.

Correspondents may rely upon the Prompt Execution of their Orders for goods in quantity, as well as rare articles, pertaining to every branch of the business, as it is well known that we carry in stock the largest and most complete assortment in the trade.

We solicit your orders, which will receive careful and prompt attention, with all the advantages which the quantity ordered and the market will permit.

Very respectfully,

McKESSON & ROBBINS.

TRADE PRICE LIST.

Chemicals and Pharmaceuticals.

McKesson & Robbins,

91 FULTON STREET,

NEW YORK.

August 15, 1895.

Note reduction in prices of Pulverflators and Pyrozone Atomizers.
Note addition: Tartarlithine, Tartarlithine and Sulphur, and Vaporflators.

ALBOLENE, SOLID, McK. & R.

1 lb. cans	lb.	$0 40
5 lb. cans	lb.	35
25 lb. cans	lb.	30
50 lb. cans	lb.	28
100 lb. cans	lb.	27
15 cent size, Plain or Perfumed	doz.	1 25
25 cent size, Plain or Perfumed	doz.	2 00
40 cent size, Plain or Perfumed	doz.	3 50
Camphor Ice, rolls, 10 cent size	doz	75
Camphor Ice, cakes, 25 cent size	doz.	1 25
Carbolated, lb. cans	lb.	50

ALBOLENE, LIQUID, McK. & R.

1 pt. bottles	lb.	$0 40
5 pt. bottles	lb.	35
4 oz. bottles	lb.	60
Benzoinated, 1 pt. bottles	lb.	50
Benzoinated, 5 pt. bottles	lb.	45
Benzoinated, 4 oz bottles	lb.	70
Camphorated	lb.	60
Campho-Carbolated	lb.	60
Campho-Mentholated	lb.	60
Campho-Thymolated	lb	60
Carbolated	lb.	60
Corrosive Sublimated	lb.	60
Eucalyptolized	lb.	60
Mentholated	lb.	60
Thymolated, in 1 pt. bottles	lb.	60
Thymolated, in 5 pt. bottles	lb.	55
Thymolated, in 4 oz. bottles	lb.	80

ALBOLENE, POMADE, McK. R.

1 lb. cans	lb.	50
5 lb. cans	lb.	45
25 lb. cans	lb.	40
50 lb. cans	lb.	38
100 lb. cans	lb	37

ALBOLENE, SPRAY SOLUTION, McK. & R.

1 pt. bottles	lb	$1 00
5 pt. bottles	lb.	90
4 oz. bottles	lb.	1 20

LIQUID ALBOLENE WITH CUBEB, McK. & R.

1 pt. botttes	lb.	$1 00
5 pt. bottles	lb.	90
4 oz. bottles	lb.	1 20

LIQUID ALBOLENE WITH THUJA, McK. & R.

1 pt. bottles	lb.	$1 00
5 pt. bottles	lb.	[90
4 oz bottles	lb.	1 20

LIQUID CHLOR-ALBOLENE, McK. & R.

1 pt. bo tles	lb.	$1 00
5 pt bottles	lb.	90
4 oz. bottles	lb.	1 20

ALBOLENE ATOMIZER "A," McK. & R

McK. & R. ALBOLENE ATOMIZER "A."

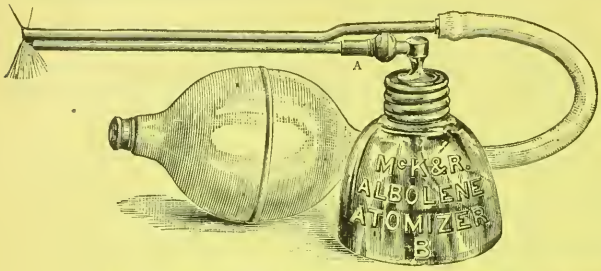
Less than three dozen	doz.	$7 50
Three dozen at one time	doz.	7 00
One gross at one time	gross	72 00
Five gross at one time	gross	68 40

ALBOLENE ATOMIZER "B," McK. & R.

Less than three dozen	doz.	$12 00
Three dozen at one time	doz.	11 00
One gross at one time	gross	126 00

ALBOLENE ATOMIZER "B" IMPROVED, McK. & R.

Less than three dozen (2 tubes)	doz.	$16 00
Three dozen (2 tubes)	doz.	15 00



McK. & R. ALBOLENE ATOMIZER "B."

DIURETIN--Knoll.

Less than 25 ozs.	oz.	$1 75
25 ozs. at one time	oz.	1 65
100 ozs. at one time	oz.	1 55

EXALGINE.

Less than 25 ozs.	oz.	$1 40
25 ozs. at one time	oz.	1 30
100 ozs. at one time	oz.	1 25

GALLACETOPHENONE.

U. S. PATENT. MANUFACTURED BY BREYER & SCHWEITZER.

Less than 25 ozs.	oz.	$1 40
25 ozs at one time	oz.	1 30
100 ozs. at one time	oz.	1 25

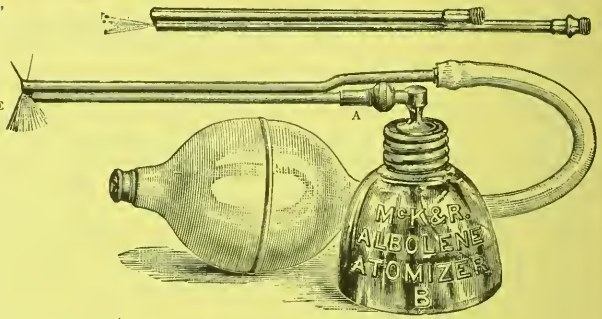
McK. & R. FRUIT JUICES

AND OTHER SODA WATER REQUISITES

SPECIAL DISCOUNT TO THE JOBBING TRADE FOR JOBBERS' QUANTITIES.

BLACKBERRY, BLOOD ORANGE, CATAWBA, CHERRY, RASPBERRY, RED CURRANT, CONCORD GRAPE, LEMON, ORANGE, PEACH, STRAWBERRY, PINEAPPLE, PLUM,

Quart champagne bottles	doz.	$6 50
1 gallon demijohns, including demijohn	each	2 50
2 gallon demijohns, including demijohn	each	4 50
5 gallon kegs, including keg	each	10 00



McK. & R. ALBOLENE ATOMIZER "B" IMPROVED.

A Few Special Requisites for the Soda Fountain. For Hot or Cold Soda.

McK. & R. SOLUBLE CONCENT, GINGER.

1 pt bottle	$0 75
5 pint bottle	3 50
Gallon demijohn	5 00

McK. & R. GINGER ALE EXTRACT.

1 pint bottle	$0 75
5 pint bottle	3 50
Gallon demijohn	5 00

McK. & R. LIQUID CHOCOLATE.

1 pint bottle	$0 75
5 pint bottle	3 50
Gallon demijohn	5 00

McK, & R. LIQUID COFFEE.

1 pt. bottle	$0 75
5 pt. bottle	3 50
Gallon demijohn	5 00

McK. & R. LIQUID TEA.

1 pt. bottle	$0 75
5 pint bottle	3 50
Gallon demijohn	5 00

McK. & R. FLUID EXTRACT FRESH ORANGE PEEL.

1 pint bottle	$0 75
5 pint bottle	3 50
Gallon demijohn	5 00

McK. & R. FLUID EXTRACT FRESH LEMON PEEL.

1 pint bottle	$0 75
5 pint bottle	3 50
Gallon demijohn	5 00

McK. & R. EXTRACT VANILLA.

McK. & R. "Standard" per gallon demijohn	$12 50
McK. & R. "Thomas's" per gallon demijohn	10 00
McK. & R. "Martin's" per gallon demijohn	8 50
McK. & R. "Maltese Cross" per gallon demijohn	7 50

McK. & R. CALISAYA FOR SODA WATER.

1 pint bottle, inclusive	$0 65
5 pint bottle, inclusive	2 50
1 gallon demijohn, inclusive	3 50

GELATINE-COATED PILLS AND FLUID EXTRACTS, McK. & R.

(SEPARATE LISTS.)

HYDRASTOL, McK. & R.

4 oz. bottles	doz.	$3 50

TARTARLITHINE.

(TRADE-MARKED.)

A REMEDY FOR GOUT AND RHEUMATISM.

Tablets (100, 5 grains each) per doz. bottles.	$7 50
" 1 gross lots	90 00 less 10%

TARTARLITHINE AND SULPHUR.

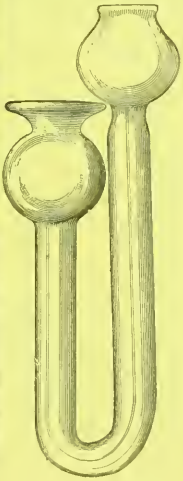
Tablets (100, 5 grains each) per doz. bottles.	$6 00
" 1 gross lots	72 00 less 10%

PYROZONE SOLUTIONS AND INSTRUMENTS.

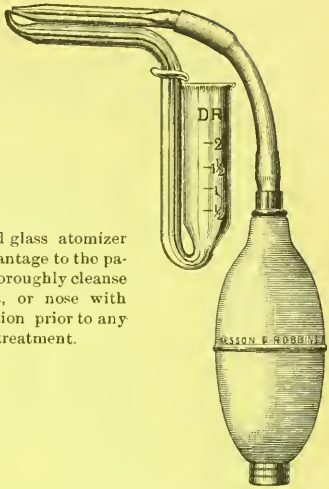
Pyrozone 25% Solution (Caustic), in glass tubes	doz.	$6 00
Pyrozone 5% Solution (Antiseptic), in glass tubes	doz.	9 00
Pyrozone 3% Solution (Medicinal), in 4 oz. glass stoppered bottles	doz.	3 50
Pyrozone Atomizers, Same as Pulverflators, and may be assorted with them in making up quantities		
Pyrozone Inhalers	doz.	2 00
Pyrozone Shields	doz.	3 50
Pyrozone Syringes	doz.	2 00

PYROZONE 3% SOLUTION.

PYROZONE SHIELD.



PYROZONE INHALER.



This graduated glass atomizer affords every advantage to the patient, who may thoroughly cleanse the mouth, throat, or nose with Pyrozone 3% Solution prior to any surgical or other treatment.

PYROZONE ATOMIZER.

STEARAS COMPOSITUS.McK. & R.

Comp. Stearate of Zinc	oz.	$0 30
Comp. Stearate of Zinc with Acetanilid	oz	40
Comp. Stearate of Zinc with Alum	oz.	40
Comp. Stearate of Zinc with Ammonium Muriate	oz.	35
Comp. Stearate of Zinc with Aristol	oz.	2 00
Comp. Stearate of Zinc with Aromatized Iodoform	oz.	60
Comp. Stearate of Zinc with Balsam Peru	oz.	40
Comp. Stearate of Zinc with Bismuth Salicylic	oz	60
Comp. Stearate of Zinc and Bismuth Subgallate, "Dermatol"	oz.	70
Comp. Stearate of Zinc with Boric Acid	oz	35
Comp. Stearate of Zinc with Camphor	oz.	35
Comp. Stearate of Zinc with Chrysarobin	oz.	40
Comp. Stearate of Zinc with Cocaine	oz.	2 00
Comp. Stearate of Zinc with Eucalyptol	oz	40
Comp. Stearate of Zinc with Europhen	oz.	1 00
Comp. Stearate of Zinc with Exalgine	oz.	80
Comp. Stearate of Zinc with Gallacetophenone	oz	1 25
Comp. Stearate of Zinc with Ichthyol	oz.	60
Comp. Stearate of Zinc with Iodoform and Boric Acid	oz.	60
Comp. Stearate of Zinc with Naphthalin	oz	40
Comp. Stearate of Zinc with Menthol	oz.	40
Comp. Stearate of Zinc with Pyoktanin	oz.	80
Comp. Stearate of Zinc with Resorcin	oz.	40
Comp. Stearate of Zinc with Rhubarb	oz.	40
Comp. Stearate of Zinc with Salicylic Acid, Mild	oz.	35
Comp. Stearate of Zinc with Salicylic Acid, Medium	oz.	40
Comp. Stearate of Zinc with Salicylic Acid, Strong	oz.	60
Comp. Stearate of Zinc with Salol	oz.	40
Comp. Stearate of Zinc with Sanguinarine Nitrate	oz.	1 50
Comp. Stearate of Zinc with Sulphur, Precipitated	oz.	35
Comp. Stearate of Zinc with Sulphur, Sublimed	oz	35
Comp. Stearate of Zinc with Tannic Acid	oz.	40
Comp. Stearate of Zinc with Tar	oz.	40
Comp. Stearate of Zinc with Thymol	oz.	50
Comp. Stearate of Zinc with Zinc, Chloride	oz.	40
Comp. Stearate of Aluminum	oz.	40
Comp. Stearate of Bismuth	oz	40
Comp. Stearate of Copper	oz	40
Comp. Stearate of Manganese	oz.	35
Comp. Stearate of Mercury	oz.	35

PULVERFLATORS.

Less than three dozen	doz. $8.00
Three dozen at one time	10 per cent. disc.
Six dozen at one time	15 per cent. disc.
Twelve dozen at one time	20 per cent. disc.

VAPOFLATORS.

Less than three dozen	doz. $8.00
Three dozen at one time	10 per cent. disc.
Six dozen at one time	15 per cent. disc.
Twelve dozen at one time	20 per cent. disc.

CORKS OF EXTRA QUALITY.

MALTESE

CORKS. CORKS.

CROSS.

A considerable deterioration in the quality of druggists' corks, due probably to the intense competition among some of the manufacturers, has been noticeable for some time and has led to much dissatisfaction. We have received many requests for a grade of corks better than the qualities generally supplied, and having made arrangements in our Cork Department to meet this demand, we now have the pleasure of offering the

McK. & R. "MALTESE CROSS" BRAND, CUT BY McK. & R.,

made of corkwood of the finest grades procurable, with confidence that they will merit the favor of the most exacting trade.

No. ✠		Regular Length.	Extra Long
000, 00, 0	Gross.	25	30
1	"	27	33
2	"	29	42
3	"	34	46
4	"	42	55
5	"	49	68
6	"	65	85
7	"	85	1 00
8	"	1 00	1 25
9	"	1 20	1 50
10	"	1 56	1 95

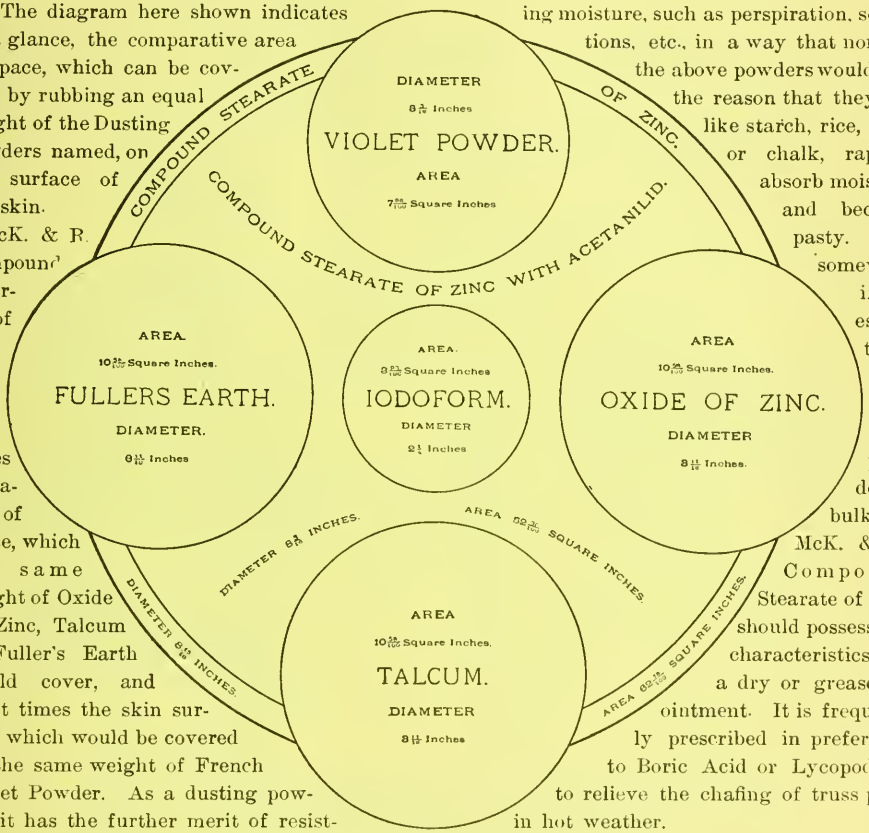
Lots of $5.00 net.....10 per cent. from list prices.
Lots of $10.00 net.....20 per cent. from list prices.

No.		Regular Length.	Extra Long.
11	Gross.	1 95	—
12	"	2 15	—
13	"	2 30	—
14	"	2 55	—
15	"	2 85	—
16	"	3 25	—
17	"	3 75	—
18	"	4 08	—
19	"	4 50	—
1–6, assorted	"	41	54
2–6, "	"	45	59
3–6, "	"	48	62

Lots of $25.00 net.....30 per cent. from list prices.
Lots of $50.00 net.....40 per cent. from list prices.

McK. & R. COMPOUND STEARATES.

The diagram here shown is a reduced representation of one of our exhibits at the Mississippi Valley Medical Association, which indicated at a glance the relative covering power possessed by an equal weight (5 grains) of each of the Dusting Powders named. Thus COMPOUND STEARATE OF ZINC is seen to possess six times the covering power of Zinc Oxide, Talcum, &c., while COMPOUND STEARATE OF ZINC WITH ACETANILID, the New Surgical Dressing, possesses fifteen times the covering power of Iodoform.



The diagram here shown indicates at a glance, the comparative area of space, which can be covered by rubbing an equal weight of the Dusting Powders named, on the surface of the skin.

McK. & R. Compound Stearate of Zinc covers six times the area of space, which the same weight of Oxide of Zinc, Talcum or Fuller's Earth would cover, and eight times the skin surface which would be covered by the same weight of French Violet Powder. As a dusting powder it has the further merit of resisting moisture, such as perspiration, secretions, etc., in a way that none of the above powders would, for the reason that they all, like starch, rice, flour or chalk, rapidly absorb moisture and become pasty. It is somewhat interesting to find that a powder so bulky as McK. & R. Compound Stearate of Zinc should possess the characteristics of a dry or greaseless ointment. It is frequently prescribed in preference to Boric Acid or Lycopodium to relieve the chafing of truss pads in hot weather.

The manufacturers have supplied combinations containing Tar, Balsam Peru, Eucalyptol, Thymol, Menthol and other drugs which cannot be hastily combined. They also recommend a trial of McK. & R. Compound Stearate of Zinc combined with Acetanilid as the most satisfactory partial substitute for Iodoform.

A full list of all the combinations is supplied with each bottle containing one ounce of the powder, which may be procured through any Dispensing Chemist from the stocks carried by all wholesale druggists.

McKESSON & ROBBINS,

MANUFACTURING CHEMISTS, 91 FULTON STREET, NEW YORK.

"THE LARGEST STOCK OF DRUG SUNDRIES IN THE COUNTRY."

We have always had it, but it means more this year.

It is surprising how taste for fine things develops. We have found that people every year want something better than they had last year, and we have searched Paris, Berlin, Vienna, in fact, the whole continent of Europe to find it.

We are sorry to note that much of the drug sundry trade has gone to the dry goods and department stores. On some grades of goods this trade will not come back. But dry goods stores have a reputation for cheapness which many of the best people do not like—they are doubtful of the quality—and if these have confidence in the drugs of their druggist they will take his word for the quality of his drug sundries.

To show that people will buy fine goods when they are offered to them, we will relate a little incident. Last year a Western customer, while buying his sundry stock, was much impressed with the appearance of an imported toilet set, the price of which was close to $100. He said: "I'll take that if I never sell it. Nothing like it was ever seen in our town, and the price will astonish most of my customers. It will be the talk of the town. Town talk is what I am after. I pay money to get it in the newspapers, and this will be a great advertisement for me." This year, when he visited us, he said: "You remember that toilet set? I sold it the first thing after I got home. But everybody heard of it, and people expect me to have something finer this year than anybody else in town, and they expect to pay a good price for it." Every druggist can do this, and we advise trying it. There is something in the idea, and it might be worked on a more moderate scale if necessary

We can't describe our stock of imported sundries. They are too fine for words, and there are too many of them. Even a bare list is long. We will mention a few items, however: Imported cut glass bottles, decanters, jars, etc., the finest we ever bought; perfume atomizers, a hundred designs and as many prices; a special line of sterling silver topped articles (the finest they can make in England, with the Hall mark guarantee on every piece), including toilet bottles, ink bottles, paste pots, calendars, bicycle whistles, etc; decorated porcelain trays, with nickel trimmings; real bronze tea bells and gongs; smokers sets—the latest Swiss ideas in carved wood, very popular as prizes at card parties; brush sets in cases and for walls, with the latest stag horn mounting; parlor thermometers; paper weights and ornaments of genuine bronze; some new ideas in triplicate mirrors, in wood, leather and hand painted chamois; antique candlesticks; toilet brushes—some new ideas in natural bogwood; manicure sets—elegant goods, as high as $125 per set, and as low as $15 per dozen.

We wish that every druggist in the country could visit our show room, just to see the goods, as we take the same delight in showing fine things that other people do. Some of these articles can only be sold by druggists who have a wealthy clientage, but the prices range downward to meet the moderate demands of the moderately well-to-do, and the entire stock has been selected with the idea that the druggist can sell fine goods on their own reputation and his own. We would like to correspond with those who cannot visit us.

McKESSON & ROBBINS.

V·R·V·

The great fault of violet perfumes—their evanescence—has been overcome. Vennard's New Roman Violet is just as permanent as any other perfume. A new method of "fixing" the odor without impairing its delicacy has been found, and "V. R. V." is the first upon the market with this improvement. All perfumers have been working on this problem, as people have wanted a violet perfume, and wanted it all the more because it was high priced and hard to make. We have improved the price also. Vennard's is lower in price than the most popular imported brands. It is handsomely put up, two bottles in a box at $8 per dozen bottles. A trial order for the holidays is about the surest and safest investment we can think of.

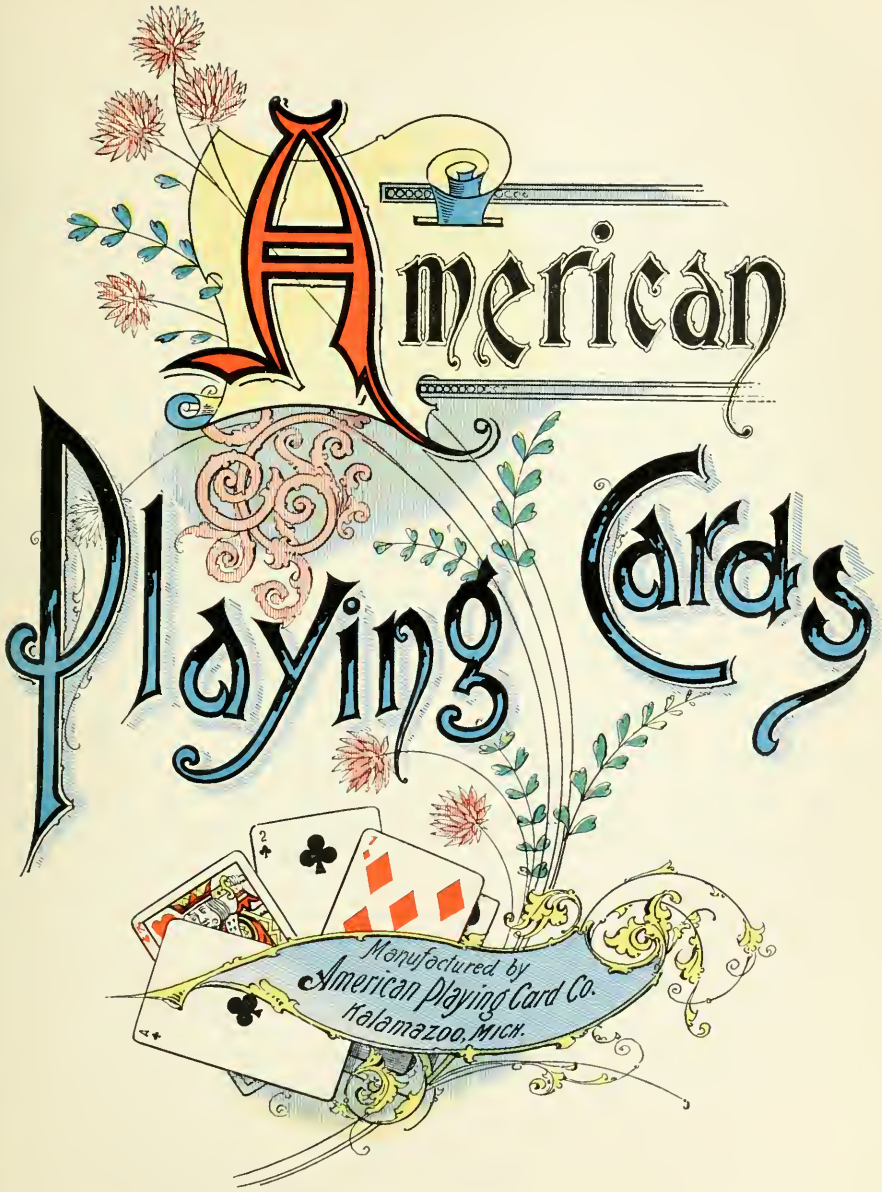
[ACTUAL SIZE.]

In addition to the regular line of Vennard's Perfumes, there are the Special Odors which deserve attention. They are extra strength. Some have caution labels directing that only a few drops be used. These odors are Nerium (very permanent; will go through the wash and still be perceptible), Oriental Lily, Daphne de Como and Roman Hyacinth. With their handsome, oval bottles, bronze and gold labels, these perfumes make an elegant display. Send for list.

ORDER FROM YOUR JOBBER OR

McKESSON & ROBBINS,

Selling Agents. **NEW YORK.**


American
Playing Cards
Manufactured by
American Playing Card Co.
Kalamazoo, Mich.

WHOLESALE PRICE LIST

OF

AMERICAN PLAYING CARDS.

KALAMAZOO, MICH., - JULY 1st., 1895.

NO.		PER GROSS
99	**STEAMBOATS,** ..... Have a nice assortment of calico, star, and plaid backs of different designs and colors. Every pack in a neat tuck box, and one dozen in a carton.	$ 10.00
990	**EX. STEAMBOATS,** .....Gold Edges, Fine assortment of plaid, star, and calico backs in neat box; assorted designs and colors, packed one dozen in carton.	18.00
11	**BENGALS** ..... Has a fine assortment of calico, two color plaids, and star backs in a variety of colors. Packed in neat tuck box. One dozen packs in carton. This is a better quality and more highly finished card than No. 99, and is in every way worth the small advance in prices charged for it.	12.00
110	**EX. BENGALS,** .....Gold Edges, The same card as No. 11. Brown cases printed in gold ink.	19.00
15	**RIVALS,** ..... Fancy set pattern backs, printed in red, blue, green and brown. Highly finished. Each pack in a neat tuck box. One dozen in a carton.	14.00
150	**EX. RIVALS,** .....Gold Edges, Same card as No. 15, with gold edges, and Handsome cases.	20.00
20	**ROVERS,** ..... This grade has a handsome assortment of set designs, printed in different colors, red, blue, green and brown; highly finished, enameled, and is the best card in the market for the money. Each pack in a handsome enameled tuck box. Put up in one dozen assorted designs and colors in a carton. A good seller.	16.00
220	**EX. ROVERS,** .....Gold Edges, Same card as No. 20, with gold edges. Enameled cases printed in gold ink.	22.00
25	**DOUBLE PINOCHLE,** ..... Each pack contains two complete sets of cards from nine spot up for playing the game of Pinochle. Extra quality of stock, and highly finished.	21.00
18	**"4-11-44",** ..... Enameled. The assortment of backs comprising the Darkey, Scroll and others so long and well known in this popular card. Cheapest card at the price in the market.	20.00
19	**EX. "4-11-44",** .....Gold Edges, Same card as No. 18, in telescope cases.	26.00
'92	**COLUMBIANS,** ..... An enameled card, elegantly finished, and has no superior either for slip, flexibility, or designs. Put up assorted, one dozen in carton, each pack in elegant tuck box. A big seller and very cheap card at the price. Carton wrapped to form pocket in one end, in which are sample cards showing contents of carton.	22.00
920	**EX. COLUMBIANS,** .....Gold Edges, Same card as No. '92, with edges gilded. Each pack wrapped in handsome illuminated wrapper, and put up in beautiful boxes, printed in fire bronze ink, and one dozen assorted packs in a carton.	$ 30.00
35	**BROWNIES** .....Small Size, An elegant line of tinted backs, comprising a beautiful assortment of designs, among which are the Cherub and Pansy back. Put up in handsome tuck boxes, wrapped and sealed.	24.00
350	**EX. BROWNIES,** .....Gold Edges, Same card as No. 35. Put up in handsome cases.	30.00
27	**DIADEMS,** ..... Highly enameled and elegant finish. Beautiful assortment of Calico, Plaid and Flower backs. Very popular, where used.	21.00
270	**EX. DIADEMS,** .....Gold Edges, Same card as No. 27, with gold edges.	27.00
30	**DERBYS,** ..... Fine stock, super enameled, highly polished, and assorted tinted backs. Large assortment of designs and colors. Elegant colored enameled cases.	27.00
330	**EX. DERBYS** ..... Gold Edges, Same card as No. 30. Put up in very attractive style	35.00
45	**SPORTINGMANS,** ..... Linen stock, highly enameled finish. Put up in handsome tuck boxes. In every way the best card for the money in the market. Specially adapted for club use.	32.00
450	**EX. SPORTINGMANS,** ..Gold Edges, Same card as No. 45. Put up in telescope cases, and wrapped and sealed. Elegant card for parlor use.	40.00
40	**SENATORS,** ..... Fine linen stock, extra enameled, high finish, new and elegant designs; each pack wrapped and sealed in elegant enameled wrapper. Put up in handsome telescope cases.	40.00
440	**EX. SENATORS,** .....Gold Edges, Same card as No. 40. Put up in elegant cloth telescope cases; each pack wrapped and sealed.	48.00
313	**LINEN STEAMBOATS,** ..... A fine line of Steamboat finished goods, not enameled, but hard smooth finish, comprising the Calico, Star and Plaid backs in a variety of colors Made of best linen stock.	24.00
21	**SOLO,** ..... Made of fine linen stock, 36 cards. Put up for game of Solo, Wrapped in enameled wrappers.	36.00

THE AMERICAN PLAYING CARD COMPANY, Kalamazoo, Mich.

SUPPLEMENT TO THE PHARMACEUTICAL ERA.

ALONZO CLARK.

CHAS. S. BAKER.

PRICE LIST

... OF ...

CHARLES S. BAKER & CO.

Successors to Chapman, Green & Co.

MANUFACTURING

PHARMACISTS AND CHEMISTS

CHICAGO, ILL.

OFFICE:

No. 40 Dearborn Street.

LABORATORY:

78th Street and Greenwood Avenue.

ESTABLISHED IN 1865.

Our Complete Price, Dose and Descriptive Catalogue will be furnished on application.

PRESS OF W. B. CONKEY COMPANY, CHICAGO.

FLUID EXTRACTS.

Discount 25 Per Cent.

In the preparation of these Fluid Extracts, while all economy in details that can be applied without loss of value is practiced, the therapeutic standard of the preparation is never sacrificed to the amount of discount given the trade. The goods are made with strict reference to their integrity and the discount permitted to adjust itself to the situation. It is well known to intelligent pharmacists that the medicinal constituents of drugs are quite arbitrary respecting their solubility in various menstrua, and that if they be presented in any standard of solution, these arbitrary characteristics must be respected. The temptation to sacrifice the standard of such preparations by the use of cheap solvents that the largest competing discount may be attained is very pressing, but it will, in the long run, be found poor policy or economy, both for the manufacturer and the prescriber. "THE BEST IS THE CHEAPEST" is most emphatically a truism in purchasing, dispensing, and prescribing medicine.

Our standard of strength for the official fluid extracts is the U. S. Pharmacopœia, 1890. For those not official, with but few exceptions (which are noted in the list), the same standard, viz., one cubic centimetre fluid extract to one gramme of the drug, is followed.

Prices given are for one pound (pint) bottles. If in less quantities ten cents per pint (list) is added for eight-ounce bottles and twenty cents per pint for four-ounce bottles. In five-pint bottles ten cents per pint is deducted.

FLUID EXTRACTS.	Price Per Pt.
Abscess Root	$1 50
Aconite Leaves	1 00
Aconite Root	1 15
Agaric (White)	2 00
Agrimony	95
Allspice	1 20
Aloes (½ grain per minim)	1 40
Alstonia Scholaris	2 25
Alum Root	1 20
American Ivy	1 20
Angelica Root	1 10
Angustura	1 25
Anise Seed	1 25
Apple Tree Bark	1 20
Arbor Vitæ	1 20
Areca Nuts	2 25
Arnica Flowers	1 05
Arnica Root	1 15
Aromatic	2 50
Ash, White (Bark)	1 20
Avens Root	95
Bael Fruit	1 50
Balm of Gilead	1 50
Balm	1 15
Balmony	85
Bamboo Brier	1 50
Baneberry, Red	1 10
Barberry	1 20
Bayberry	90
Bay Laurel (for Bay Rum)	2 60
Bear's Foot	1 35
Beech Drops	1 50
Belladonna Leaves	1 20
Belladonna Root	1 25
Benne Leaves	1 50
Benzoin Compound (for making tincture)	1 60
Berberis Aquifolium	2 00
Beth Root	1 00
Bitter Root	1 20
Bittersweet	1 20
Bittersweet, False	1 00
Black Alder	85
Black Cohosh	1 10
Black Cohosh Compound	1 05
Blackberry Root	90
Black Haw	1 15
Black Hellebore	1 15

FLUID EXTRACTS.	Price Per Pt.
Black Pepper	$2 00
Bladder Wrack	1 15
Blood Root	1 00
Blue Cohosh	90
Blue Cohosh Compound	1 20
Composed of blue cohosh, ergot and water pepper.	
Blue Flag	1 05
Boldo Leaves	2 75
Boneset	85
Borage	1 00
Boxwood	85
Broom Top	95
Bryony	1 50
Buchu	1 35
Buchu Compound	1 40
Composed of short buchu, juniper berries, cubeb and spirit of nitrous ether.	
Buchu and Juniper with Acetate of Potassium	1 40
Buchu and Pareira Brava	1 45
Buckbean	1 20
Buckeye Bark	1 20
Buckhorn Brake	1 20
Buckthorn Bark	85
Buckthorn Berries	1 05
Bugleweed	95
Burdock Root	85
Burdock Seed	1 05
Butternut	85
Button Bush	1 20
Button Snake Root	90
Cactus Grandiflorus. (See Specific Tinctures.)	
Calamus	1 20
Calabar Bean	2 00
Calendula	1 70
California Fever Bush	3 50
Canada Snake Root	1 00
Cancer Root	1 50
Canella	1 00
Cannabis Indica	1 40
Cantharides	4 50
Capsicum	1 40
Caraway Seed	1 25
Cardamom	2 70
Cardamom Compound	1 85
Composed of cardamom, caraway, cinnamon and cochineal.	
Cascara Amarga	2 50

FLUID EXTRACTS.	Price Per Pt.
Cascara Sagrada	$1 25
Cascara Sagrada (deprived of bitterness)	1 25
Cascara Sagrada, Aromatic	1 25
Cassia	1 50
Catechu (½ grain per minim)	1 05
Catnip	90
Catnip Compound. Catnip, valerian and scullcap	1 40
Cayenne Pepper	1 40
Ceanothus	1 20
Cedron Seed	2 00
Celandine (Garden)	1 00
Celery Seed	1 40
Centaury	90
Chamomile (German)	1 15
Chamomile (Roman)	1 15
Cherry Bark	85
Cherry Bark, U. S. P., 1860, for syrup	1 05
Cherry Bark, Detannated	1 40
Cherry Bark Compound	1 00
Chestnut Leaves	85
Chewstick	2 00
Cinchona Calisaya. From the official yellow cinchona bark	1 50
Cinchona, Pale (Loxa)	1 25
Cinchona, Red	1 50
Cinchona Compound (for making Tincture Cinchona Compound, U. S. P.)	1 50
Cleavers	85
Cloves	1 40
Clover, Red, Tops	1 00
Coca Leaves	1 70
Coffee for Syrups	1 40
Colchicum Root	1 05
Colchicum Seed	1 60
Collinsonia	1 00
Colocynth	1 75
Columbo	1 10
Columbo (Amer.)	1 25
Comfrey	85
Compass Plant	1 40
Condurango	2 60
Conium Leaves	1 10
Conium Seed	1 15
Coriander Seed	1 10
Corn Smut	1 75
Corn Silk	1 15
Corydalis	1 60
Coto Bark	3 50
Cotton Root Bark (fresh)	1 15
Couch Grass (Aqueous)	1 05
Cranesbill	95
Cramp Bark	85
Crawley	4 50
Cubeb	1 75
Culver's Root	1 15
Damiana	1 70
Dandelion	1 05
Dandelion Compound	1 05
Dita Bark	2 25
Digitalis	1 05
Dioscorea	85
Dogwood	85
Drosera	2 10
Dulcamara	1 20
Dwarf Elder	1 00
Echinacea	2 00
Elder Bark	1 80
Elder Flowers	85

FLUID EXTRACTS.	Price Per Pt.
Elecampane	$0 85
Equisetum Hyemale	1 80
Ergot	1 80
Eucalyptus	1 05
Eupatorium Aromaticum	1 50
Euphorbia Pilulifera	2 50
Eyebright	1 80
False Gromwell	1 80
Fennel Seed	1 20
Feverfew	1 00
Fever Root	1 20
Fireweed	90
Fit Root	2 00
Five-Flowered Gentian	1 60
Florida Allspice	95
Foxglove	1 05
Fringe Tree	1 10
Frostwort	95
Fucus	1 15
Garget Berries	1 00
Garget Root	85
Garlic	1 20
Garrya Leaves	3 50
Gelsemium	1 15
Gentian	85
Gentian, Detannated	1 05
Gentian Compound	1 15
Composed of gentian, bitter orange and cardamom.	
Ginger	1 20
Ginger, Jamaica	1 50
Ginger, Jamaica (soluble for syrup)	80
Golden Seal	1 65
Golden Seal (Aqueous)	1 25
Golden Seal (Alkaloid'l)	1 50
Contains no resin, simply the alkaloid constituents of the root in their native combinations.	
Golden Seal (Colorless)	1 75
This fluid extract represents only the white alkaloid of hydrastis in the proportion of one grain of the drug per minim of the fluid extract.	
Gold Thread	1 80
Gravel Plant	80
Green Osier	1 10
Grindelia Robusta, U. S. P., *Nutt.*	1 40
Guaco Leaves	2 40
Guaiac Wood	90
Guarana	2 25
Hair Cap Moss	1 05
Hemlock	75
Henbane	1 15
Hickory Nut Bark	1 00
Hops	1 50
Horehound	85
Horsemint	1 50
Horse Nettle	1 50
Horseradish	1 20
Hound's Tongue	1 35
Hydrangea	95
Hyoscyamus	1 15
Hyssop	1 00
Ice Plant	2 00
Indian Hemp (Black)	1 15
Indian Hemp (White)	95
Indian Hemp (Cannabis Indica)	1 40
Indian Physic	1 00
Indian Turnip	1 05
Ipecac	4 25

FLUID EXTRACTS.	Price Per Pt.
Ipecac and Seneka	$ 2 50
Jaborandi	2 10
Jalap	1 90
Jamaica Dogwood	1 70
Jersey Tea	1 20
Johnswort	1 00
Juniper Berries	85
Kava Kava	1 85
Kola Nut	2 00
Koosso	2 00
Lactucarium	10 00
Ladies' Bedstraw	1 50
Ladies' Slipper	1 25
Large Flowering Spurge	1 80
Larkspur Seed	3 20
Lavender Compound	1 40
Eight times the strength of the U. S P. tincture.	
Leptandra	1 15
Lettuce (Wild)	1 05
Life Everlasting	90
Life Root	80
Lily of the Valley	2 00
Licorice Root	80
Licorice (Ammoniacal)	1 05
Liverwort	1 50
Lippa Mexicana	2 50
Lobelia Herb	1 00
Lobelia Compound	1 00
Composed of lobelia herb, blood root, skunk cabbage, Canada snake root and pleurisy root.	
Lobelia Seed	2 10
Locust Tree Bark	1 50
Logwood	75
Lovage	1 20
Lungwort	1 00
Lupulin	2 10
Lycopus Europœus	1 25
Mace	2 50
Magnolia Bark	1 20
Magnolia Flowers	3 00
Maiden Hair	1 50
Male Fern	1 25
Mallow	90
Manaca	3 00
Mandrake	1 00
Mandrake Compound	1 05
Composed of mandrake root, senna leaves and jalap.	
Marsh Mallow	1 00
Marsh Rosemary	1 00
Matico	1 60
Mayweed	1 20
Mezereon Bark	1 15
Mistletoe	1 05
Mitchella	1 05
Motherwort	95
Mountain Mint	90
Mugwort	90
Mullein Leaves	75
Musk Root	2 00
Myrrh	1 80
Net Leaf Plantain	1 40
Nutmeg	2 75
Nux Vomica. *Assayed*	1 15
Oak Bark, White	75
Oats	1 20
Opium, Aqueous (deodorized). *Assayed*	1 50
Standard—Six grains morphine to each fluidounce.	

FLUID EXTRACTS.	Price Per Pt.
Opium, Camph. *Assayed* (for making paregoric)	$1 50
Eight times the strength of Tinct. Opium, Camph. Standard—Two grains morphine to each fluidounce.	
Opium, Concentrated. *Assayed* (for laudanum)	3 00
Four times the strength of the U. S. P. tincture. Standard—24 grains morphine to each fluidounce.	
Orange Peel, Bitter	1 00
Orange Peel, Sweet	95
Osier, Green	1 10
Osier, Red	1 00
Pansy	1 05
Papaw Seed	1 20
Paraguay Tea	1 80
Pareira Brava	1 25
Parsley Root	1 05
Passiflora Incarnata	2 00
Peach Leaves	1 20
Peach Pits	1 25
Pennyroyal	85
Penthorum Sedoides	2 10
Peony Root	1 50
Peppermint	1 00
Persimmon Fruit	2 00
Pichi	2 60
Pine Bark, White	90
Pink Root	1 40
Pink Root and Senna	1 25
Pink Root Compound	1 50
Composed of pink root, senna, savin and manna.	
Pipsissewa	90
Pitcher Plant	1 50
Plantain	85
Pleurisy Root	1 15
Poison Oak. (See Specific Tinctures.)	
Poke Root	85
Polemonium Reptans	1 50
Pomegranate (Bark of root)	1 15
Pomegranate (Rind of fruit)	1 00
Pond Lily Root, White	1 00
Pond Lily Root, Yellow	1 00
Poplar Bark	90
Poppy Heads	95
Prickly Ash Bark	1 00
Prickly Ash Berries	1 25
Prickly Elder	1 25
Pride of China	2 00
Primrose, Evening	1 50
Prince's Pine	90
Prunella Vulgaris	1 25
Ptelea	1 00
Pulsatilla	1 25
Pumpkin Seed	1 80
Quassia	85
Quebracho	2 10
Queen's Root	1 15
Queen of the Meadow	85
Quinine Flower	2 00
Red Clover	1 00
Red Root	1 20
Rhatany	1 00
Rhubarb	2 00
Rhubarb, Aromatic (for syrup)	1 75
Rhubarb and Potassa (for preparing Neutralizing Cordial)	1 50
Rhubarb and Senna	1 80
Rhus Aromatica	1 90
Rosin Weed	1 40

FLUID EXTRACTS.	Price Per Pt.
Sabbatia Stellaris	$2 40
Sage	85
Sampson's Snake Root	1 75
Sandal Wood	2 10
Sanicle	1 25
Sarracenia Flava	2 50
Sarsaparilla, Amer	1 15
Sarsaparilla, Hond	1 50
Sarsaparilla, Mexican	1 25
Sarsaparilla Compound	1 15
Sarsaparilla Compound (for Syrup Sarsaparilla, U. S. P.)	1 15
Sarsaparilla and Dandelion	1 50
Sassafras	85
Savin	95
Saw Palmetto (berries)	1 60
Saxifrage	1 25
Scouring Rush	1 80
Scrophularia	1 80
Scullcap	1 10
Scullcap Compound	1 25
Composed of scullcap, ladies' slipper, hops and lettuce.	
Scurvy Grass	1 75
Self Heal	1 25
Senecio	80
Seneka	2 20
Senna	1 00
Senna and Jalap	1 20
Senna and Rhubarb	1 80
Senna Compound	1 50
Composed of senna leaves and aloes, with aromatics.	
Serpentaria	1 60
Sheep Laurel	1 20
Shepherd's Purse	1 20
Shell Bark, Hickory	1 00
Silphium	1 40
Silkweed	1 20
Simaruba Bark	1 35
Skunk Cabbage	95
Smart Weed	75
Soap Tree Bark	80
Soapwort	1 00
Solomon's Seal	85
Sourwood Leaves	2 00
Southern Wood	1 20
Spanish Needles	1 20
Spearmint	90
Spice-Bush Bark	1 20
Spice-Bush Berries Compound	1 80
Composed of spice-bush berries, sarsaparilla, burdock seed, red clover and licorice root.	
Spigelia	1 40
Spikenard	85
Squaw Vine	1 05
Squaw Vine Compound (for preparing Mother's Cordial, or Compound Syrup of Partridge Berry)	1 40
Squill	95
Squill Compound (for Hive Syrup)	1 60
Staphisagria	2 10
Star Grass	1 80
Stavesacre Seed	2 10

FLUID EXTRACTS.	Price Per Pt.
Stillingia	$1 15
Stillingia Compound (for preparing Compound Syrup Stillingia)	1 30
Stone Root	1 00
Stramonium Leaves	95
Stramonium Seed	95
Sumach	75
Sumach Berries	75
Summer Satory	90
Sundew	2 10
Sweet Fern	1 00
Tag Alder	75
Tamarac	1 05
Tansy	75
Thimbleweed	1 20
Thorn Apple	95
Thyme	1 00
Tobacco	1 20
Tolu (soluble for syrup)	95
Tomato	1 50
Tonqua Bean	2 50
Tormentilla Root	1 20
Tormentilla Root Compound	1 20
Composed of tormentilla, life root and mustard.	
Trifolium Compound (for syrup)	1 60
Trumpet Plant	2 50
Tulip Tree Bark	75
Turkey Corn	1 60
Turmeric	1 20
Unicorn Root	1 80
Unicorn Root, False	1 60
Uva Ursi	85
Valerian	1 05
Veratrum Viride	1 25
Wafer Ash	1 00
Wahoo	1 35
Water Fennel Seed	1 80
Water Pepper	75
White Oak Bark	75
White Snake Root	1 50
White Vervain	2 50
White Wood Bark	75
Wild Indigo	85
Wild Yam	85
Willow, Black (Buds)	1 20
Willow, White (Bark)	1 00
Wintergreen	85
Witch Hazel	80
Wood Betony	2 50
Woodbine	1 20
Wormseed	90
Xanthium Spinosum	1 20
Yarrow	75
Yellow Dock	1 00
Yellow Parilla	1 15
Yellow Root	1 25
Yerba Buena	2 10
Yerba Reuma	1 80
Yerba Santa	1 60
Yerba Santa, Aromatic (for syrup)	1 25
Yerba Santa, 2⅓ oz. Aromatics, 1 oz.	

ASSAYED FLUID EXTRACTS.

25 Per Cent. Discount.

We desire to call attention to the fact that, as far as practicable, we have adopted the volumetric method of analysis by titration with standard acid solution for our assayed fluid extracts. This is more nearly correct than the gravimetric method of estimation, as by it all inert matter is excluded and nothing but pure alkaloid can enter into the final result, which is determined by the amount of acid uniting with the alkaloid, whose molecular weight or combining equivalent is known.

ASSAYED FLUID EXTRACTS.	Price Per Pt.
Aconite Root	$1 20
Assayed to meet requirements of Dr. Squibb's physiological test.	
Belladonna Leaves	1 30
Standard—0.4% alkaloids, estimated volumetrically by titration with standard acid solution.	
Belladonna Root	1 40
Standard—0.5% alkaloids, estimated volumetrically by titration with standard acid solution.	
Cinchona Calisaya	1 65
Standard—2% quinine.	
Cinchona, Red	1 65
Standard—4% total alkaloids.	
Coca Leaves	1 90
Standard—0.5% cocaine, estimated volumetrically by titration with standard acid solution.	
Colchicum Root	1 15
Standard—0.5% colchicine.	
Colchicum Seed	1 65
Standard—Same as the root.	
Conium Fruit	1 25
Standard—0.5% coniine, estimated gravimetrically as hydrochloride.	
Ergot	$2 00
Standard—10 c.c. when mixed with 90 c.c. of strong alcohol will give a precipitate weighing not less than 0.450 gramme after being thoroughly dried.	
Gelsemium	1 20
Standard—0.35% alkaloid, estimated volumetrically by titration with standard acid solution.	
Henbane	1 20
Standard—0.10% alkaloids, estimated volumetrically by titration with standard acid solution.	
Ipecac	4 35
Standard—1.75% emetine, estimated volumetrically by titration with standard acid solution.	
Mandrake	1 15
Standard—4.25% resin.	
Stramonium Leaves	1 10
Standard—0.3% alkaloids, estimated volumetrically by titration with standard acid solution.	
Stramonium Seed	1 10
Standard—Same as Leaves.	
Veratrum Viride	1 50
Standard—For complete precipitation of its alkaloid, 5 c.c. require 3 c.c. of Mayer's N-20 reagent.	

CONCENTRATED TINCTURES.

25 Per Cent. Discount.

These preparations represent the crude drugs from which they are made in the proportion of one cubic centimetre for one gramme of drug (approximating minim for grain). They differ from the ordinary fluid extracts in the fact that the medicinal activities of the various drugs are presented unassociated with inert extractive and other objectionable material. They are not impaired by changes of temperature, remaining, as a rule, permanent in any climate.

They are put up in sixteen-ounce, eight-ounce and four-ounce bottles. Prices are given in sixteen-ounce bottles, ten cents per pint list are added for eight-ounce bottles and twenty cents per pint for four-ounce bottles. When ordered in five-pint bottles ten cents per pint will be deducted.

CONCENTRATED TINCTURES.	Price Per Pt.
Aconite Root	$1 50
Aletris	2 30
Apocynum Cannabinum	1 50
Aralia Hispida	1 50
Arnica	1 50
Asclepias Tuberosa	1 50
Avena Sativa	1 50
Baptisia	1 40
Barosma Crenata	1 75
Belladonna Leaves	1 50
Belladonna Root	1 65
Bryonia	2 00
Cannabis Indica	2 00
Caulophyllum	1 35
Chelidonium	1 50
Chionanthus	1 85
Cimicifuga	1 50
Cinchona Calisaya	2 00
Coca	2 25
Colchicum Seed	2 15
Collinsonia	1 50
Corydalis	2 00
Cubeba	2 25
Cypripedium	$1 50
Damiana	2 35
Digitalis	1 50
Dioscorea	1 35
Drosera	2 20
Eucalyptus	1 75
Eupatorium Perfoliatum	1 35
Eupatorium Purpureum	1 35
Gelsemium	2 00
Geranium	1 35
Gossypium	2 00
Grindelia Robusta	2 00
Helonias	2 15
Hydrangea	1 40
Hydrastis	2 00
Hyoscyamus	1 65
Ignatia	2 00
Inula	1 40
Iris Versicolor	1 50
Ipecac	4 50
Jaborandi	2 50
Leptandra	1 60
Lobelia Seed	2 25

CONCENTRATED TINCTURES.	Price Per Pt.
Lycopus Virginicus	$1 50
Nux Vomica. Assayed	1 50
Standard—1.5% alkaloids, estimated by titration with volumetric acid solution.	
Passiflora Incarnata	2 50
Physostigma	2 50
Phytolacca	1 50
Podophyllum	1 50
Ptelea	1 50
Pulsatilla	1 75
Rhus Aromatica	2 35

CONCENTRATED TINCTURES.	Price Per Pt.
Scutellaria	$1 50
Senecio	1 50
Serpentaria	2 25
Staphisagria	2 50
Sticta	1 75
Stillingia	1 75
Thuja	2 00
Valerian	1 50
Veratrum Viride	1 75
Viburnum Prunifolium	1 50
Yerba Santa	2 25

PILLS.

Discount 25 Per Cent.

SOLUBLE SUGAR-COATED AND GELATIN-COATED.

☞The perfection of a pill mass consists in the purity and exact proportions of its respective ingredients, their thorough admixture, and, when divided, the precision of weight of the division.

The requirements of a pill covering are, 1st, solubility; 2d, stability;—i. e., *resistance to temperature and atmospheric moisture; 3d, therapeutic inertness; 4th, attractive appearance and either absence of or acceptability to the sense of taste.*

Our pill department is supplied with the most effective machinery and appliances for the successful attainment of the foregoing particulars, and all details are directed by persons of long experience. In all manipulations, from the comminution of the drugs to the final step of covering the pills, the ends in view are purity of material, exactness of weight, perfect admixture, permanency of coating, and ready solubility of the finished pills in the alimentary canal.

To obtain the list price for pills in bottles of 1,000, double the price for 500 and subtract twenty cents.

Private formulæ, either sugar or gelatin-coated, are made to order when desired in quantities of 3,000 or more. Estimates of cost will be furnished upon application.

PILLS.	Price Per 100	Price Per 500
‡Acetanilid, 2½ grs	$0 25	$1 10
‡Acetanilid, 5 grs	40	1 80
‡Aconite Leaves, Ext., ¼ gr	20	85
‡Aconite Leaves, Ext., ½ gr	25	1 10
‡Aconite Leaves, Ext., 1 gr	30	1 35
Aconitine, Crystals, 1-500 gr. } See Tablet Aconitine, Crystals, 1-200 gr. } Triturates.		
*Ague	40	1 85
Cit. Chinoidine, 2 grs.; Powd. Ipecac, ⅛ gr.; Ext. Fringe Tree Bark, ¾ gr.; Capsicum, ⅛ gr.		
‡Aloes, U. S. P.	25	1 10
Purified Aloes, 2 grs.; Powd. Soap, 2 grs.		
Aloes and Asafetida, U. S. P.	25	1 10
Purified Aloes, 1⅓ grs.; Asafetida, 1⅓ grs.; Castile Soap, 1⅓ grs.		
Aloes, Asafetida and Iron	25	1 10
Purified Aloes, 1 gr.; Asafetida, 1 gr.; Protosulph. Iron, 1 gr.		
‡Aloes and Ext. Gentian	30	1 35
Aloes and Iron	25	1 05
Purified Aloes, 1 gr.; Jamaica Ginger, ½ gr.; Exsic. Sulph. Iron, 1 gr.; Ext. Conium, ½ gr.		
Aloes and Mastic, U. S. P. (See Dinner Pill.)		
Aloes and Myrrh, U. S. P.	25	1 10
Pur. Aloes, 2 grs.; Powd. Myrrh, 1 gr.; Arom. Powder, ½ gr.		
‡Aloes and Nux Vomica	30	1 35
Pur. Aloes, 1½ grs.; Ext. Nux Vomica, ½ gr.		
‡Aloes, Nux Vomica and Belladonna	35	1 06
Purified Aloes, 1½ gr.; Ext. Nux Vomica, ½ gr.; Ext. Belladonna, ⅛ gr.		
Aloin, 1-10 grain. (See Pink Granules.)		
Aloin, 1-5 grain	25	1 10
Aloin, ¼ grain	25	1 10
Aloin, ½ grain	35	1 60

PILLS.	Price Per 100	Price Per 500
Aloin, 1 grain	$0 60	$2 85
Aloin Compound	30	1 35
Aloin, ⅛ gr.; Ext. Belladonna, ¼ gr.; Podophyllin, ⅛ gr.		
*Aloin and Nux Vomica Compound	50	2 35
Aloin, 1-10 gr.; Ext. Nux Vomica, 1-20 gr.; Podophyllin, 1-50 gr.; Strychnine, 1-60 gr.; Ext. Belladonna, 1-40 gr.; Capsicum, ¼ gr.		
‡Aloin and Podophyllin Compound	50	2 35
Aloin, 1-10 gr.; Oil Capsicum, 1-128 gr.; Oil Croton, 1-15 minim; Ext. Nux Vomica, 1-10 gr.; Podophyllin, 1-5 gr.		
‡Aloin and Strychnine	40	1 85
Aloin, 1-5 gr.; Strychnine, 1-60 gr.		
Aloin, Strychnine and Belladonna	40	1 85
Aloin, 1-5 gr.; Ext. Belladonna, ⅛ gr.; Strychnine, 1-60 gr.		
*Aloin, Strychnine and Belladonna Compound,	50	2 35
Aloin, 1-5 gr.; Strychnine, 1-60 gr.; Ext. Belladonna, ⅛ gr.; Ext. Cas. Sagrada, ½ gr.		
Aloin, Strychnine, Belladonna and Ipecac	35	1 60
Aloin, ¼ gr.; Strychnine, 1-60 gr.; Ext. Belladonna, ⅛ gr.; Powd. Ipecac, 1-16 gr.		
Alterative	25	1 10
Blue Mass, 1 gr.; Powd. Opium, ⅛ gr.; Powd. Ipecac, ⅛ gr.		
*Ammonium Picrate, ⅛ grain	25	1 10
*Ammonium Picrate Compound	50	2 35
Picrate Ammon., ¼ gr.; Iron by Hydrogen, 1 gr.; Arsenous Acid, 1-32 gr.		
*Ammonium Picrate Comp. and Strychnine	50	2 35
Picrate Ammon., ¼ gr.; Iron by Hydrogen, 1 gr.; Arsenous Acid, 1-40 gr.; Strychnine, 1-40 gr.		
Anderson's Scot's	25	1 10
Pur. Aloes, 1 3-5 gr.; Powd. Colocynth, 4-15		

*Sugar-coated only. ‡Gelatin-coated only.

PILLS.	Price Per 100	Price Per 500
gr.; Powd. Gamboge, 1-15 gr.; Powd. Scap, 1-15 gr.; Oil of Anise, 1-30 gr.		
Anodyne, Morse's	$0 45	$2 10
Ext. Hyoscy., 1½ grs.; Sulph. Morphine, ⅛ gr ; Camphor, ½ gr.		
*Antibilious	40	1 85
Ext. Coloc. Comp., 2½ grs.; Podophyllin, ¼ gr.		
*Anti-Chill	40	1 85
Chinoidine, 1 gr.; Arsenous Acid, 1-20 gr.; Ferrocy. of Iron, 2 grs.; Oil of Black Pepper, 1 gr.		
*Anti-Chill, Dr. Stewart	1 00	4 85
Precip. Ext. Bark, 1 gr.; Salicin, 1 gr.; Powd. Capsicum, ⅛ gr.; Ferrocy. of Iron, ½ gr.		
*Anti-Choromania	50	2 35
Valerian. of Zinc, 2 grs.; Valerian. of Iron, ¼ gr.; Ext. Sumbul, ½ gr.		
Anti-Constipation, Dr. Borton	40	1 85
Ext. Cas. Sag., 1½ grs.; Ext. Henbane, ¼ gr. Ext. Nux Vomica, ⅛ gr.; Pur. Aloes, ½ gr.		
Anti-Constipation, Dr. Brundage	40	1 85
Podophyllin, 1-10 gr.; Ext. Belladonna, 1-10 gr.; Ext. Nux Vom., ¼ gr.; Powd. Capsicum, ¼ gr.; Ext. Hyoscyamus, ¼ gr.		
‡Anti-Constipation, Dr. Goss	40	1 85
Podophyllin, ¼ gr.; Ext. Henbane, ⅛ gr.; Ext. Colocynth, ¼ gr.; Ext. Gentian, ¼ gr.; Ext. Butternut, ½ gr.; Ext. Cascara Sag., ¼ gr.; Ext. Nux Vom., ⅛ gr.; Po. Blk. Indian Hemp, ½ gr.		
Anti-Constipation, Dr. Palmer	35	1 60
Pur. Aloes, 1 gr.; Ext. Henbane, 1 gr.; Powd. Ipecac, 1-10 gr.; Ext. Nux Vomica, 2-5 gr.		
*Anti-Diabetic	50	2 35
Sulphide Calcium, 2 grs.; Ext. Nux Vomica, ⅛ gr.; Ext. Shepherd's Purse, ½ gr.		
‡Anti-Dyspeptic	35	1 60
Strychnine, 1-40 gr.; Ext. Belladonna, 1-10 gr.; Powd. Ipecac, 1-10 gr.; Ext. Colocynth Comp., 2 grs.; Blue Mass, 2 grs.		
Anti-Dyspeptic, Dr. Fothergill	45	2 10
Strychnine, 1-20 gr.; Powd. Ipecac, ⅔ gr.; Po. Blk. Pepper, 1½ grs.; Ext. Gentian, 1 gr.		
‡Anti-Dyspeptic, Dr. Fothergill's, ½ strength	30	1 40
Strychnine, 1-40 gr.; Po. Black Pepper, ¾ gr.; Po. Ipecac, ⅓ gr.; Ext. Gentian, ½ gr.		
‡Antifebrin and Quinine	55	2 50
Antifebrin, 1½ grs.; Quinine, 1½ grs.		
Antimony Compound. (See Plummer's Pill.)		
Aperient	50	2 35
Ext. Coloc. Co., 2 grs.; Ext. Henbane, ½ gr.; Ext. Nux Vomica, ⅓ gr.		
Aperient, Dr. Fordyce Barker	60	2 85
Ex. Coloc. Comp., 1⅔ grs.; Ext. Nux Vomica, ½ gr.; Ext. Henbane, 1¼ grs.; Powd. Ipecac, 1-12 gr.; Resin of Podophyllum, 1-12 gr.; Pur. Aloes, 5-12 gr.		
‡Aperient, Dr. Bauer	45	2 10
Ext. Hyoscyamus, ½ gr.; Ext. Aloes, 1 gr.; Ext. Colocynth Comp., 1 gr.; Tart. Potassium and Sodium, 1½ grs.		
‡Aperient, Dr. Drysdale	35	1 60
Powd. Rhubarb, 1¼ grs.; Powd. Ipecac, 5-12 gr.; Powd. Nux Vomica, ½ gr.; Pur. Aloes, 1¼ grs.		

PILLS.	Price Per 100	Price Per 500
Aphrodisiac. (See Phosphorous, Nux Vomica and Damiana.)		
‡Arsenic Iodide, 1-32 grain	$0 35	$1 60
‡Arsenic Iodide Comp., Beech's	50	2 35
Iodide of Arsenic, ⅛ gr.; Strychnine, 1-50 gr.; Ext. Belladonna, ⅛ gr.		
Arsenous Acid, 1-60 grain	20	85
Arsenous Acid, 1-50 grain	20	85
Arsenous Acid, 1-30 grain	20	85
Arsenous Acid, 1-20 grain	20	85
Arsenous Acid, 1-12 grain	20	85
Asafetida, ½ grain	20	85
Asafetida, 1 grain	20	85
Asafetida, 2 grains	20	85
Asafetida, 3 grains	20	85
Asafetida, 4 grains	25	1 10
*Asafetida and Iron	25	1 10
Asafetida, 2 grs.; Sulph. Iron Exsic., 1 gr.		
‡Asafetida and Nux Vomica	35	1 60
Asafetida, 3 grs.; Ext. Nux Vomica, ¼ gr.		
*Asafetida and Rhubarb	40	1 85
Asafetida, 1 gr.; Powd. Rhubarb, 1 gr.; Iron by Hydrogen, 1 gr.		
Asafetida Compound	45	2 10
Asafetida, 4-5 gr.; Opium, 4-5 gr.; Carbonate of Ammonium, 4-5 gr.		
‡Atropine, 1-200 grain, Pink	30	1 35
Atropine, 1-100 grain	30	1 35
‡Atropine, 1-60 grain	40	1 85
Ballou	45	2 10
Ext. Coloc. Comp., 1 gr.; Ext. Jalap, 1 gr.; Powd. Ipecac, ½ gr.; Calomel, 1 gr.		
‡Berberine Sulphate, 1 grain	95	4 60
‡Berberine Sulphate, 2 grains	1 50	7 35
‡Belladonna Ext., ⅛ grain	25	1 10
‡Belladonna Ext., ¼ grain	25	1 10
‡Belladonna Ext., ½ grain	30	1 35
‡Belladonna Ext., 1 grain	35	1 60
Bilious, Dr. Wann	25	1 10
Ext. Colocynth Comp., 1 gr.; Podophyllin, ¼ gr.; Ext. Jalap, ¼ gr.; Ext. Hyoscyamus, ⅛ gr.; Powd. Capsicum, ¼ gr.		
*Bismuth and Ignatia	75	3 60
Subnitrate of Bismuth, 4 grs.; Ext. Ignatia, ¼ gr.		
*Bismuth and Nux Vomica	75	3 60
Subnitrate Bismuth, 4 grs.; Ext. Nux Vom., ½ gr.		
‡Bismuth, Subcarbonate, 3 grains	55	2 60
‡Bismuth Subnitrate, 3 grains	45	2 10
Black Haw Ext., 3 grains	35	1 60
*Bladder Wrack Ext., 2 grains	30	1 35
‡Blue Mass, ½ grain	20	85
‡Blue Mass, 1 grain	20	85
Blue Mass, 2 grains	20	85
Blue Mass, 3 grains	20	85
Blue Mass, 5 grains	25	1 10
Blue Mass and Ipecac	30	1 35
Blue Mass, 2½ grs.; Powd. Ipecac, ½ gr.		
‡Blue Mass and Podophyllin	30	1 35
*Caffein Citrate, 1 grain	40	1 85
‡Calabar Bean Ext., 1-12 grain	35	1 60
*Calcium Sulphide, ⅛ grain	30	1 35
*Calcium Sulphide, ¼ grain	30	1 35
*Calcium Sulphide, ½ grain	30	1 35
*Calcium Sulphide, 1 grain	30	1 35

*Sugar-coated only. ‡Gelatin-coated only.

PILLS.	Price Per 100	Price Per 500
*Calcium Sulphide, 2 grains	$0 40	$1 85
Calomel, 1-10 grain	20	85
Calomel, ¼ grain	20	85
Calomel, ½ grain	20	85
Calomel, 1 grain	20	85
Calomel, 2 grains	25	1 10
Calomel, 3 grains	25	1 10
‡Calomel, 5 grains	35	1 60
Calomel Compound. (See Plummer's.)		
Calomel and Ext. Colocynth Compound	45	2 10
Calomel, 1 gr.; Ext. Colocynth Comp., 2½ grs.		
Calomel and Opium	50	2 35
Calomel, 2 grs.; Opium, 1 gr.		
‡Calomel and Rhubarb	40	1 85
Calomel, ⅓ gr.; Ext. Rhubarb, ½ gr.; Ext. Coloc. Comp., ½ gr.; Ex. Hyoscyamus, 1-6 gr.		
*Camphor Compound	50	2 35
Camphor, 1 gr.; Powd. Kino, 1 gr.; Opium, 1 gr.; Ext. Capsicum, 1-16 gr.		
‡Camphor Monobromated, 1 grain	35	1 60
‡Camphor Monobromated, 2 grains	65	3 10
‡Camphor Monobromated, 3 grains	85	4 10
Camphor and Hyoscyamus	30	1 35
Camphor, 1 gr.; Ex. Hyoscyamus, 1 gr.		
Camphor, Hyoscyamus and Valerian	35	1 60
Camphor, 1 gr.; Ext. Hyoscyamus, ½ gr.; Ext. Valerian, ½ gr.		
*Camphor and Lupulin	40	1 85
Camphor, 1½ grs.; Lupulin, 1 gr		
Camphor and Opium	50	2 35
Camphor, 2 grs.; Powd. Opium, 1 gr.		
Camphor, Opium and Henbane	40	1 85
Camphor, 1 gr.; Powd. Opium, ½ gr.; Ext. Henbane, 1 gr.		
Camphor, Opium and Tannin	35	1 60
Camphor, 1 gr.; Powd. Opium, ¼ gr.; Tannin, 2 grs.		
Cannabis Indica Ext., ¼ grain	35	1 60
Cannabis Indica Ext., ½ grain	55	2 60
Cannabis Indica Ext., 1 grain	95	4 60
‡Cascara Sagrada Ext., 1 grain	30	1 25
‡Cascara Sagrada Ext., 2 grains	40	1 85
‡Cascara Sagrada Ext., 3 grains	50	2 35
‡Cascara Sagrada and Nux Vomica	60	2 85
Cas. Sagrada Ext., 2grs.; Nux Vomica Ext., 1-5 gr.		
‡Cascara Sagrada, Nux Vomica and Belladonna	60	2 85
Cas. Sagra. Ext., 2 grs.; Nux Vomica Ext., ⅕ gr.; Belladonna Ext., 1-16 gr.		
‡Cascara Sagrada, Nux Vomica and Quinine	65	3 10
Cascara Sagrada Ext., 1½ grs.; Nux Vomica Ext., ½ gr.; Quinine Sulph., 1 gr.		
Cathartic Compound, U. S. P	25	1 10
Ext. Coloc. Comp., 1 3-10 grs.; Ext. Jalap, ½ gr.; Calomel, 1 gr.; Gamboge, ¼ gr.		
Cathartic Comp., U. S. P., Granules, ½ grain. (See Sugar-Coated Granules, Pink.)		
Cathartic Comp., U. S. P., Granules, 1 grain. (See Sugar-Coated Granules, Pink.)		
Cathartic Compound, Cholagogue	30	1 35
Podophyllin, ½ gr.; Ext. Nux Vomica, 1-16 gr.; Blue Mass, ¼ gr.; Ext. Henbane. ⅛ gr.; Oleo-resin Capsicum, ⅛ gr.		
Cathartic Compound, Improved	25	1 10
Ext. Coloc. Comp., 1 gr.; Leptandrin, ¼ gr.; Ext. Jalap, ½ gr.; Ext. Hyoscyamus, ¼ gr.; Ext. Gentian, ½ gr.; Podophyllin, ¼ gr.; Oil Peppermint, 1-20 gtt.		
Cathartic Comp., Improved, Pink Granules, ¼, ½ and 1 grain. (See Sugar-Coated Granules, Pink.) These granules are simply smaller pills of the regular formula.		
Cathartic Comp., Vegetable, Granules, 1 gr.	$0 25	$1 10
Intended to represent in cathartic action and strength the three grain improved cathartic pill so long in use.		
Aloin, ⅛ gr.; Jalapin, ⅛ gr.; Podophyllin, ⅛ gr.; Leptandrin, ¼ gr.; Colocynthin, 1-25 gr.; Ext. Gentian, ⅛ gr.; Ext. Hyoscyamus, ⅛ gr.; Oil Peppermint, 1-60 gtt.		
Cathartic Compound, Vegetable	30	1 35
Ext. Coloc. Comp., 1½ grs.; Podophyllin, ⅓ gr.; Powd. Jalap, ¼ gr.; Leptandrin, ⅛ gr.; Ext. Hyoscyamus, ¼ gr.; Purified Aloes, ½ gr.		
*Cathartic Granules		70
Leptandrin, 1-32 gr.; Aloin, 1-16 gr.; Podophyllin, 1-6 gr.; Gamboge, 1-64 gr.; Capsicum, 1-128 gr.; Extract Hyoscyamus, 1-16 gr.; Oil Peppermint, 1-128 gtt.		
Net price per 1,000....90 cents.		
*Cathartic, Vegetable, Liver	20	85
Powd. Aloes, ¾ gr.; Jalap., ¼ gr.; Podophyllin, 1-16 gr.; Belladonna Ext., 1-16 gr.; Oil Tiglii, 1-32 gr.; Oleo-resin Ginger.		
*Cerium Oxalate, 1 grain	75	3 60
*Cerium Oxalate, 2 grains	1 00	4 85
*Chinoidin Citrate, ½ grain	20	85
*Chinoidin Citrate, 1 grain	20	85
*Chinoidin Citrate, 2 grains	25	1 10
*Chinoidin Citrate, 3 grains	30	1 35
*Chinoidin Compound	50	2 35
Chinoidin, 2 grs.; Sulphate Iron Exsic., 1 gr.; Piperin, ½ gr.		
*Cholagogue	35	1 60
Podophyllin, ¼ gr.; Ext. Henbane, ½ gr.: Powd. Capsicum, ¼ gr.; Purified Aloes, 1 gr.; Powd. Rhubarb, 1 gr.		
‡Cinchonidine Sulphate and Capsicum	25	1 05
Cinchonidine Sulph., 2 grs.; Capsicum, ½ gr.		
*Cinchonidine Salicylate, 2½ grains	60	2 85
Cinchonidine Sulphate, ¼ grain	20	85
Cinchonidine Sulphate, ½ grain	20	85
Cinchonidine Sulphate, 1 grain	20	85
Cinchonidine Sulphate, 2 grains	25	1 10
‡Cinchonidine Sulphate, 3 grains	35	1 35
‡Cinchonidine Sulphate, 4 grains	35	1 60
‡Cinchonidine Sulphate, 5 grains	40	1 85
*Cinchonidine Compound	50	2 35
Sulph. of Cinchon., 1 gr.; Iron by Hydrogen, 1 gr.; Arsenous Acid, 1-32 gr.		
*Cinchonidine Compound and Strychnine	50	2 35
Sulph. Cinchon., 1 gr.; Iron by Hydrogen, 1 gr.; Arsenous Acid, 1-20 gr.; Strychnine, 1-20 gr.		
*Cinchonidine, Iron and Strychnine	50	2 35
Cinchonidine Sulph., 1 gr.; Proto-carb. of Iron, 2 grs.; Sulph. of Strych., 1-60 gr.		
Cinchonine Sulphate, 1½ grains	30	1 35
Cinchonine Sulphate, 2 grains	35	1 60

*Sugar-coated only. ‡Gelatin-coated only.

PILLS.	Price 100	Per 500
‡Cinchonine Sulphate, 3 grains	$0 40	$1 85
*Cocaine Muriate, 1-20 grain, Pink	50	2 35
*Cocaine Muriate, 1-10 grain, Pink	65	3 10
*Cocaine Muriate, ¼ grain, Pink	1 00	4 85
‡Codeine, 1-16 grain	50	2 35
‡Codeine, ⅛ grain	65	3 10
‡Codeine, ¼ grain	1 00	4 35
‡Codeine, ½ grain	1 60	7 85
‡Codeine, 1 grain	2 70	13 35
Colchicum Ext., ½ grain	40	1 85
*Colocynth Compound Ext. U. S. P., 3 grains.	40	1 85
*Colocynth Comp. Ext. and Blue Mass	45	2 10
Ext. Coloc. Comp., 2½ grs.; Blue Mass, ½ gr.		
*Colocynth Comp. Ext., Blue Mass and Ipecac	45	2 10
Ext. Coloc. Comp., 2 grs.; Blue Mass, 2 grs. Powd. Ipecac, 1-6 gr.		
*Colocynth Comp. Ext. and Hyoscyamus	45	2 10
Ext. Coloc. Comp., 2 grs.; Ext. Hyoscyamus, 1 gr.		
*Colocynth Compound Ext. and Ipecac	45	2 10
Ext. Coloc. Comp., 2½ grs.; Powd. Ipecac, ½ gr.		
‡Colocynth Compound Ext., Belladonna and Nux Vomica	60	2 85
Ext. Coloc. Comp., 3 grs.; Ext. Belladonna, ¼ gr.; Ext. Nux Vomica, ½ gr.		
‡Conium Extract, ¼ grain	25	1 10
‡Conium Extract, ½ grain	30	1 35
‡Conium Extract, 1 grain	35	1 60
‡Conium Extract and Ipecac	35	1 60
Ext. Conium, ½ gr.; Powd. Ipecac, ½ gr.		
*Copaiba, 3 grains	30	1 35
*Copaiba Compound	45	2 10
Solid. Copaiba, 1½ grs.; Citrate of Iron, ⅜ gr.: Resin of Guaiac, ⅜ gr.; Oleo-resin of Cubeb, ⅜ gr.		
*Copaiba and Extract Cubeb	55	2 60
Solid. Copaiba, 2 grs.; Oleo-resin of Cubeb, 1 gr.		
Corrosive Sublimate, 1-60 grain	20	85
Corrosive Sublimate, 1-30 grain	20	85
Corrosive Sublimate, 1-20 grain	20	85
Corrosive Sublimate, 1-16 grain	20	85
Corrosive Sublimate, 1-12 grain	20	85
Corrosive Sublimate, ⅛ grain	20	85
‡Damiana Extract, 3 grains	55	2 60
‡Diaphoretic	45	2 10
Morph. Acetate, 1-25 gr. ;Powd. Camphor, ¼ gr.; Powd. Ipecac, ¼ gr.; Powd. Nit. Potassium, 1 gr.		
*Diarrhœa	25	1 10
Calomel, ⅛ gr.; Sulph. Morphine, 1-16 gr.; Capsicum, 1-16 gr.; Camphor, 1-16 gr.; Powd. Ipecac, 1-32 gr.		
‡Digestive	50	2 35
Combined Pepsin, 3 grs.; Sulph. Strychnine, 1-200 gr.; Cinchonidine S., ½ gr.; Hypophos. Calcium, ½ gr.		
*Digestive, Hager	50	2 35
Cinchonidine Sulph., 1-5 gr.; Pepsin, 1 1-5 grs.; Powd. Ginger, 3-25 gr.; Powd. Cardamom, 3-25 gr.; Po. Gentian, 6-25 gr.- Powd. Tragacanth, 6-25 gr.; Po. Pimento, 3-25 gr.; Hydrochloric Acid, 2-5 gr.; Glycerin, 2-5 gr.; Po. Marsh Mallow, 6-25 gr.		
Digitalin, 1-100 grain	30	1 35

PILLS.	Price 100	Per 500
Digitalin, 1-60 gr.	$0 40	$1 85
Digitalis Ext., ½ grain	35	1 60
Digitalis Compound	30	1 35
Powd. Digitalis, 1 gr.; Powd. Squill, 1 gr.; Powd. Nitrate Potassium, 2 grs.		
*Dinner, Chapman's	35	1 35
Purified Aloes, 1 gr.; Powd. Rhubarb, 1 gr.; Gum Mastic, 1 gr.		
*Dinner, Dr. Hall	25	1 10
Barb. Aloes, 1 gr.; Ext. Licorice, 1 gr.; Powd. Soap, 1 gr.; Theriaca, 1 gr.		
Dinner, Lady Webster	25	1 10
Purified Aloes, 2 grs.; Gum Mastic, ½ gr.; Rose Leaves, ½ gr.		
*Diuretic	35	1 60
Powd. Soap, 1½ grs.; Exsic. Carb. Soda, 1½ grs.; Oil Juniper Berries, 1 gtt.		
Dupuytren	30	1 35
Powd. Guaiac, 3 grs.; Corrosive Sublimate, 1-10 gr.; Powd. Opium, ⅛ gr.		
*Dysmenorrhœa, Dr. Alvord's Improved	75	3 60
Sulph. Morphine, 1-10 gr.; Cimicifugin, ⅔ gr.; Sulph. of Quinine, ⅔ gr.; Senecin, ⅛ gr.		
*Elaterium (Clutterbuck), 1-10 grain	50	2 35
Elaterium (Clutterbuck), ⅛ grain	55	2 60
Emmenagogue	60	3 00
Ergotin, 1 gr.; Ext. Black Hellebore, 1 gr.; Purified Aloes, 1 gr.; Oil of Savin, ½ gr.; Sulph of Iron, Exsic , 1 gr.		
This pill is listed by some manufacturers as Emmenagogue Improved.		
*Emmenagogue, Dr. Mutter	25	1 10
Exsic., Sulph. Iron, 1½ grs.; Gum Turpentine, 1½ grs.; Purified Aloes, ½ gr.		
*Emmenagogue, Dr. Stewart	25	1 10
Powd. Ergot, ½ gr.; Macrotin, ¼ gr.; Picra, ¼ gr.; Sulph. of Iron, 1 gr.		
Emmenagogue, Dr. Williams	60	3 00
Gum Myrrh, ½ gr.; Purified Aloes, ½ gr.; Ext. Podophyllum, ½ gr.; Ergotin, ½ gr.; Macrotin, ½ gr.: Oil of Savin, ½ gr.		
Emmenagogue with Ext. Cotton Root	60	3 00
Ergotin, 1 gr.; Iron Sulph. Exsic., 1 gr.; Ext. Cotton Root, 1 gr.; Oil Savin, ½ gr.: Purified Aloes, 1 gr.		
‡Ergotin, ½ grain equals 5 grains Ergot	35	1 60
‡Ergotin, 1 grain equals 10 grains Ergot	50	2 35
‡Ergotin, 2 grains equal 20 grains Ergot	75	3 60
‡Ergotin, 3 grains equal 30 grains Ergot	1 00	4 85
‡Ergotin, 5 grains equal 50 grains Ergot	1 40	6 85
‡Ergotin and Aloin	1 00	4 85
Ergotin, 1 gr.; Aloin, 1-5 gr.		
Ergotin and Cannabis Indica	90	4 35
Ergotin, 1 gr.; Ext. Cannabis Indica, ½ gr.		
*Eucalyptus Extract, 3 grains	40	1 85
*Euonymin, ¼ grain	30	1 35
*Female Amenorrhœa	40	1 85
Ox Gall, 1 gr.; Purified Aloes, 1 gr.; Senecin, ⅛ gr.		
*Female Leucorrhœa	40	1 85
Ext. Helonias, ¼ gr.; Senecin, ⅛ gr.; Eupurpurin, ¼ gr.; Solid. Ext Black Ash, 2 grs.		
Ferruginous, Blaud's, 3 grains	25	1 10
Sulph. Iron, 1½ grs.; Carb. Potassium, 1½ grs.		
Ferruginous, Blaud's, 5 grains	30	1 35

*Sugar-coated only. ‡Gelatin-coated only.

PILLS.	Price 100	Per 500
Sulph. Iron, 2½ grs.; Carb. Potassium, 2½ grs.		
Ferruginous, Blaud's, Modified	$0 30	$1 35
Sulph. Iron, 2½ grs.; Arsenous Acid, 1-40 gr.; Carb. Potassium, 2½ grs.		
Gelsemin, ⅛ grain	30	1 35
Gelsemin, ¼ grain	45	2 10
‡Gentian Compound	30	1 35
Ext. Gentian, ⅔ gr.; Powd. Rhubarb, 1⅓ grs.; Pur. Aloes, ⅔ gr.; Oil of Caraway, 1-5 gr.		
Gonorrhœa	30	1 35.
Powd. Cubeb, 1¼ grs.; Exsic. Sulph. Iron, ¼ gr.; Solid. Copaiba, 1¼ grs.; Venice Turpentine, ¼ gr.		
Gonorrhœa, Improved	75	3 60
Solid. Copaiba, 1 gr.; Oil of Cubeb, ½ gr.; Oil Sandalwood, ½ gr.; Oil Eucalyptus, ½ gr.; Proto-sulph. Iron, ⅔ gr.; Gelsemin, ⅛ gr.		
Grindelia Robusta Extract, 3 grains	50	2 35
‡Guarana Extract, 3 grains	1 50	7 35
*Headache, Pink (Dr. E. M. Hale)	40	1 85
Irisin, 1-10 gr.; Podophyllin, 1-20 gr.; Sanguinarin 1-20 gr.; Euonymin, ¼ gr.; Powd. Ext. Nux Vomica, 1-20 gr.		
*Heart Tonic, Pink (Dr. E. M. Hale)	40	1 85
Ext. Digitalis, ⅛ gr.; Iron by Hydrogen, ½ gr.; Strychnine, 1-100 gr.		
‡Heims, Niemeyer	80	3 85
Sulphate Quinine, 1 gr.; Powd. Ipecac, ¼gr. Powd. Digitalis, ½ gr.; Powd. Opium, ¼ gr.		
*Helonin, ⅛ grain	30	1 35
*Hepatica	45	2 10
Blue Mass, 2 grs.; Ext. Coloc. Comp., ⅔ gr.; Ext. Hyoscyamus, ⅔ gr.		
Hepatic, Vegetable	50	2 35
Podophyllin, ¼ gr.; Leptandrin, ½ gr.; Ext. Nux Vom., 1-16 gr.; Powd. Capsicum, ½ gr.; Oleo-resin Iris Versicolor, ¼ gr.		
Hooper's	20	85
Exsic. Sulph. Iron, ½ gr.; Purified Aloes, 1 gr.; Powd. Canella, ⅛ gr.; Ext. Bl'k Hellebore, ¼ gr.; Powd. Soap, ⅛ gr.; Gum Myrrh, ¼ gr.; Powd. Jamaica Ginger, ⅛ gr.		
‡Hyoscyamus Ext., ¼ grain	25	1 10
‡Hyoscyamus Ext., ½ grain	30	1 35
‡Hyoscyamus Ext., 1 grain	35	1 60
Ignatia Amara Ext., ¼ grain	30	1 35
‡Ignatia Amara Ext., ½ grain	35	1 60
‡Ignatia Amara Ext., 1 grain	60	2 85
‡Iodoform, 1 grain	60	2 85
Iodoform and Iron	70	3 35
Iodoform, 1 gr.; Iron by Hydrogen, 1 gr.		
‡Iodoform Compound, Dr. G. H. Chapman	1 00	4 85
Iodoform, 1½ grs.; Oil Gaultheria, 3-10 min.; Ext. Gentian, 1½ grs.; Yellow Mercurous Iodide, 3-10 gr.; Leptandrin, 1 gr.		
‡Iodoform, Iron and Nux Vomica	80	3 85
Iodoform, 1 gr.; Iron by Hydrogen, 1 gr.; Ext. Nux Vomica, ¼ gr.		
Ipecac and Opium, 1 grain	30	1 35
Powd. Opium, ¼ gr. / Powd. Ipecac, ¼ gr. / Powd. Lactin, ½ gr. — Represents 2½ grs. Dover's Powder.		
Ipecac and Opium, 2 grains	50	2 35
Powd. Opium, ½ gr. / Powd. Ipecac, ½ gr. / Powd. Lactin, 1 gr. — Represents 5 grs. Dover's Powder.		
Ipecac and Opium, 4 grains	$0 90	$4 35
Powd. Opium, 1 gr. / Powd. Ipecac, 1 gr. / Powd. Lactin, 2 grs. — Represents 10 grs. Dover's Powder.		
‡Irisin, ½ grain	40	1 85
‡Irisin, 1 grain	45	2 10
‡Irisin Compound	30	1 35
Irisin, ¼ gr.; Podophyllin, 1-10 gr.; Strychnine, 1-40 gr.		
Iron and Iodoform	60	2 85
Iron and Strychnine	45	2 10
Iron by Hydrogen, 2 grs.; Strychnine, 1-60 gr.		
‡Iron Arsenate, 1-20 grain	35	1 60
‡Iron Arsenate, ⅛ grain	40	1 85
‡Iron Arsenate, ¼ grain	40	1 85
Iron by Hydrogen, 1 grain	25	1 10
‡Iron by Hydrogen, 2 grains	40	1 85
‡Iron Carbonate, Vallet's, 3 grains	25	1 10
*Iron Compound, U. S. P	25	1 10
Powd. Myrrh, 1½ grs.; Carb. of Sodium, ¾ gr. Sulph. of Iron, ¾ gr.		
‡Iron Lactate, 1 grain	30	1 35
‡Iron Protiodide, U. S. P., 1 grain	40	1 85
*Iron, Quassia and Nux Vomica	45	2 10
Iron by Hydrogen, 1½ grs.; Ext. Nux Vomica, ½ gr.; Ext. Quassia, 1 gr.; Powd. Soap, ½ gr.; Iron Quevennes. (See Iron by Hydrogen.)		
*Iron Valerianate, 1 grain	50	2 35
Jaborandi Extract, 3 grains	50	2 35
‡Kermes Mineral, 1 grain (Oxysulphuret of Antimony)	55	2 60
*Laxative	35	1 50
Purified Aloes, 1 gr.; Sulphur, 1-5 gr.; Podophyllin, 1-5 gr.; Resin of Guaiac, ½ gr.; Syrup Buckthorn, q. s.		
*Laxative, Dr. Fordyce Barker	45	2 10
Ext. Coloc. Comp., 1⅔ grs.; Ext. Henbane, 1¼ grs.; Ext. Nux Vomica, 5-12 gr.; Powd. Ipecac, 1-12 gr.; Resin Podophyllum, 1-12 gr		
Leptandrin, ⅛ grain	20	85
Leptandrin, ¼ grain	20	85
Leptandrin, ½ grain	25	1 10
Leptandrin, 1 grain	40	1 85
Leptandrin Compound	55	2 60
Leptandrin, 1 gr.; Irisin, ¼ gr. Podophyllin, ⅛ gr.		
Liver Improved	25	1 10
Pur. Aloes, 1 gr.; Calomel, ⅛ gr.; Powd. Jalap, 1 gr.; Powd. Gamboge, ⅛ gr.; Leptandrin, ⅛ gr.; Tinct. Verat. Viride, ¼ gtt.; Oil Capsicum, 1-48 gtt.		
Liver Improved, Vegetable	25	1 10
Purified Aloes, 1 gr.; Podophyllin, ⅛ gr.; Powd. Jalap, 1 gr.; Powd. Gamboge, ⅛ gr.; Leptandrin, ⅛ gr.; Tinct. Verat. Viride, ¼ gtt.; Oil Capsicum, 1-48 gtt.		
*Liver, Dr. Taylor	35	1 60
Podophyllin, 1 gr.; Powd. Ipecac, 1 gr.; Camphor, 4-5 gr.		

*Sugar-coated only. ‡Gelatin-coated only.

PILLS.	Price Per 100	Price Per 500
*Liver, Dr. Waxham	$0 30	$1 35
Ext. Leptandra, 1 gr.; Capsicum, ½ gr.; Ext. Henbane, ½ gr.; Podophyllin, ¼ gr.; Ext. Jalap, ⅜ gr.; Powd. Gamboge, ⅛ gr.		
Lupulin, 3 grains	35	1 60
*Macrotin, 1-10 grain	30	1 35
Manganese Binoxide, 2 grains	70	3 25
*Mercury and Chalk, ½ grain	20	85
Mercuric Iodide, Red, 1-40 grain	20	85
Mercuric Iodide, Red, 1-25 grain	20	85
Mercuric Iodide, Red, 1-16 grain	20	85
Mercuric Iodide, Red, ⅛ grain	20	85
Mercurous Iodide, Yellow, 1-10 grain	20	85
Mercurous Iodide, Yellow, ⅙ grain	20	85
Mercurous Iodide, Yellow, 1-6 grain	20	85
Mercurous Iodide, Yellow, 1-5 grain	20	85
Mercurous Iodide, Yellow, ¼ grain	20	85
Mercurous Iodide, Yellow, ⅓ grain	25	1 10
Mercurous Iodide, Yellow, ½ grain	25	1 10
‡Mercurous Iodide, Yellow and Opium	50	2 35
Mercurous Iodide, 1 gr.; Powd. Opium, ⅓ gr.		
Metals and Bitters	50	2 35
‡Migraine	50	2 35
Acetanilid, 2 grs.; Caffein, ¼ gr.; Camphor Monobrom., ½ gr.		
*Morphine Acetate, ⅛ grain	35	1 50
Morphine Sulphate, 1-32 grain	20	85
Morphine Sulphate, 1-16 grain	20	85
Morphine Sulphate, ⅛ grain	25	1 10
Morphine Sulphate, 1-6 grain	30	1 35
Morphine Sulphate, ¼ grain	35	1 60
Morphine Sulphate, ½ grain	60	2 85
Morphine and Atropine, Formula A	50	2 35
Sul. Morphine, 1-16 gr.; Atropine, 1-200 gr.		
Morphine and Atropine, Formula B	60	2 85
Sul. Morphine, ⅛ gr.; Atropine, 1-100 gr.		
Morphine and Atropine, Formula C	70	3 35
Sul. Morphine, ¼ gr.; Atropine, 1-100 gr.		
Morphine and Belladonna	45	2 00
Sul. Morphine, ⅛ gr.; Ext. Belladonna, ⅙ gr.		
*Morphine Compound	75	3 60
Sul. Morphine, ¼ gr.; Calomel, ¼ gr.; Tartar Emetic, ¼ gr.		
‡Morphine Valerianate, ⅛ gr.	50	2 35
‡Nervine (formula of G. A. Haynes, M. D.)	60	2 85
Scutellarin, 1½ grs.; Cypripedin, 1 gr.; Lupulin, ½ gr.; Ext. Lettuce, ½ gr.		
Neuralgic, Brown Sequard, Formula A (full strength)	65	3 70
Ext. Henbane, ⅔ gr.; Ext. Conium, ⅔ gr.; Ext. Ignatia, ½ gr.; Ext. Opium, ½ gr.; Ext. Aconite, ⅓ gr.; Ext. Cannabis, ¼ gr.; Ext. Stramon., 1-5 gr.; Ext. Belladonna, 1-6 gr.		
Neuralgic, Brown Sequard, Formula B (one-half strength)	50	2 00
Ext. Henbane, ⅓ gr.; Ext. Conium, ⅓ gr.; Ext. Ignatia, ¼ gr.; Ext. Opium, ¼ gr.; Ext. Aconite, 1-6 gr.; Ext. Cannabis, ⅙ gr.; Ext. Stramon., 1-10 gr.; Ext. Belladonna, 1-12 gr.		
Neuralgic, Dr. Gross	65	3 70
Sul. Quinine, 2 grs.; Strychnine, 1-30 gr.; Sul. Morphine, 1-20 gr.; Arsenous Acid, 1-20 gr.; Ext. Aconite, ½ gr.		

PILLS.	Price Per 100	Price Per 500
Neuralgic without Morphine, Dr. Gross	$0 65	$3 70
Sul. Quinine, 2 grs.; Strychnine, 1-30 gr.; Arsenous Acid, 1-20 gr.; Ext. Aconite, ½ gr.		
*Neuralgic, Dr. Wing	30	1 35
Ext. Hyoscyamus, ½ gr.; Ext. Aconite Leaf, ¼ gr.; Ext. Belladonna, ¼ gr.; Camphor, ½ gr.		
Nitroglycerin, 1-100 grain. (See Tablet Triturates.)		
Nux Vomica Ext., ⅛ grain	20	85
Nux Vomica Ext., ¼ grain	20	85
Nux Vomica Ext., ½ grain	25	1 10
Opium, ½ grain	25	1 10
Opium, U. S. P., 1 grain	40	1 85
‡Opium Extract, U. S. P., ⅛ grain	25	1 10
‡Opium Extract, U. S. P., ¼ grain	40	1 85
‡Opium Extract, U. S. P., ½ grain	55	2 60
Med. Prop.—Anodyne.		
Lead Acetate and Opium	40	1 85
Opium, 1 gr.; Lead Acetate, 1 gr.		
Opium and Camphor	50	2 35
Opium, Camphor and Tannin	35	1 60
‡Ox Gall	35	1 60
Ox Gall, 2 grs.; Jamaica Ginger, 1 gr.		
‡Ox Gall Compound	55	2 60
Ox Gall, 2 grs.; Ext. Stramonium, 1-6 gr.; Pur. Aloes, 1-10 gr.; Hydrastine Muriate, 1-12 gr.		
*Ox Gall and Pepsin, Armor's	80	3 85
Ox Gall, 1¼ grs.; Pepsin, 1 gr.; Purified Aloes, 1 gr.; Sulph. of Iron, ½ gr.; Ext. Nux Vomica, 1-12 gr.		
‡Ox Gall, Pepsin and Nux Vomica	55	2 60
Ox Gall, 2 grs.; Ext. Nux Vomica, ⅛ gr.; Pepsin, Pure, 1 gr.		
*Pepsin and Bismuth	55	2 60
Pepsin, 1½ grs.; Bismuth, Subcarb. ¾ gr.; Lactic Acid, ¼ gr.		
*Pepsin, Bismuth and Strychnine	1 00	4 85
Pepsin, 2 grs.; Strychnine, 1-60 gr.; Bismuth Subnit., 3 grs.		
*Phosphorus, U. S. P., 1-100 gr.	20	85
*Phosphorus, Aloes and Nux Vomica	30	1 35
Phosphorus, 1-50 gr.; Pur. Aloes, ½ gr.; Ext. Nux Vomica, ¼ gr.		
Phhosphorus and Belladonna	25	1 10
Phosphorus, 1-100 gr.; Ext. Belladonna, ⅙ gr.		
*Phosphorus and Cantharides Compound	45	2 10
Phosphorus, 1-50 gr.; Powd. Nux Vomica, 1 gr.; Sol. Cantharides Comp., 1 minim.		
*Phosphorus and Digitalis Compound	40	1 85
Phosphorus, 1-50 gr.; Ext. Hyoscyamus, 1 gr.; Powd. Digitalis, 1 gr.		
*Phosphorus and Iron	30	1 35
Phosphorus, 1-100 gr ; Carbonate of Iron, 1 gr.		
*Phosphorus and Nux Vomica	25	1 10
Phosphorus, 1-50 gr.; Ext. Nux Vomica, ¼ gr.		
*Phosphorus and Strychnine	45	2 10
Phosphorus, 1-50 gr.; Strychnine, 1-60 gr.		
*Phosphorus, Nux Vomica and Damiana	1 00	4 75
Phosphorus, 1-100 gr.; Ext. Nux Vomica, ⅛ gr.; Ext. Damiana, 2 grs.		
*Phosphorus, Nux Vomica and Iron	30	1 35
Phosphorus, 1-100 gr., Ext. Nux Vomica, ¼ gr.; Phosphate of Iron, ½ gr.		

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PILLS.	Price Per 100	Price Per 500
*Picrotoxin, 1-80 grain	$0 45	$2 10
*Pilocarpine Muriate, 1-16 grain. *Prices Fluctuating.*		
‡Plummer's	30	1 35
Sulphurated Antimony, ½ gr.; Calomel, ½ gr.; Powd. Guaiac, 1 gr.		
Podophyllin, ⅛ grain	20	85
Podophyllin, ¼ grain	20	85
Podophyllin, ½ grain	25	1 10
Podophyllin, 1 grain	40	1 85
Podophyllin and Berberine	50	2 35
Podophyllin, 1-20 gr.; Berberine, Sulphate, ¼ gr.		
‡Podophyllin and Blue Mass	30	1 35
Podophyllin, ¼ gr.; Blue Mass, 2 grs.		
*Podophyllin, Atropine and Strychnine	50	2 25
Podophyllin, ½ gr.; ;Croton Oil, 1-16 gr.; Strychnine, 1-100 gr.; Atropine, 1-200 gr.		
*Podophyllin, Capsicum and Belladonna, Dr. E. R. Squibb	45	2 10
Resin of Podophyllum, ¼ gr.; Capsicum, ½ gr.; Ext. Belladonna, ⅛ gr.		
Podophyllin Compound	40	1 85
Podophyllin, ½ gr.; Ext. Nux Vomica, ¼ gr.; Ext. Henbane, ¼ gr.		
NOTE.—These pills are different proportions from those usually listed as Podophyllin Compound.		
*Podophyllin Compound, Eclectic	40	1 85
Podophyllin, ⅛ gr.; Leptandrin, 1-16 gr.; Juglandin, 1-16 gr.; Macrotin, 1-32 gr.; Oil Capsicum, 1-32 gr.		
Podophyllin Compound, Dr. Janeway	60	2 85
Resin of Podophyllum, ½ gr.; Pur. Aloes, 1 gr.; Ext. Nux Vomica, ¼ gr.; Ext. Belladonna, ¼ gr.		
Poke Root Extract, ½ grain	30	1 35
*Post Partum, Dr. Fordyce Barker	45	2 10
Ext. Coloc. Comp., 1½ grs.; Calomel, 1½ grs.; Ext. Nux Vom., 1-6 gr.; Ext. Hyoscyamus, ⅓ gr.; Pur. Aloes, 1-6 gr.; Powd. Ipecac, 1-6 gr.		
*Potassium Bromide, 5 grains	75	3 60
*Potassium Permanganate, ⅛ grain	25	1 10
*Potassium Permanganate, ¼ grain	25	1 10
*Potassium Permanganate, ½ grain	30	1 35
*Potassium Permanganate, 1 grain	40	1 85
*Quinine and Belladonna	40	1 80
Sulph. Quinine, 1 gr.; Ext. Belladonna, ½ gr.		
‡Quinine Bisulphate, ¼ grain. } *Prices subject to market changes.*		
‡Quinine Bisulphate, ½ grain.		
‡Quinine Bisulphate, 1 grain.		
‡Quinine Bisulphate, 2 grains.		
‡Quinine Bisulphate, 3 grains.		
Quinine Bromide. (See Quinine Hydrobromate.)		
Quinine Compound	50	2 35
Sulphate Quinine, 1 gr.; Iron by Hydrogen, 1 gr.; Arsenous Acid, 1-32 gr.		
‡Quinine and Camphor Compound	55	2 50
Quinine, 1 gr.; Camphor, 1 gr.; Piperine, ½ gr.; Morphine Sulph., 1-16 gr.		
‡Quinine and Capsicum	60	2 85
Quinine Sulph., 2 grs.; Powd. Capsicum, ½ gr.		
‡Quinine Compound and Strychnine	50	2 35
Sulph. Quinine, 1 gr.; Iron by Hydrogen, 1 gr.; Strychnine, 1-20 gr.; Arsenous Acid, 1-20 gr.		

PILLS.	Price Per 100	Price Per 500
‡Quinine Hydrobromate, ½ grain	$0 35	$1 60
‡Quinine Hydrobromate, 1 grain	60	2 80
‡Quinine Hydrobromate, 2 grains	75	3 55
‡Quinine, Iron and Nux Vomica	50	2 35
Quinine Sulph., 1 gr.. Ext. Nux Vomica, ¼ gr.; Iron Carb. (Vallet's), 2 grs.		
Quinine, Iron and Strychnine	50	2 35
Sulph. Quinine, 1 gr.; Sulph. Strychnine, 1-60 gr.; Proto-carb. of Iron (Vallet's), 2 grs.		
Quinine, Iron and Zinc Valerianates	95	4 60
Quinine Valerianate, 1 gr.; Iron Valerianate, 1 gr.. Zinc Valerianate, 1 gr.		
Quinine Sulphate, ¼ grain. } *Prices subject to market changes.*		
Quinine Sulphate, ½ grain.		
Quinine Sulphate, 1 grain.		
Quinine Sulphate, 2 grains.		
Quinine Sulphate, 3 grains.		
*Rheumatic	55	2 60
Ext. Coloc. Comp., 1½ grs.; Ext. Hyoscyamus, ⅓ gr.; Ext. Colchicum Acetic, 1 gr.; Calomel, ⅓ gr.		
Rheumatic, Dr. Wiggins	85	4 10
Ext. Colchicum Root, ½ gr.; Salicylic Acid, 2½ grs.; Sulph. Quinine, ½ gr.; Ext. Poke Root, ½ gr.; Podophyllin, ⅛ gr.; Capsicum, ½ gr.		
*Rhubarb, U. S. P	40	1 85
Powd. Rhubarb, 3 grs.; Powd. Soap, 1 gr.		
*Rhubarb and Blue Mass	40	1 85
Powd. Rhubarb, 1 gr.; Blue Mass, 1¾ grs.; Sodium Bicarb., ½ gr.		
Rhubarb Compound, U. S. P	40	1 85
Powd. Rhubarb, 2 grs.; Purified Aloes, 1½ grs.; Myrrh, 1 gr.; Oil Peppermint 1-10 gr.		
*Salicylic Acid, 1 grain	30	1 35
*Salicylic Acid, 2½ grains	50	2 35
*Salicylic Acid, 3 grains	60	2 85
‡Salol, 2½ grains	70	3 35
‡Salol, 5 grains	1 00	4 85
*Sandalwood Oil Compound	70	3 35
Oil of Sandalwood, 1 gr.; Balsam of Copaiba, 1 gr.; Ext. Cubeb, 1 gr.		
*Santonin, ½ grain	35	1 60
*Santonin, 1 grain	50	2 35
*Santonin and Calomel	55	2 60
Santonin, ½ gr.; Calomel, ½ gr.		
*Scutellarin, 1-10 grain	30	1 35
*Scutellarin, ¼ grain	30	1 35
*Sedative	50	2 35
Ext. Sumbul, ½ gr.; Ext. Henbane, ½ gr.; Ext. Cannabis Ind., 1-10 gr.; Ext. Valerian, ½ gr.		
Senecin, ⅛ grain	30	1 35
Squill Compound	30	1 35
Powd. Squill, ½ gr.; Gum Ammoniac, 1 gr.; Powd. Ginger, 1 gr.; Powd. Soap, 1½ grs.		
Strychnine, 1-60 grain	20	85
Strychnine, 1-48 grain	20	85
Strychnine, 1-32 grain	20	85
Strychnine, 1-20 grain	20	85
Strychnine, 1-16 grain	20	85
*Strychnine Arsenate (coated yellow), 1-100 gr.	20	85
‡Strychnine Sulphate, 1-200 grain	20	85
‡Strychnine Sulphate, 1-100 grain	20	85
‡Strychnine Sulphate, 1-60 grain	20	85
‡Strychnine Sulphate, 1-40 grain	20	85

*Sugar-coated only. ‡Gelatin-coated only.

PILLS.	Price Per 100	500
Stramonium Extract, ¼ grain	$0 25	$1 10
Stramonium Extract, ½ grain	35	1 60
Stramonium Extract, 1 grain	40	1 85
*Strophanthus, 1-20 grain, Pink	35	1 60
*Strophanthus, ¼ grain, Pink	50	2 35
Syphilitic, Dr. Pepper	40	1 85
Ext. Nux Vomica, ¼gr.; Ext. Gentian, 1 gr.; Yellow Mercurous Iodide, 1-6 gr.		
‡Taraxacum Extract, 3 grains	45	2 10
Tartar Emetic, ⅙ grain	20	85
*Tonic, Aiken's	55	2 60
Quinine Sulphate, 1 gr.; Arsenous Acid, 1-50 gr.; Iron by Hydrogen, ⅔ gr.; Strychnine, 1-50 gr.		
*Tonic Hæmatic, Dr. Andrews	75	3 55
Sulphate Quinine, 1 gr.; Arsenous Acid, 1-40 gr.; Iron by Hydrogen, 1½ grs.; Powd. Ipecac, ⅙ gr.; Sulphate of Strychnine, 1-40 gr.		
‡Triplex	40	1 85

PILLS.	Price Per 100	500
Purified Aloes, 2 grs ; Podophyllin, ¼ gr.; Blue Mass, 1 gr.		
‡Triplex, Dr. Francis	$0 40	$1 85
Purified Aloes, 1 1-5grs.; Blue Mass, 1 1-5 grs.; Croton Oil, 1-20 min.; Powd. Scammony, 1 1-5 grs.; Elix. Pro., q.s.; Oil of Caraway, 1-5 min.		
‡Valerian Extract, 2 grains	55	2 60
Zinc Oxide, 1 grain	40	1 85
Zinc Phosphide, 1-10 grain	45	2 10
Zinc Phosphide, 1-6 grain	45	2 10
Zinc Phosphide, ¼ grain	50	2 35
‡Zinc Phosphide, ½ grain	65	3 10
Zinc Phosphide and Nux Vomica	50	2 35
Zinc Phosphide, 1-10 gr.; Ext. Nux Vomica, ¼ gr.		
Zinc Phosphide and Strychnine	50	2 35
Zinc Phosphide, 1-10 gr.; Strychnine, 1-50 gr.;		
‡Zinc Valerianate, 1 grain	60	2 80
‡Zinc Valerianate, 2 grains	75	3 55

QUININE PILLS IN BULK.

In one container there are five ounces Quinine made into pills.

4375 Quinine Pills, ½ grain
2185 Quinine Pills, 1 grain
} *Prices quoted upon application.*

1092 Quinine Pills, 2 grains
728 Quinine Pills, 3 grains
} *Prices quoted upon application.*

The above pills put up in one container. Subject to fluctuation in the price of Quinine.

SUGAR-COATED GRANULES.

(PINK COATING.)

These granules or minute pills are cut by machinery of great accuracy, and contain the exact amount stated of the respective medicinal ingredient. As the objects of their administration is the frequent repetition of small doses and the attainment of the specific action of the drug employed, but few compound formulas are listed.

The dose of these granules varies from one to four, depending upon age or frequency of administration. For adults, one may be given every hour or every two hours. For children, one three times daily would be the minimum dose.

Bottles of one thousand each, eighty cents NET.

SUGAR-COATED GRANULES.	Price Per 100	500
Aconite Leaves, 1-20 grain	$0 20	$0 80
Aconite Root, 1-20 grain	20	80
Aloin, 1-10 grain	20	80
Anodyne	20	80
Camphor, ⅙ gr.; Acetate of Morphine, 1-160 gr.; Ext. Hyoscyamus, ⅙ gr.; Oil of Capsicum, 1-160 gr.		
Antibilious	20	80
Blue Mass, ¼ gr.; Podophyllin, 1-20 gr.; Powd. Ipecac, 1-20 gr.; Hyoscyamin (Resinoid), ⅙ gr.		
Anti-Constipation	20	80
Aloin, 1-10 gr.; Podophyllin, 1-50 gr.; Ext. Nux Vomica, 1-20 gr.; Ext. Belladonna, 1-40 gr.; Capsicum, 1-10 gr.		
Arnica Flowers, 1-10 grain	20	80
Arsenic, Iodide, 1-100 grain	20	80
Arsenous Acid, 1-100 grain	20	80
Belladonna Leaves, 1-20 grain	20	80
Camphor, 1-20 grain	20	80
Calomel, 1-20 grain	20	80
Camphor and Opium	20	80
Camphor, 1-6 gr.; Ext. Opium Denar, 1-30 gr.		

SUGAR-COATED GRANULES.	Price Per 100	500
Camphor, Opium and Tannin	$0 20	$0 80
Camphor, 1-16 gr.; Ext. Opium Denar, 1-100 gr.; Tannin, ⅙ gr.		
Cantharides, 1-50 grain	20	80
Capsicum, 1-20 grain	20	80
Cathartic Compound, Improved, ¼ grain	20	80
Cathartic Compound, Improved, ½ grain	20	80
Cathartic Compound, Improved, 1 grain		
The above granules are simply the regular mass of the Compound Cathartic Improved pills cut into smaller dimensions.		
Cathartic Compound, U. S. P., ¼ grain	20	80
Cathartic Compound, U. S. P., ½ grain	20	80
Cathartic Compound, U. S. P., 1 grain	20	80
The official mass cut into smaller dimensions.		
Corrosive Sublimate, 1-100 grain	20	80
Digitalis Leaves, 1-20 grain	20	80
Gelsemium Root, 1-50 grain	20	80
Hydrastin, 1-20 grain	20	80
Hyoscyamus Extract, 1-10 grain	20	80
Ipecac, 1-50 grain	20	80
Leptandrin, 1-20 grain	20	80
Leptandrin, 1-10 grain	20	80

*Sugar-coated only. ‡Gelatin-coated only.

SUGAR-COATED GRANULES.	Price Per 100	Price Per 500
Mercury with Chalk, 1-10 grain	$0 20	$0 80
Morphine Sulphate, 1-50 grain	20	80
Morphine and Tartar Emetic	20	80
Morphine Sulphate, 1-50 gr.; Tartar Emetic, 1-50 gr.		
Neuralgic (Dr. Gross), ¼ grain	20	80
Nux Vomica, 1-50 grain	20	80
Opium, 1-40 grain	20	80

SUGAR-COATED GRANULES.	Price Per 100	Price Per 500
Phosphorus, 1-200 grain	$0 20	$0 80
Podophyllin, 1-40 grain	20	80
Quinine Sulphate, 1-10 grain	20	80
Salicylic Acid, 1-10 grain	20	80
Santonin, 1-10 grain	20	80
Strychnine, 1-100 grain	20	80
Tannic Acid, 1-20 grain	20	80
Tartar Emetic, 1-50 grain	20	80

ABSTRACTS.

Prepared in accordance with the directions of the U. S. P., 1880. One grain represents in medicinal strength, two grains of the drug.

ABSTRACTS.	Price Per Oz.
Black Haw	$0 25
Coto Bark	50
Eucalytus	30
Jaborandi	30

ABSTRACTS.	Price Per Oz.
Licorice Root	$0 30
Stramonium Leaves	30
Valerian	30

TABLET TRITURATES.

NET PRICES.

Our Tablet Triturates are prepared from the purest of material, manufactured by improved appliances, are accurate in dose and very soluble.

Special formulæ made to order in lots of 1000 and upward.

TABLET TRITURATES.	Price Per 1000	Price Per 500
Acetanilid, 1 grain	$0 40	$0 23
Acid, Arsenous, 1-200 grain	35	20
Acid, Arsenous, 1-100 grain	35	20
Acid, Arsenous, 1-50 grain	35	20
Acid, Arsenous, 1-30 grain	35	20
Acid, Arsenous, 1-20 grain	35	20
Aconite Root, Fluid Ext., 1-10 minim	40	23
Aconite Root, Fluid Ext., ½ minim	40	23
Aconite Root, Fluid Ext., 1 minim	40	23
Aconite Root, Tincture, ¼ minim	35	20
Aconite Root, Tincture, ½ minim	35	20
Aconite Root, Tincture, ¾ minim	35	20
Aconite Root, Tincture, 1 minim	40	23
Aconite Root, Tincture, 2 minims	45	25
Aconitine Crystals, 1-500 grain	30	18
Aconitine Crystals, 1-200 grain	45	25
Agaricin, 1-20 grain	50	28
Aloin, 1-10 grain	40	23
Aloin, ¼ grain	40	23
Aloin, ½ grain	50	28
Aloin and Belladonna Comp., No. 1	50	28
Aloin, 1-5 gr.; Ext. Belladonna, ⅛ gr.; Strychnine Sulph., 1-60 gr.		
Aloin and Belladonna Comp., No 2	50	28
Aloin, 1-5 gr.; Ext. Belladonna, ⅛ gr.; Strychnine Sulph., 1-120 gr.		
Aloin, Belladonna and Nux Vomica, *Assayed*	50	28
Aloin, 1-5 gr.; Nux Vomica, 1-6 gr.; Ext. Belladonna, ⅛ gr.		
Aloin, Belladonna and Podophyllin	50	28
Aloin, ⅛ gr.; Podophyllin, ⅛ gr.; Ext. Belladonna, ⅛ gr.		
Aloin, Belladonna, Podophyllin and Nux Vomica, *Assayed*	50	28
Aloin, 1-10 gr.; Podophyllin, 1-10 gr.; Ext. Nux Vom., 1-10 gr; Ext. Belladonna, 1-10 gr.		
Aloin, Belladonna, Strychnine and Cascara Sagrada	60	33

TABLET TRITURATES.	Price Per 1000	Price Per 500
Aloin, 1-5 gr.; Strychnine, 1-120 gr.; Ext. Cascara Sagrada, ½ gr.; Ext. Belladonna, ⅛ gr.		
Aloin, Belladonna, Strychnine and Ipecac	$0 50	$0 28
Aloin, 1-5 gr.; Ext. Belladonna, ⅛ gr.; Ipecac, 1-16 gr.; Strychnine, 1-60 gr.		
Aloin and Podophyllin, No. 1	35	20
Aloin, ⅛ gr.; Podophyllin, ⅛ gr.		
Aloin and Podophyllin, No. 2	55	30
Aloin, ¼ gr.; Podophyllin, ¼ gr.		
Aloin, Calomel and Podophyllin	60	30
Aloin, 1-10 gr.; Podophyllin, 1-10 gr.; Calomel, 1-10 gr.		
Alum, 1-10 grain	35	20
Alum, 1-5 grain	40	23
Ammonium Muriate, 1-10 grain	35	20
Ammonium Muriate, ½ grain	35	20
Ammonium Muriate Compound	40	23
Ammonium Muriate, ¼ gr.; Powd. Cubeb, ⅛ gr.; Ext. Licorice, 1-10 gr.		
Ammonium Muriate and Codeine Compound	95	50
Ammonium Muriate, ¼ gr.; Ext. Licorice, 1-10 gr.; Codeine, 1-25 gr.; Cubeb, ½ gr.		
Ammonium Muriate Compound with Morphine	95	50
Ammonium Muriate, ¼ gr.; Ext. Licorice, 1-10 gr; Powd. Cubeb, ⅛ gr.; Morphine Sulph., 1-50 gr.		
Anti-Cold	80	43
Tinct. Aconite, 1 minim; Tartar Emetic, 1-50 gr.; Morphine Sulph., 1-20 gr.; Powd. Ipecac, ⅛ gr.		
Antimony Compound (*Plummer's*), 1-10 grain	40	23
Sulphurated Antimony, 1-40 gr.; Calomel, 1-40 gr.; Powd. Guaiac, 1-20 gr.		
Apomorphine Muriate, 1-100 grain	65	35
Apomorphine Muriate, 1-50 grain	95	50
Arsenic Iodide, 1-100 grain	35	20
Arsenic Sulphide, 1-100 grain	35	20
Arsenic Sulphide, 1-50 grain	35	20

TABLET TRITURATES.	Price Per 1000	Price Per 500
Atropine Sulphate, 1-500 grain	$0 35	$0 20
Atropine Sulphate, 1-200 grain	35	20
Atropine Sulphate, 1-150 grain	40	23
Atropine Sulphate, 1-100 grain	45	25
Atropine Sulphate, 1-50 grain	60	33
Belladonna, Fluid Ext., ¼ minim	35	20
Belladonna, Fluid Ext., ½ minim	35	20
Belladonna, Fluid Ext., 1 minim	40	23
Belladonna Leaves, Tincture, ½ minim	35	20
Belladonna Leaves, Tincture, 1 minim	40	23
Belladonna Leaves, Tincture, 2 minims	45	25
Belladonna Leaves, Tincture, 5 minims	45	25
Benzoic Acid, 1-10 grain	35	20
Benzoic Acid, ¼ grain	40	23
Benzoic Acid, ½ grain	45	25
Benzoic Acid, 1 grain	50	28
Bismuth Subnitrate, 1 grain	80	43
Bismuth Subnitrate, 2 grains	1 40	73
Bismuth and Calomel	55	30
Bismuth Subnit., 1-10 gr.; Calomel, 1-10 gr.		
Bismuth and Cerium Oxalate	85	45
Bismuth Subnit., 1 gr.; Cerium Oxalate, ½ gr.		
Blood Root, Tincture, 1 minim	40	23
Blood Root, Tincture, 2 minims	45	25
Blood Root, Tincture, 3 minims	45	25
Blood Root, Tincture, 5 minims	45	25
Boric Acid, 1-10 grain	35	20
Boric Acid, 1-5 grain	40	23
Boric Acid, ½ grain	40	23
Boric Acid, 1 grain	40	23
Bronchitis	45	25
Tinct. Aconite, 1-5 minim.; Tinct. Bryonia, 1-10 minim.; Tinct. Belladonna, 1-10 minim.; Antimony Golden Sulph., 1-100 gr.; Potass. Bichrom, 1-100 gr.		
Brown Mixture (one-half teaspoonful), *Assayed*,	40	23
Ext. Licorice, 1-10 gr.; Camphor, 1-50 gr.; Acid Benzoic, 1-50 gr.; Oil Anise, 1-50 gr. Powd. Opium, 1-50gr.; Tartar Emetic, 1-120 gr.		
Brown Mixture (one teaspoonful), *Assayed*	40	23
Ext. Licorice, 1-10 gr.; Camphor, 1-25 gr.; Acid Benzoic, 1-25 gr.; Oil Anise, 1-25 gr.; Opium Powd., 1-25. gr.; Tartar Emetic, 1-60 gr.		
Brown Mixture Compound, *Assayed*	45	25
Brown Mixture, 1 teaspoonful; Ammonium Chloride, 1 gr.		
Bryonia Tincture, 5 minims	50	28
Cactus, Fluid Ext., 1 minim	50	28
Caffeine, ½ grain	55	30
Caffeine, 1 grain	85	45
Caffeine, Citrated, ½ grain	85	45
Caffeine, Citrated, 1 grain	1 10	58
Caffeine Compound	1 10	58
Citrated Caffeine, 1 gr.; Nitroglycerin, 1-200 gr.		
Calabar Bean, Tincture, 1 minim	35	20
Calabar Bean, Tincture, 2 minims	45	25
Calcium Sulphide, 1-20 grain	35	20
Calcium Sulphide, 1-10 grain	35	20
Calcium Sulphide, ¼ grain	35	20
Calcium Sulphide, ½ grain	35	20
Calcium Sulphide, 1 grain	40	23
Calomel, 1-100 grain	35	20
Calomel, 1-50 grain	35	20
Calomel, 1-20 grain	35	20
Calomel, 1-10 grain	35	20

TABLET TRITURATES.	Price Per 1000	Price Per 500
Calomel, ⅛ grain	$0 35	$0 20
Calomel, 1-6 grain	35	20
Calomel, ¼ grain	35	20
Calomel, ½ grain	40	23
Calomel, 1 grain	45	25
Calomel, 2 grains	75	40
Calomel and Dover's Powder, No. 1, *Assayed*	50	28
Calomel, ¼ gr.; Dover's Powder, 1 gr.		
Calomel and Dover's Powder, No. 2, *Assayed*	50	28
Calomel, ½ gr.; Dover's Powder, 1 gr.		
Calomel and Ipecac, No. 1	40	23
Calomel, ⅛ gr.; Ipecac, ⅛ gr.		
Calomel and Ipecac, No. 2	50	28
Calomel, ¼ gr.; Ipecac, ¼ gr.		
Calomel, Ipecac and Sodium Bicarbonate	40	23
Calomel, 1-5 gr.; Ipecac, 1-10 gr.; Sodium Bicarb., 1 gr.		
Calomel and Podophyllin	40	23
Calomel, ⅛ gr.; Podophyllin, ⅛ gr.		
Calomel and Sodium Bicarbonate, No. 1	30	18
Calomel, 1-5 gr.; Sodium Bicarb., 1 gr.		
Calomel and Sodium Bicarbonate, No. 2	30	18
Calomel, ½ gr.; Sodium Bicarb., ½ gr.		
Calomel and Sodium Bicarbonate, No. 3	45	25
Calomel, 1 gr.; Sodium Bicarb., 1 gr.		
Calomel and Sodium Bicarbonate, No. 4	30	18
Calomel, 1-10 gr.; Sodium Bicarb., 1 gr.		
Calomel and Sodium Bicarbonate Comp., No. 1	40	23
Calomel, ¼ gr.; Sodium Bicarb., ½ gr.; Podophyllin, 1-12 gr.		
Calomel and Sodium Bicarbonate Comp., No. 2	45	25
Calomel, ½ gr.; Sodium Bicarb., ½ gr.; Podophyllin, 1-12 gr.		
Camphor Monobromated, 1-10 grain	35	20
Camphor Monobromated, 1 grain	65	35
Cannabis Indica Extract, 1-20 grain	40	23
Cannabis Indica Extract, 1-10 grain	40	23
Cannabis Indica Extract, ¼ grain	45	25
Cannabis Indica, Tincture, ¼ minim	40	23
Cannabis Indica, Tincture, ½ minim	40	23
Cannabis Indica, Tincture, 1 minim	40	23
Cannabis Indica, Tincture, 2 minims	45	25
Capsicum, ½ grain	40	23
Capsicum, 1 grain	45	25
Capsicum Compound, Assayed	45	25
Capsicum, 1-10 gr.; Nux Vomica, ¼ gr.		
Cerium Oxalate, ½ grain	45	25
Cerium Oxalate, 1 grain	60	33
Cimicifuga Tincture, 1 minim	40	23
Cocaine Hydrobromate, 1-16 grain	1 55	80
Cocaine Hydrobromate, ⅛ grain	2 75	1 40
Cocaine Hydrochlorate, 1-16 grain	1 60	83
Cocaine Hydrochlorate, ⅛ grain	2 90	1 50
Codeine, ⅛ grain	2 20	1 13
Codeine, ¼ grain	4 45	2 25
Codeine, ½ grain	8 40	4 23
Colchicine, 1-100 grain	60	33
Colchicine, 1-50 grain	1 30	68
Convallamarin, 1-50 grain	40	23
Convallaria Majalis, Tinct., 1 minim	40	23
Copper Arsenite, 1-5000 grain	35	20
Copper Arsenite, 1-500 grain	35	20
Copper Arsenite, 1-100 grain	35	20
Copper and Opium, Assayed	40	23
Copper Sulph., 1-30 gr.; Tinct.; Opium Deod., ¼ min.		
Corrosive Sublimate, 1-1000 grain	35	20
Corrosive Sublimate, 1-500 grain	35	20

TABLET TRITURATES.	Price Per 1000	Price Per 500
Corrosive Sublimate, 1-200 grain	$0 35	$0 20
Corrosive Sublimate, 1-100 grain	35	20
Corrosive Sublimate, 1-60 grain	35	20
Corrosive Sublimate, 1-50 grain	35	20
Corrosive Sublimate, 1-40 grain	35	20
Corrosive Sublimate, 1-20 grain	40	23
Corrosive Sublimate, 1-16 grain	40	23
Corrosive Sublimate, 1-12 grain	40	23
Corrosive Sublimate, 1-10 grain	40	23
Creasote (Beechwood), 1-10 grain	35	20
Cubeb, Fluid Ext., ½ minim	40	23
Cubeb, Fluid Ext., 1 minim	50	28
Diarrhœa	85	45
Powd. Capsicum, 1-16 gr.; Calomel, ⅛ gr. Morphine Sulph., 1-16 gr.; Camphor, 1-16 gr.; Powd. Ipecac, 1-32 gr.		
Digitalin, Pure, 1-500 grain	35	20
Digitalin, Pure, 1-100 grain	45	25
Digitalin, Pure, 1-75 grain	45	25
Digitalin, Pure, 1-50 grain	50	28
Digitalis, Fluid Ext., 1-10 minim	35	20
Digitalis, Fluid Ext., ½ minim	40	23
Digitalis, Fluid Ext., 1 minim	45	25
Digitalis, Tincture, ½ minim	30	18
Digitalis, Tincture, 1 minim	35	20
Digitalis, Tincture, 3 minims	45	25
Digitalis, Tincture, 5 minims	45	25
Dover's Powder, Assayed, ¼ grain	35	20
Dover's Powder, Assayed, ½ grain	40	23
Dover's Powder, Assayed, 1 grain	45	25
Dover's Powder, Assayed, 2½ grains	65	35
Dover's Powder with Bromide of Potassium, Assayed, 2 grains	65	35
Dyspeptic, *Dr. E. P. Haworth*	50	28
Strychnine Sulph., 1-40 gr.; Powd. Rhubarb, ¼ gr.; Powd. Capsicum, ⅛ gr.; Powd. Ipecac, ⅛ gr.		
Elaterin, 1-40 grain	1 35	70
Elaterin, 1-20 grain	2 50	1 28
Elaterin, 1-10 grain	5 95	3 00
Elaterium (Clutterbuck's), 1-32 grain	45	25
Elaterium (Clutterbuck's), 1-16 grain	55	30
Elaterium (Clutterbuck's), 1-10 grain	70	38
Elaterium (Clutterbuck's), ⅛ grain	75	40
Ergot, Fluid Ext., ½ minim	40	23
Ergot, Fluid Ext., 1 minim	45	25
Ergotin, 1-10 grain	40	23
Ergotin, ¼ grain	55	30
Ergotin, ½ grain	85	45
Eserine Sulphate, 1-100 grain	1 30	68
Euonymin, ¼ grain	65	35
Fever, *Dr. Davis*	40	23
Tinct. Aconite, 1-5 minim; Tinct. Belladonna, 1-10 minim; Tinct. Bryonia, 1-10 minim.		
Fever, *Dr. Kenyon*	80	43
Tinct. Aconite Root, 1 minim; Powd. Ipecac, ⅛ gr.; Tartar Emetic, 1-50 gr.; Morphine Sulph., 1-20 gr.		
Fowler's Solution, 5 minims	45	25
Gelsemium, Fluid Extract, 1 minim	40	23
Gelsemium, Tincture, 1 minim	35	20
Henbane, Fluid Extract, ½ minim	35	20
Henbane, Fluid Extract, 1 minim	40	23
Hepatic, *Dr. Kenyon*	55	30
Euonymin, ⅛ gr.; Podophyllin, 1-20 gr.; Po. Ipecac, ⅛ gr.; Calomel, ⅛ gr.; Aloin, 1-12 gr.		
Hydrastine (White Alkaloid), 1-25 grain	95	50
Hydrastine (White Alkaloid), 1-16 grain	1 25	65

TABLET TRITURATES.	Price Per 1000	Price Per 500
Hydrastine (White Alkaloid), ⅛ grain	$2 30	$1 18
Hydrastine (White Alkaloid), ¼ grain	4 25	2 15
Hyoscyamine, Pure, 1-200 grain	60	33
Hyoscyamine, Pure, 1-100 grain	1 00	53
Ignatia, 1-100 grain	35	20
Ignatia, 1-20 grain	35	20
Ignatia, 1-10 grain	35	20
Ignatia Tincture, 1 minim	40	23
Ignatia Tincture, 3 minims	45	25
Ignatia Tincture, 5 minims	45	25
Ipecac, Fluid Ext., ½ minim	70	38
Ipecac, Fluid Ext., 1 minim	90	48
Ipecac, Powdered, 1-100 grain	35	20
Ipecac, Powdered, 1-50 grain	40	23
Ipecac, Powdered, 1-10 grain	40	23
Ipecac, Powdered, ¼ grain	50	28
Ipecac, Powdered, ½ grain	65	35
Iron Arsenate, 1-16 grain	40	23
Iron Arsenate, ⅛ grain	40	23
Iron Arsenate, ¼ grain	40	23
Iron by Hydrogen (Quevenne's), ½ grain	40	23
Iron by Hydrogen (Quevenne's), 1 grain	45	25
Iron and Arsenic Compound	45	25
Iron by Hydrogen, 1 gr.; Powd. Ignatia, 1-40 gr.; Arsenous Acid, 1-100 gr.		
Iron, Arsenic and Strychnine, No. 1	45	25
Iron Powdered, 1 gr.; Strychnine Sulph., 1-60 gr.; Arsenous Acid, 1-100 gr.		
Iron, Arsenic and Strychnine, No. 2	45	25
Iron Powdered, 1 gr.: Strychnine Sulph., 1-60 gr.; Arsenous Acid, 1-50 gr.		
Iron and Quinine	75	40
Iron by Hydrogen, ½ gr.; Quinine Sulph., ½ gr.		
Iron and Quinine Citrate, ¼ grain	40	23
Iron and Quinine Citrate, ½ grain	45	25
Iron and Quinine Citrate, 1 grain	60	33
Iron, Quinine and Arsenic	80	43
Iron by Hydrogen, ½ gr.; Quinine Sulph., ½ gr.; Arsenic, 1-100 gr.		
Iron, Quinine and Strychnine	85	45
Iron by Hydrogen, ½ gr.; Strychnine Sulph., 1-120 gr.; Quinine Sulph., ½ gr.		
Iron and Strychnine Compound	85	45
Iron by Hydrogen, ½ gr.; Quinine Sulph., ½ gr.; Strychnine Sulph., 1-120 gr.; Arsenous Acid, 1-100 gr.		
Iron Lactate, 1 grain	45	25
Leptandrin, 1-16 grain	40	23
Leptandrin, ⅛ grain	45	25
Lithium Carbonate, 1 grain	65	35
Lobelia Seed, Tincture, 1 minim	40	23
Lobelia Seed, Tincture, 2 minims	45	25
Lobelia Seed, Tincture, 3 minims	45	25
Manganese Binoxide, ½ grain	35	20
Manganese Binoxide, 1 grain	35	20
Manganese Binoxide, 2 grains	40	23
Mercuric Iodide, Red, 1-100 grain	30	18
Mercuric Iodide, Red, 1-50 grain	30	18
Mercuric Iodide, Red, 1-25 grain	35	20
Mercuric Iodide, Red, 1-16 grain	40	23
Mercuric Iodide, Red, ⅛ grain	40	23
Mercuric Oxide, Yellow, 1-200 grain	35	20
Mercuric Oxide, Yellow, 1-100 grain	35	20
Mercurous Iodide, Yellow, 1-100 grain	45	25
Mercurous Iodide, Yellow, 1-50 grain	45	25
Mercurous Iodide, Yellow, 1-16 grain	45	25
Mercurous Iodide, Yellow, ⅛ grain	45	25

TABLET TRITURATES.	Price Per 1000	Price Per 500
Mercurous Iodide, Yellow, 1-6 grain	$0 45	$0 25
Mercurous Iodide, Yellow, ¼ grain	50	28
Mercurous Iodide, Yellow, ½ grain	70	38
Mercurous Iodide, Yellow, 1 grain	95	50
Mercury with Chalk, 1-10 grain	35	20
Mercury with Chalk, 1-5 grain	35	20
Mercury with Chalk, 1 grain	35	20
Morphine Acetate, ⅛ grain	1 20	63
Morphine Acetate, ¼ grain	2 10	1 08
Morphine and Aconite	60	33
Morphine Sulph., 1-32 gr.; Tincture Aconite, 1 minim.		
Morphine and Atropine, No. 1	1 30	68
Morphine Sulph., ⅛ gr.; Atropine Sulph., 1-150 gr.		
Morphine and Atropine, No. 2	2 20	1 13
Morphine Sulph., ¼ gr.; Atropine Sulph., 1-120 gr.		
Morphine and Atropine, No. 3	1 65	85
Morphine Sulph., 1-6 gr.; Atropine Sulph., 1-180 gr.		
Morphine and Atropine, No. 4	1 25	65
Morphine Sulph., ⅛ gr.; Atropine Sulph., 1-200 gr.		
Morphine and Atropine, No. 5	2 20	1 13
Morphine Sulph., ¼ gr.; Atropine Sulph., 1-150 gr.		
Morphine Hydrochlorate, ⅛ grain	1 20	63
Morphine Hydrochlorate, ¼ grain	2 10	1 08
Morphine Sulphate, 1-50 grain	60	33
Morphine Sulphate, 1-20 grain	65	35
Morphine Sulphate, 1-16 grain	70	38
Morphine Sulphate, ⅛ grain	1 20	63
Morphine Sulphate, 1-6 grain	1 50	78
Morphine Sulphate, ¼ grain	2 10	1 08
Morphine Sulphate, ½ grain	3 85	1 95
Neuralgic. *Dr. Kenyon*	50	28
Zinc Phosphide, 1-16 gr.; Ext. Cannabis Indica, ⅛ gr.; Strychnine, 1-60 gr.; Aconitine, 1-400 gr.; Sodium Arsenate, 1-20 gr.		
Nitroglycerin, 1-100 grain	40	23
Nitroglycerin, 1-50 grain	40	23
Nitroglycerin Compound	50	28
Nitroglycerin, 1-100 gr.; Tinct. Digitalis, 2 minims.; Tinct. Belladonna, ¼ minim.; Tinct. Strophanthus, 2 minims.		
Nux Vomica, Powdered, Assayed, 1-100 grain	35	20
Nux Vomica, Powdered, Assayed, 1-50 grain	40	23
Nux Vomica, Powdered, Assayed, 1-10 grain	40	23
Nux Vomica, Powdered, Assayed, ¼ grain	40	23
Nux Vomica, Tincture, Assayed, 1 minim	40	23
Nox Vomica, Tincture, Assayed, 2 minims	45	25
Nux Vomica, Tincture, Assayed, 3 minims	45	25
Nux Vomica and Arsenic, Assayed	45	25
Nux Vomica, 1-10 gr.; Arsenic, 1-50 gr.		
Nux Vomica Compound, Assayed	1 20	63
Ext. Nux Vomica, 1-64 gr.; Ext. Belladonna, 1-32 gr.; Powd. Ipecac, 1-16 gr.; Aloin, ⅛ gr.; Podophyllin, ¼ gr.		
Nux Vomica and Sulphur Compound, Assayed,	40	23
Ext. Nux Vomica, 1-20 gr.; Sulphur, 1-10 gr.; Arsenous Acid, 1-60 gr.		
Opium, Camphorated Tinct., Assayed, 5 minims	45	25
Opium, Camphorated Tinct., Assayed, 10 minims	50	28
Opium, Powdered, Assayed, ⅛ grain	45	25
Opium, Powdered, Assayed, ¼ grain	55	30
Opium, Powdered. Assayed, ½ grain	75	40

TABLET TRITURATES.	Price Per 1000	Price Per 500
Opium, Powdered, Assayed, 1 grain	$1 00	$0 53
Opium Tincture, Assayed, 2 minims	50	28
Opium Tincture, Assayed, 3 minims	60	33
Opium and Lead Acetate, Assayed, No. 1	55	30
Powd. Opium, ¼ gr.; Lead Acetate, ¾ gr.		
Opium and Lead Acetate, Assayed, No. 2	95	50
Powd. Opium, ½ gr.; Lead Acetate, 1 gr.		
Pepsin, Pure Powdered (1-3000), ¼ grain	40	23
Pepsin, Pure Powdered (1-3000), ½ grain	50	28
Pepsin, Pure Powdered (1-3000), 1 grain	1 10	58
Pepsin and Nux Vomica Ext., Assayed	1 20	63
Sacch. Pepsin, U. S. P. (1-300), 2 grs.; Ext. Nux Vomica, 1-10 gr.		
Physostigmine Salicylate, 1-500 grain	60	33
Physostigmine Salicylate, 1-400 grain	65	35
Physostigmine Salicylate, 1-300 grain	75	40
Physostigmine Salicylate, 1-200 grain	85	45
Physostigmine Salicylate, 1-100 grain	1 30	68
Pilocarpine Muriate, 1-100 grain.		
Pilocarpine Muriate, 1-20 grain.		
Pilocarpine Muriate, 1-16 grain.		
Pilocarpine Nitrate, 1-100 grain.	*Prices subject to market changes.*	
Pilocarpine Nitrate, 1-50 grain.		
Pilocarpine Nitrate, 1-25 grain.		
Pilocarpine Nitrate, 1-10 grain.		
Placebo (White and Pink)	35	20
Podophyllin, 1-20 grain	30	18
Podophyllin, 1-16 grain	35	20
Podophyllin, 1-10 grain	35	20
Podophyllin, ⅛ grain	35	20
Podophyllin, ¼ grain	40	23
Podophyllin, ½ grain	50	28
Pulsatilla Tincture, 1 minim	45	25
Quinine Bisulphate, ¼ grain	70	38
Quinine Bisulphate, ½ grain	85	45
Quinine Bisulphate, 1 grain	1 35	70
Quinine Sulphate, 1-10 grain	45	25
Quinine Sulphate, ¼ grain	70	38
Quinine Sulphate, ½ grain	85	45
Quinine Sulphate, 1 grain	1 35	70
Rhus Toxicodendron Tincture, 1 minim	40	23
Salicine, 1 grain	70	38
Salicylic Acid, ¼ grain	40	23
Salicylic Acid, ½ grain	45	25
Santonin, ½ grain	85	45
Santonin, 1 grain	1 20	63
Santonin and Calomel	90	48
Santonin, ½ gr.; Calomel, ½ gr.		
Santonin, Calomel and Podophyllin	95	50
Santonin, ½ gr.; Calomel, ½ gr.; Podophyllin, 1-20 gr.		
Santonin and Podophyllin	85	45
Santonin, ¼ gr.; Podophyllin, 1-20 gr.		
Sciatica	75	40
Tinct. Aconite, ¾ minim.; Tinct. Belladonna, ¾ minim.; Tinct. Colchicum, ¾ minim.; Tinct. Cimicifuga, ¾ minim.		
Sodium Arsenate, 1-100 grain	35	20
Sodium Arsenate, 1-25 grain	35	20
Sodium Arsenate, 1-15 grain	35	20
Sodium Arsenate, 1-10 grain	40	23
Sodium Salicylate, ½ grain	45	25
Sodium Salicylate, 1 grain	60	33
Sodium Sulpho-Carbolate, ¼ grain	85	45
Stramonium Leaves, Tincture, 1 minim	35	20
Strophanthus Tincture, 1 minim	40	23
Strophanthus Tincture, 2 minims	50	28
Strophanthus Compound	50	28

TABLET TRITURATES.	Price Per 1000	Price Per 500
Tincture Digitalis, 3 minims.; Tinct. Strophanthus, 2 minims.		
Strychnine Arsenate, 1-100 grain	$0 40	$0 23
Strychnine Nitrate, 1-40 grain	40	23
Strychnine Nitrate, 1-30 grain	45	25
Strychnine Sulphate, 1-200 grain	35	20
Strychnine Sulphate, 1-100 grain	35	20
Strychnine Sulphate, 1-60 grain	40	23
Strychnine Sulphate, 1-50 grain	40	23
Strychnine Sulphate, 1-40 grain	40	23
Strychnine Sulphate, 1-30 grain	45	25
Strychnine Sulphate, 1-20 grain	50	28
Strychnine Sulphate, 1-16 grain	60	33
Sulphur, 1 grain	40	23
Tartar Emetic, 1-100 grain	35	20
Tartar Emetic, 1-50 grain	40	23
Tartar Emetic, 1-25 grain	40	23
Tartar Emetic, 1-16 grain	40	23
Tartar Emetic, ⅛ grain	40	23
Tartar Emetic, ¼ grain	45	25
Tartar Emetic and Ipecac	35	20
Tartar Emetic, 1-100 gr.; Powd. Ipecac, 1-100 gr.		
Tonsilitis	40	23

TABLET TRITURATES.	Price Per 1000	Price Per 500
Tinct. Aconite, 1-5 min.; Mercuric Iodide, Red, 1-100 gr.; Tinct. Bryonia, 1-10 min.; Tinct. Belladonna, 1-10 min.		
Tully's Powder, 1 grain	$0 45	$0 25
Veratrine, 1-32 grain	45	25
Veratrine, 1-12 grain	65	35
Veratrum Viride, Tincture, 1 minim	40	23
Veratrum Viride, Tincture, 2 minims	45	25
Zinc Phosphide, 1-100 grain	35	20
Zinc Phosphide, 1-50 grain	35	20
Zinc Phosphide, 1-25 grain	35	20
Zinc Phosphide, 1-20 grain	40	23
Zinc Phosphide, 1-10 grain	40	23
Zinc Phosphide, ⅛ grain	45	25
Zinc Phosphide, 1-6 grain	50	28
Zinc Phosphide, ¼ grain	75	40
Zinc Phosphide, ½ grain	90	48
Zinc Phosphide and Nux Vomica	45	25
Zinc Phosphide, 1-10 gr. Ext. Nux Vomica, ¼ gr.		
Zinc Sulpho-Carbolate, ¼ grain	45	25
Zinc Sulpho-Carbolate, ½ grain	45	25
Zinc Sulpho-Carbolate, 1 grain	50	28

COMPRESSED TABLETS.

NET PRICES.

These COMPRESSED TABLETS will be found equal to any on the market both in quality of material and elegance in appearance.

We will be pleased to quote prices on special formulæ in lots of 3,000 and upward.

COMPRESSED TABLETS.	Per bottle of 100	500	1000
Absorbent Dyspeptic	$0 15	$0 60	$1 15
Pepsin, 1 gr.; Charcoal, 2 grs.; Sodium Bicarb., 2 grs.			
Acetanilid, 2 grains		25	45
Acetanilid, 3 grains		30	55
Acetanilid, 4 grains		38	70
Acetanilid, 5 grains		40	75
Acetanilid, Aromatic	11	43	80
Acetanilid, 5 grs.; Oil Gaultheria, q. s.			
Acetanilid Compound, No. 1		45	85
Acetanilid, 2½ grs.; Sodium Bicarbonate, 2½ grs.; Acid Tartaric, 1-6 gr.			
Acetanilid Compound, No. 2		25	45
Acetanilid, 2 grs.; Fl. Ext. Gelsemium, 1 minim.			
Acetanilid Compound, No. 3		38	70
Acetanilid, 4 grs.; Fl. Ext. Gelsemium, 2 minims.			
Acetanilid Compound, No. 4	15	60	1 15
Acetanilid, 3 grs.; Tully's Powder, 3 grs.			
Acetanilid Compound, No. 5	20	80	1 50
Acetanilid, 3½ grs.; Caffeine, ½ gr.; Tully's Powder, 1 gr.			
Acid Boric, 5 grains		40	75
Acid Salicylic, 2½ grains	17	65	1 20
Acid Salicylic, 5 grains	26	1 05	2 00
Alum Compound (for injection)	10	30	55
Alum, 2½ grs.; Zinc Sulphate, 2 grs.; Fl. Ext. Golden Seal, Colorless, 1 minim; Morphine Sulph., 1-32 gr.			
Ammonium Bromide, 5 grains		48	90
Ammonium Bromide, 10 grains	24	96	1 80
Ammonium Chloride, 1 grain	10	18	30
Ammonium Chloride, 3 grains		18	30

COMPRESSED TABLETS.	Per bottle of 100	500	1000
Ammonium Chloride, 5 grains		$0 25	$0 45
Per pound bottles, each $0 55			
Antacid		30	55
Sodium Chloride, 1 gr.; Calcium Carb. Purif., 3½ grs.; Magnesium Carb., 2½ grs.			
Anti-Asthmatic	$0 44	2 05	4 05
Potassium Iod., 5 grs.; Fowler's Solution, 1 minim; Tinct. Lobelia, 4 min.; Tinct. Belladonna, 1½ min.; Oil Wintergreen, q. s.; Tinct. Opium., Deod., ½ min.			
Anti-Dyspeptic, No. 1	16	65	1 25
Po. Ipecac, 1-10 gr.; Blue Mass, 2 grs., Ext. Colocynth Co., 2 grs.			
Andi-Dyspeptic, No. 2	10	28	50
Strychnine Sulph, 1-60 gr.; Powd. Ipecac, 1-10 gr.; Ext. Rhubarb, ¼ gr.; Powd. Capsicum, ¼ gr.; Ext. Gentian, ½ gr.; Sodium Bicarb., 2 grs.			
Anti-Dyspeptic, Fothergill's Improved.	10	35	65
Ext. Gentian, 1 gr.; Blue Mass, 1 gr.; Po. Ipecac, 1-10 gr.; Po. Capsicum, 1-10 gr.; Strychnine, 1-40 gr.			
Anti-Malarial	40	1 85	3 40
Acetanilid, 1 gr.; Quinine Sulph., 1 gr.; Salol, 1 gr.			
This combination has been highly recommended of late in malarial troubles.			
Antiseptic, Alkaline (*Seiler's*)	20	65	
Per pound bottles, each $0 60			
These tablets contain sodium bicarb.,			

COMPRESSED TABLETS.	Per bottle of 100	500	1000
dium benzoate, sodium chloride, eucalyptol, menthol, thymol and oil of gaultheria.			
Antiseptic (*Bernay's*), Colored Blue.....	$0 16	$0 65	$1 25
Corrosive Sublimate, 1¾ gr.; Citric Acid, 87-100 gr.			
CAUTION.—For external use only.			
Antiseptic, No. 2, Colored Blue.....	40	1 85	
Per bottle of 25 tablets, each...$0 15			
Corrosive Sub., 7 3-10 grs.; Ammon. Chlor., 7 3-10 grs. Caution—for external use only.			
One tablet dissolved in one pint water makes a solution 1 to 1000.			
Astringent Wash.....	11	40	75
Lead Acetate, 2 grs.; Berberine Muriate, 1-20 gr.; Zinc Acetate, 2 grs.; Morphine Acetate, 1-32 gr.			
Bismuth and Calomel.....	18	75	1 45
Bismuth Subnit., 2 grs.; Calomel, 1-10 gr.; Aromatic Powder, 1 gr.			
Bismuth and Ipecac Compound.....	18	75	1 45
Bismuth Subnit., 2 grs.; Calomel, 1-20 gr.; Powd. Ipecac, 1-50 gr.; Aromatic Powder, 1 gr.			
Bismuth Subnitrate, 5 grains.....	25	1 10	2 15
Borax, 5 grains.....		30	50
Bromide and Caffein Compound.....	27	1 20	2 35
Sodium Bromide, 5 grs.; Caffein, ½ gr.; Acetanilid, 2 grs.; Tincture Gelsemium, 3 minims.			
Caffeotanilid, 2½ grains.....	17	70	1 35
Caffeotanilid, 5 grains.....	35	1 24	2 10
Composed of Acetanilid, Caffein and Sodium Bicarb.			
Caffeotanilid and Quinine.....	38	1 75	3 35
Caffeotanilid, 2½ grs.; Quinine Sulph., 2½ grs.			
Calcium Hydrate (for making lime water)		50	80
Calomel, 5 grains.....	15	60	1 15
Calomel and Sodium Bicarbonate.....		38	70
Calomel, 2½ grs.; Sodium Bicarbonate, 2½ grs.			
Calomel and Sodium Bicarbonate Comp.	11	43	80
Calomel, 2 grs.; Sodium Bicarbonate, 2 grs.; Podophyllin, ⅓ gr.			
Capsic-Digest, Formula A.....	35	1 24	2 10
Capsicum, 1-10 gr.; Nux Vomica, ¼ gr; Pure Pepsin (1-3000), 1 gr.; Pancreatin, Diastase, Lactic and Muriatic Acids, Willow Charcoal, sufficient to make a five grain tablet.			
Cascara Sagrada Ext., 1 grain.....	12	48	90
Catalysin (Combined Pepsin), 5 grains..	45	1 95	3 75
These tablets contain pork, rennet and poultry pepsin, pancreatin, ptyalin and diastase associated with lactic and muriatic acids.			
Catalysin with Charcoal, 5 grains.....	45	1 95	3 75
Formula same as above, with pure willow charcoal.			
Charcoal, 2 grains.....		15	25
Charcoal, 5 grains		18	30
Charcoal, 10 grains.....		28	50
Charcoal and Pepsin.....		33	60
Charcoal, 5 grs.; Sacch. Pepsin, U. S. P., 1890, 2 grs.			
Chlorodyne.....	23	1 03	2 00

COMPRESSED TABLETS.	Per bottle of 100	500	1000
Ext. Cannabis Ind., ¼ gr.; Ext. Hyoscyamus, ½ gr.; Oil Peppermint, 1-10 min.; Morph. Hydrochlor., 1-6 gr.; Nitroglycerin, 1-300 gr.; Oleoresin Capsic., 1-10 min.			
Cimicifuga Compound	$0 25	$1 05	$2 00
Fl. Ext. Cimicifuga, 5 min.; Fl. Ext. Pulsatilla, 1 min.; Fl. Ext. Ignatia, ¼ min.; Aloin, ⅛ gr.; Fl. Ext. Aconite Root, ¼ min.; Fl. Ext. Belladonna, ¼ min.; Fl. Ext. Cannabis Ind., ¼ min.; Fl. Ext. Stavesacre, ½ min.			
Cinchonine Sulphate, 2 grains		38	60
Cinchonine Sulphate, 3 grains		40	75
Cinchonidine Sulphate, 2 grains		30	55
Cinchonidine Sulphate, 3 grains		40	75
Creosote (Beechwood), ¼ minim.....	10	40	75
Creosote (Beechwood), ½ minim.....	14	53	1 00
Creosote (Beechwood), 1 minim.....		65	1 25
Creosote Compound	20	1 10	2 15
Creosote, ⅛ min.; Cocaine Mur., 1-20 gr.; Cerium Oxalate, 2 grs.; Pepsin Pure, ¼ gr.; Tinct. Nux Vom., ¼ min.			
Cubeb Compound (Throat).....	20	65	1 00
Powd. Cubeb, 1 gr.; Powd. Guaiac, 1½ grs.; Eucalyptol, 1-20 min.; Powd. Benzoin, ¼ gr.; Powd. Rhatany, ¼ gr.			
Cystitis.....	14	58	1 10
Acid Boric, 2 grs.; Ext. Buchu, 1 gr.; Ext. Corn Silk, ½ gr.; Atropine Sulph., 1-500 gr.; Potassium Bicarb., 2 grs.; Ext. Couch Grass, 1 gr.; Ext. Hydrangea, ½ gr.			
Dermatol (Bismuth Subgallate), 5 grains	60	2 85	5 65
Diaphoretic Powder, 2 grains.....	10	30	55
Diaphoretic Powder, 5 grains.....	14	58	1 10
Diarrhœa (*Board of Health*).....	23	1 03	2 00
Bismuth Subnit., 3 grs.; Sacch. Pepsin, U. S. P., 1890, 2 grs.; Aromatic Chalk Powd., 2 grs.			
Dover's Powder, Assayed, 2 grains.....		30	55
Dover's Powder, Assayed, 3 grains.....		38	70
Dover's Powder, Assayed, 5 grains.....	15	58	1 10
Per pound bottles, each..... $1 50			
Dover's Powder (Assayed), with Jaborandi.....	24	95	1 75
Dover's Powder, 5 grs.; Jaborandi, 2½ grs.			
Ferrocyanide Iron Compound (for epilepsy).....	15	55	1 00
Ferrocyanide Iron, 1 gr.; Zinc Cyanide, ⅙ gr.; Ext. Hyoscyamus, ¼ gr.; Zinc Valerianate, ¼ gr.			
Four Chlorides	23	1 00	1 95
Ferric Chloride, ⅔ gr., *equal to 5 min. Tr. Ferri Chlor.;* Arsenic Chloride, 1-64 gr.; Mercuric Chloride, 1-48 gr.; Quinine Hydrochlor., 1 gr.			
Gastritis.....	38	1 55	3 05
Silver Nit., ¼ gr.; Ext. Nux Vom., ¼ gr.; Ext. Belladonna, ⅛ gr.; Ext. Opium, ⅛ gr.; Potassium Nit., ½ gr.			
Leucorrhœa	40	1 75	3 25
Helonin, ¼ gr.; Acid Tannic, 2 grs.; Acid Boric, 3 grs.; Alum, 1 gr.; Caulophyllin, ¼ gr.; Acid Salicylic, 1 gr.; Ext. Hyoscyamus, 1 gr.; Am-			

COMPRESSED TABLETS.	Per bottle of 100	500	1000
monium Chloride, 1 gr.; Thymol, Eucalyptol and Oil Gaultheria.			
Lithium Citrate, 3 grains (Effervescent).	$0 40	$1 85	$3 60
One tablet dissolved in a tumbler of water gives a carbonated Solution Lithium Citrate. These tablets are valuable in the treatment of rheumatism, gout, uric acid diathesis, renal calculi when composed of uric acid, etc.			
Migraine	17	70	1 35
Acetanilid, 2 grs.; Caffeine, ¼ gr.; Camphor Monobromide, ½ gr.			
Nux Vomica and Ignatia Compound	10	28	50
One tablet equals 10 minims Dr. Freligh's tonic.			
Tinct. Nux Vom., 1 min.; Tinct. Cinchona, 5 min.; Tinct. Gentian, 1 min.; Phosphorus, 1-300 gr.; Tinct. Ignatia, 1 min.; Tinct. Matricaria, 1 min.; Tinct. Columbo, ½ min.; Aromatic Powder, 1 gr.			
Pepsin and Pancreatin Compound	45	2 13	4 00
Pepsin (1-3000), 1 gr.; Calcium, Lactophos., 2 grs.; Pancreatin, 1 gr.; Lactic Acid, q. s.			
Phytolacca (for Obesity)	20	85	1 70
Each tablet contains 2 grains inspissated poke berry juice, representing 10 minims fresh juice. Made from berries gathered after the first frost.			
Potassium Bicarbonate, 5 grains		30	50
Per pound bottles, each $0 70			
Potassium Bromide, 5 grains		40	75
Potassium Bromide, 10 grains	18	70	1 25
Potassium Chlorate, 2 grains		20	35
Potassium Chlorate, 3 grains		20	35
Potassium Chlorate, 5 grains		23	40
Potassium Chlorate and Borax		23	40
Potassium Chlorate, 2½ grs.; Borax, 2½ grs.			
Potassium Iodide, 5 grains	50	2 10	4 15
Potassium Permanganate, 1 grain		18	30
Potassium Permanganate, 2 grains		20	35
Potassium Permanganate, 3 grains		25	45
Potassium Permanganate, 5 grains		28	50
Quinine Bisulphate, 1 grain			
Quinine Bisulphate, 2 grains			
Quinine Bisulphate, 3 grains			
Quinine Sulphate, 1 grain (uncoated and coated)	*Prices subject to market changes.*		
Quinine Sulphate, 2 grains (uncoated and coated)			
Quinine Sulphate, 3 grains (uncoated and coated)			
Resorcin, 5 grains	30	1 30	2 50

COMPRESSED TABLETS.	Per bottle of 100	500	1000
Rhubarb and Soda	$0 10	$0 23	$0 40
Po. Rhubarb, 1½ grs.; Soda Bicarb., 1½ grs.; Oil Peppermint, q. s.			
Salicin, 2½ grains	20	65	1 25
Salicin, 5 grains	30	1 15	2 20
Salicylate Sodium Compound, 5 grains	35	1 24	2 10
Composed of Sodium, Salicyl., Acetanilid and Caffein.			
Saline and Chalybeate Tonic, *Flint's*	10	30	55
Sodium Chloride, 3 grs.; Potassium Chloride, 3-20 gr.; Sodium Carbon., 3-5 gr.; Potassium Sulph., 1-10 gr.; Magnesium Carb., 1-20 gr.; Calc. Phos., precip., ½ gr.; Iron by Hydrogen, 9-25 gr.; Ferrous Carbonate (Vallet's Mass), 1-20 gr.			
Salol, 2½ grains	31	1 43	2 80
Salol, 5 grains	55	2 60	5 15
Salol Compound	30	1 05	2 00
Salol, 1 gr.; Bismuth Subnit., 1 gr.; Powd. Opium, 1-40 gr.; Camphor, 1-20 gr.; Oil Peppermint, 1-40 min.			
Soda Mint			
Per pound bottles, each $0 45			
Per five-pound tins, per lb 40			
Sodium Bicarbonate, 5 grains			
Per pound bottles, each $0 40			
Sodium Bicarbonate, 10 grains	10	20	35
Sodium Bromide, 5 grains	11	43	80
Sodium Bromide, 10 grains	17	70	1 35
Sodium Phosphate, 10 grains	15	55	1 00
Sodium Salicylate, 2 grains	15	63	1 20
Sodium Salicylate, 3 grains	16	65	1 25
Sodium Salicylate, 5 grains	22	95	1 85
Sulphur, 5 grains		18	30
Sulphur and Cream Tartar		23	40
Sulphur, 4 grs.; Cream Tartar, Pure, 2 grs.			
Sulphur Compound		28	50
Sulphur Sub., 5 grs.; Ext. Ipecac, 1-100 gr.; Cream Tartar, 2 grs.; Ext. Capsicum, 1-500 gr.; Calcium Sulph., ⅛ gr.; Arsenous Acid, 1-1000 gr.			
Triple Bromides	12	48	90
Sodium Brom., 2 grs.; Potassium Bromide, 2 grs.; Ammonium Brom., 1 gr.			
Tully's Powder, 3 grains	24	90	1 60
Tully's Powder, 5 grains	28	1 20	1 80
Voice	12	48	90
Potassium Chlorate, 2½ grs.; Sodium Borate, 2½ grs.; Cocaine Hydrochlor., 1-50 gr.			
Zinc Sulpho-Carbolate, 2 grains		30	55
Zinc Sulpho-Carbolate, 3 grains		35	65
Zinc Sulpho-Carbolate, 5 grains	14	55	1 05

COMPRESSED TABLETS.

SUGAR-COATED.

NET PRICES.

The same reasons which commend the practice of enveloping in a coating of sugar nauseous substances in the form of pills, apply with equal force to the employment of a similar coating for the same substances in tablet form. We have added a small line of sugar-coated tablets, believing that they will be appreciated both by prescribers and their patients. The coating is very soluble, and owing to its smooth surface the tablets may easily be swallowed.

They are put up in handsome screw cap bottles.

COMPRESSED TABLETS.	Per bottle of 100	500	1000
Anti-Cold	$0 27	$1 20	$2 35
Quinine Sulph., 2 grs.; Dover's Powder, 2 grs.; Capsicum, ¼ gr.; Tinct. Aconite, 1 minim.			
Anti-Constipation	12	48	90
Ext. Cascara Sag., 1 gr.; Ext. Nux Vomica, ⅛ gr.; Ext. Belladonna, ⅛ gr.; Powd. Ipecac, ⅛ gr.; Podophyllin, ⅛ gr.			
Aphrodisiac	21	85	1 65
Ext. Damiana, 2 grs.; Ext Nux Vomica, ⅛ gr.; Zinc Phosphide, 1-10 gr.; Cantharides, 1-25 gr.			
Capsic-Digest, Formula B	35	1 24	2 10
Capsicum, 1-10 gr.; Nux Vomica, ¼ gr.; Pure Pepsin (1-3000), ½ gr.; Pancreatin, Diastase, Lactic and Muriatic Acids, Willow Charcoal, sufficient to make a two and one-half grain tablet.			
Cascara Sagrada Ext., 5 grains	15	60	1 15
Cathartic Compound, U. S. P.	18	72	1 35
Ext. Colocy. Comp., 1¼ grs.; Calomel, 1 gr.; Ext. Jalap, ½ gr.; Powd. Gamboge, ¼ gr.			
Cathartic, Vegetable, U. S. P.	17	73	1 40
Ext. Colocy. Comp., 1 gr.; Ext. Hyoscyamus, ½ gr.; Ext. Jalap, ½ gr.; Ext. Leptandra, ¼ gr.; Podophyllin, ¼ gr.; Oil Peppermint, ⅛ minim.			
Emmenagogue	20	78	1 50
Ergotin, 1 gr.; Dried Ferrous Sulph., 1 gr.; Aloes Socot., 1 gr.; Ext. Black Hellebore, 1 gr.; Oil Savin, ¼ gr.			
Emmenagogue, Improved	22	85	1 65
Ext. Cotton Root, 1 gr.; Dried Ferrous Sulph., 1 gr.; Ergotin, 1 gr.; Ext. Black Hellebore, 1 gr.; Oil Savin, ¼ gr.			

COMPRESSED TABLETS.	Per bottle of 100	500	1000
Ferrous Carbonate, *Blaud's*, 3 grains		$0 25	$0 45
Ferrous Carbonate, *Blaud's*, 5 grains		30	55
Ferrous Carbonate, *Blaud's*, Modified		30	55
Blaud's Mass, 5 grs.; Arsenous Acid, 1-40 gr.			
Ferrous Carbonate, *Blaud's*, with Nux Vomica		28	50
Blaud's Mass, 3 grs.; Ext. Nux Vomica, 1-6 gr.			
Neuralgic, *Brown Sequard* (one-half strength	$0 15	58	1 10
Ext. Hyoscyamus, ⅓ gr.; Ext. Conium, ⅓ gr.; Ext. Opium, ¼ gr.; Ext. Ignatia Amara, ¼ gr.; Ext. Aconite Leaf, ⅙ gr.; Ext. Indian Cannabis, ⅛ gr.; Ext. Belladonna Leaf, 1-12 gr.; Ext. Stramon. Seed, 1-10 gr.			
Neuralgic, *Brown Sequard*	26	1 05	2 05
Ext. Hyoscyamus, ⅔ gr.; Ext. Conium, ⅔ gr.; Ext. Opium, ½ gr.; Ext. Ignatia Amara, ½ gr.; Ext. Aconite Leaves, ⅓ gr.; Ext. Indian Cannabis, ¼ gr.; Ext. Belladonna Leaves, ⅙ gr.; Ext. Stramon. Seed, 1-5 gr.			
Sun Cholera		45	80
Tinct. Opium, 3 min.; Tinct. Rhubarb, 3 min.; Tinct. Capsicum, 3 min.; Spt. Peppermint, 3 min.; Spt. Camphor, 3 min.			
Viburnum Compound (Uterine Tonic). Yellow Coat	19	73	1 40
Ext. Viburnum Prunifolium, 1 gr.; Ext. Viburnum Opulus, 1 gr.; Ext. Aletris, ½ gr.; Ext. Helonias, ½ gr.; Ext. Squaw Vine, ½ gr.; Caulophyllin, ¼ gr.			

SOLUBLE HYPODERMIC TABLETS.

NET PRICES.

These Tablets are made from the purest material, are readily soluble, are accurate in dose and will keep in any climate. They are put up in tubes of twenty-five each and bottles of one hundred each.

SOLUBLE HYPODERMIC TABLETS.	Per tube.	Per 100 in boxes of 4 tubes	Per bottles of 100.
Aconitine, 1-120 grain	$0 16	$0 60	$0 52
Apomorphine Muriate, 1-20 grain	15	52	45
Apomorphine Muriate, 1-10 grain	18	67	60
Atropine Sulphate, 1-200 grain	09	30	22
Atropine Sulphate, 1-150 grain	09	30	22
Atropine Sulphate, 1-100 grain	09	30	22
Atropine Sulphate, 1-60 grain	10	38	30
Cocaine Hydrochlorate, 1-10 grain	12	45	38
Cocaine Hydrochlorate, ⅛ grain	12	45	38

SOLUBLE HYPODERMIC TABLETS.	Per tube.	Per 100 in boxes of 4 tubes	Per bottles of 100.
Cocaine Hydrochlorate, ¼ grain	$0 16	$0 60	$0 52
Codeine Sulphate, ⅛ grain	20	75	68
Codeine Sulphate, ¼ grain	32	1 20	1 12
Coniine Hydrobromate, ⅛ grain	20	75	68
Digitaline, Pure, 1-100 grain	09	30	22
Eserine Sulphate, 1-100 grain	11	41	34
Eserine Sulphate, 1-50 grain	19	68	60
Hyoscyamine, Pure, 1-100 grain	20	75	68
Hyoscyamine, Pure, 1-50 grain	25	94	86

SOLUBLE HYPODERMIC TABLETS.	Per tube	Per 100 in boxes of 4 tubes.	Per bottles of 100.
Hyoscine Hydrobromate, 1-100 grain	$0 18	$0 68	$0 60
Morphine Sulphate, 1/8 grain	09	30	22
Morphine Sulphate, 1-6 grain	10	34	26
Morphine Sulphate, 1/4 grain	10	38	30
Morphine Sulphate, 1/3 grain	12	45	38
Morphine Sulphate, 1/2 grain	15	56	45
Morphine and Atropine, No. 1	11	41	34
Morphine Sulph., 1/8 gr.; Atropine Sulph., 1-200 gr.			
Morphine and Atropine, No. 2	11	41	34
Morphine Sulph., 1/8 gr.; Atropine Sulph., 1-150 gr.			
Morphine and Atropine, No. 3	11	41	34
Morphine Sulph., 1/8 gr., Atropine, Sulph., 1-100 gr			
Morphine and Atropine, No. 4	11	41	34
Morphine Sulph., 1-6 gr.; Atropine Sulph., 1-180 gr.			
Morphine and Atropine, No. 5	11	41	34
Morphine Sulph., 1-6 gr.; Atropine Sulph., 1-150 gr.			
Morphine and Atropine, No. 6	11	41	34
Morphine Sulph., 1-6 gr.; Atropine Sulph., 1-120 gr.			
Morphine and Atropine, No. 7	12	45	38
Morphine Sulph., 1/4 gr.; Atropine Sulph., 1-200 gr.			
Morphine and Atropine, No. 8	12	45	38
Morphine Sulph., 1/4 gr.; Atropine Sulph., 1-120 gr.			
Morphine and Atropine, No. 9	12	45	38
Morphine Sulph., 1/4 gr.; Atropine Sulph., 1-150 gr.			
Morphine and Atropine, No. 10	14	62	45
Morphine Sulph., 1/3 gr., Atropine Sulph., 1-120 gr.			

SOLUBLE HYPODERMIC TABLETS.	Per tube.	Per 100 in boxes of 4 tubes.	Per bottles of 100.
Morphine and Atropine, No. 11	$0 17	$0 64	$0 56
Morphine Sulph., 1/2 gr.; Atropine Sulph., 1-120 gr.			
Morphine and Atropine, No. 12	12	45	38
Morphine Sulph., 1/4 gr.; Atropine Sulph., 1-100 gr.			
Morphine and Atropine, No. 13	11	41	34
Morphine Sulph., 1/8 gr.; Atropine Sulph., 1-300 gr.			
Morphine and Atropine, No. 14	14	62	45
Morphine Sulph., 1/3 gr.; Atropine Sulph., 1-200 gr.			
Morphine and Atropine, No. 15	17	64	56
Morphine Sulph., 1/2 gr.; Atropine Sulph., 1-200 gr.			
Morphine and Atropine, No. 16	17	64	56
Morphine Sulph., 1/2 gr.; Atropine Sulph., 1-100 gr.			
Nitroglycerin, 1-100 grain	09	30	22
Nitroglycerin, 1-50 grain	09	30	22
Picrotoxin, 1-50 grain	16	60	62
Pilocarpine Muriate, 1-20 grain.			
Pilocarpine Muriate, 1-10 grain.			
Pilocarpine Muriate, 1/8 grain.	*Prices subject to market changes.*		
Pilocarpine Muriate, 1/3 grain.			
Pilocarpine Nitrate, 1/3 grain.			
Sodium Arsenate, 1-20 grain	09	30	22
Sparteine Sulphate, 1-30 grain	10	34	26
Strychnine Nitrate, 1-100 grain	10	34	26
Strychnine Nitrate, 1-40 grain	10	34	26
Strychnine Sulphate, 1-150 grain	09	30	22
Strychnine Sulphate, 1-100 grain	09	30	22
Strychnine Sulphate, 1-60 grain	09	30	22
Strychnine Sulphate, 1-50 grain	09	30	22
Strychnine Sulphate, 1-32 grain	09	30	22

COMPRESSED LOZENGES.

NET PRICES.

These lozenges are prepared from the best material and strictly according to formula given. They are put up in handsome screw cap bottles.

The prices quoted are for one pound packages. For one-half pound add ten cents per pound. For one-fourth pound add twenty cents per pound. Quotations will be furnished on application for private formulæ in quantities of five pounds or more.

COMPRESSED LOZENGES.	Price Per Lb.
Acid Carbolic, 1 grain	$0 45
Ammonium Chloride, U. S. P., 0.1 gm	45
Ammonium Chloride and Cubeb	50
Ammonium Chlor., 2 grs.; Cubeb, 1 gr.	
Ammonium Chloride and Licorice	50
Ammon. Chlor., 2 grs.; Ext. Licorice, 8 grs.; Oil Anise, 1-20 min.	
Bismuth and Charcoal	75
Bismuth Subnitrate, 2 grs.; Willow Charcoal, 5 grs.	
Bronchial	75
Oleo-resin Cubeb, 1-5 gr.; Tolu, 1-5 gr.; Oil Sassafras, 1-10 gr.; Ext. Licorice, 7 grs.	
Brown Mixture	52
Ext. Licorice, 3 grs.; Opium, 1-20 gr.; Benzoic Acid, 1-20 gr.; Camphor, 1-20 gr.; Tartar Emetic, 1-40 gr.; Oil Anise, 1-20 gr.	
Brown Mixture and Muriate of Ammonium	52
Eighty-five minims Brown Mixture and 3 grains Ammonium Muriate to each lozenge.	
Catechu, U. S. P., 0.06 gm	50

COMPRESSED LOZENGES.	Price Per Lb.
Chalk, U. S. P., 0.25 gm	$0 50
Charcoal, 10 grains	56
Charcoal, 20 grains	48
Cubeb, U. S. P	72
Oleo-resin Cubeb, 0.04 gm.	
Ginger, U. S. P	50
Tinct. Ginger, 0.2 c.c.	
Ginger, Strong	55
Tinct. Ginger, 15 minims.	
Ginger and Sodium Bicarbonate	50
Tinct. Ginger, 10 minims; Sodium Bicarb., 2 grs.	
Guaiac	48
Resin Guaiac, 2 grs.	
Licorice, 5 grains	65
Made from Pure Ext. Licorice.	
Licorice, 10 grains	65
Made from Pure Ext. Licorice.	
Licorice Powder Compound	50
Comp. Licorice Powder, 20 grs.	
Licorice and Opium, U. S. P	75

COMPRESSED LOZENGES.	Price Per Lb.
Ext. Licorice, 0.15 gm.; Powd. Opium, assayed, 0.005 gm.	
Pectoral, Jackson's	$0 95
Ipecac, 1-15 gr.; Kermes Mineral, 1-15 gr.; Morph. Mur., 1-20 gr.; Tolu, 1-5 gr.; Oil Gaultheria, 1-20 gr.; Ext. Licorice, 2 grs.	
Peppermint, U. S. P.	52
Oil Peppermint, 0.01 c.c.	
Pepsin and Bismuth	95
Sacch. Pepsin, U. S. P. (1-300), 1 gr.; Subnitrate Bismuth, 3 grs.	
Pepsin, Bismuth and Ginger	90
Sacch. Pepsin, U. S. P. (1-300), 2 grs.; Bismuth Subnit., 3 grs.; Ginger, 1 gr.	
Pepsin and Charcoal	60
Sacch. Pepsin, U. S. P. (1-300), 1 gr.; Willow Charcoal, 5 grs.	
Pepsin, Charcoal, Magnesia and Ginger	64
Sacch. Pepsin, U. S. P. (1-300), 2 grs.; Charcoal, 3 grs.; Magnesia, 2 grs.; Ginger, 1 gr.	
Potassium Chlorate, 2 grains	34
Potassium Chlorate, 5 grains	38
Potassium Chlorate and Ammonium Chloride, 2½ grains each	50
Potassium Chlorate with Golden Seal	50
Rhubarb and Potassa, Neutralizing	50
Santonin, ½ grain	50
Santonin, 1 grain	64

COMPRESSED LOZENGES.	Price Per Lb.
Santonin and Calomel, with Chocolate	$0 72
Santonin, ½ gr.; Calomel, ½ gr.	
Santonin and Calomel, White	72
Santonin, ½ gr.; Calomel, ½ gr.	
Santonin Compound	72
Santonin, ½ gr.; Calomel, ½ gr.; Podophyllin, 1-20 gr.	
Santonin and Podophyllin	72
Santonin, ½ gr.; Podophyllin, 1-20 gr.	
Sulphur Compound	72
Sulphur, 5 grs.; Cream Tartar, 2 grs.; Ext. Ipecac, 1-100 gr.; Ext. Capsicum, 1-500 gr.; Acid Arsenous, 1-1000 gr.; Calcium Sulphide, ⅛ gr.	
Wild Cherry	64
Morphine Sulph., 1-50 gr.; Fluid Ext. Wild Cherry, 1-10 minim; Ipecac, 1-50 gr.; Kermes Mineral, ¼ gr.; Oil Bitter Almond, 1-100 minim; Tinct. Veratum Viride, 3-10 minim.	
Wistar's	64
Opium, 1-10 gr.; Ext. Licorice, 2 grs.; Oil of Anise, 1-30 gr.	
Yerba Santa Compound	75
Five pound boxes, each $3 25	
Ext. Yerba Santa, Ext. Grindelia Robusta, Ext. Wild Cherry, Ext. Hamamelis, Powd. Cubeb, Ext. Licorice, Tar, Ammonium Bromide and Oil Sassafras.	

ELIXIRS.

Discount 25 Per Cent.

The following list comprises most of the elixirs in common use. Others are supplied when ordered, the amount of medicinal ingredients in a definite amount of elixir being specified in the order. They are quoted in pint and gallon amber bottles.

If ordered in five-pound bottles, five-eighths of the gallon price will be charged, and in quart bottles add twenty cents to gallon prices.

NO CHARGE FOR BOTTLES.

ELIXIRS.	Pints per doz.	Per gal.
Acid Salicylic (from Oil of Wintergreen)	$13 25	$8 00
Each fluidrachm contains 2 grains salicylic acid prepared from oil of gaultheria.		
Adjuvans, N. F	6 60	3 20
Aromatic, Simple Red	6 00	3 00
Aromatic, Simple White	6 00	3 00
Ammonium Bromide	9 00	5 00
To each fluidrachm, 5 grains bromide of ammonium.		
Ammonium Valerianate	9 00	5 00
To each fluidrachm, 2 grains valerianate of ammonium.		
Ammonium and Morphine Valerianates	10 50	6 00
Two grains valerianate of ammonium and 1-16 grain valerianate of morphine to each fluidrachm.		
Ammonium and Quinine Valerianates	10 50	6 00
Two grains valerianate of ammonium and ¼ grain quinine to each fluidrachm.		
Ammonium and Strychnine Valerianates	10 50	6 00
Two grains valerianate of ammonium and 1-64 grain valerianate of strychnine to each fluidrachm.		
Berberine and Iron Pyrophosphate	9 00	5 00
Berberine phosphate 1 grain, iron pyrophosphate ½ grain.		

ELIXIRS.	Pints per doz.	Per gal.
Bismuth, Ammonio-Citrate	$9 00	$5 50
Each fluidrachm of this elixir contains 2 grains ammonio-citrate of bismuth.		
Bismuth and Hydrastine	18 00	10 00
Each fluidrachm contains ammonio-citrate bismuth 1 grain, and citrate of hydrastine 1-16 grain.		
Bismuth and Iron Ammonio-Citrates	11 25	6 50
Each fluidrachm contains 2 grains ammonio-citrate of bismuth and 1 grain ammonio-citrate of iron.		
Bismuth and Strychnine	9 00	5 00
To each fluidrachm, 2 grains ammonio-citrate of bismuth and 1-60 grain strychnine.		
Buchu	8 25	4 50
Fifteen grains short buchu leaves to the fluidrachm.		
Buchu Compound	10 50	6 00
Eight grains short buchu leaves; 4 grains cubeb; 4 grains juniper berries, and 3 minims spirits of nitrous ether to each fluidrachm.		
Buchu and Juniper Compound	9 75	5 50
Three grains buchu; 1½ grains barberry bark; 1½ grains juniper berries; 1¼ grains sodium salicylate to each fluidrachm.		

ELIXIRS.	Pints per doz.	Per gal.
Buchu, Juniper and Acetate of Potassium	$9 00	$4 25
Each dessertspoonful represents buchu, 15 grains, juniper berries, 7½ grains, and acetate of potassium, 10 grains.		
Buchu and Pareira Brava	8 25	4 50
To each fluidrachm, 8 grains short buchu leaves and 4 grains each pareira brava, juniper and collinsonia.		
Buckthorn Bark (Laxative Elixir)	8 25	4 50
Each fluidrachm of this elixir represents 20 grains of the bark.		
Burdock Seed	9 60	5 50
Each fluidounce of this elixir represents 120 grs. burdock seed.		
Caffeine Bromide	12 00	7 00
One grain bromide caffeine to each fluidrachm.		
Caffein Citrate	12 00	7 00
Strength, 1 grain per fluidrachm.		
Calisaya Bark	7 50	4 00
Each fluidrachm represents 5 grains calisaya bark.		
Calisaya and Bismuth	8 25	4 50
To each fluidrachm, calisaya bark, 5 grains, and ammonio-citrate bismuth, 2 grains.		
Calisaya and Iron, Protoxide	7 50	4 00
Five grains of calisaya bark and 2 grains of the citrate of protoxide of iron to each fluidrachm.		
Calisaya, Bismuth and Pepsin	12 00	7 00
To each fluidrachm, calisaya bark, 5 grains; ammonio-citrate bismuth, 1 grain; pepsin, Sacch. U. S. P., 5 grains.		
Calisaya and Iron, Pyrophosphate	7 50	4 00
Five grains calisaya bark and 2 grains pyrophosphate of iron to each fluidrachm.		
Calisaya, Iron and Bismuth	8 00	4 25
Five grains calisaya bark; 2 grains pyrophosphate of iron, and 1 grain ammonio-citrate of bismuth to each fluidrachm.		
Calisaya, Iron, Bismuth and Pepsin	12 00	7 00
Five grains calisaya bark; 2 grains pyrophosphate of iron; 1 grain ammonio-citrate of bismuth, and 3 grains saccharated pepsin, U. S. P. (1-300), to each fluidrachm.		
Calisaya, Iron, Bismuth and Strychnine	8 25	4 50
Five grains calisaya bark; 2 grains pyrophosphate of iron; 2 grains ammonio-citrate of bismuth, and 1-64 grain strychnine, to each fluidrachm.		
Calisaya, Iron and Quinine	10 50	6 00
Five grains calisaya bark; 2 grains pyrophosphate of iron, and ¼ grain sulphate of quinine, to each fluidrachm.		
Calisaya, Iron, Quinine and Strychnine	10 50	6 00
Five grains calisaya bark; 2 grains pyrophosphate of iron; ¼ grain quinine sulphate, and 1-64 grain strychnine, to each fluidrachm.		
Calisaya, Iron and Pepsin	9 00	5 00
Five grains calisaya bark; 2 grains ammonio-citrate of iron, and 3 grains saccharated pepsin, U. S. P. (1-300), to each fluidrachm.		
Calisaya, Iron and Strychnine	7 50	4 00
Five grains calisaya bark; 2 grains pyrophosphate of iron, and 1-64 grain strychnine, to each fluidrachm.		

ELIXIRS.	Pints per doz.	Per gal.
Calisaya, Iron, Strychnine and Pepsin	$10 50	$6 00
Five grains calisaya bark; 2 grains ammonio-citrate of iron; 1-64 grain strychnine, and 3 grains saccharated pepsin, U. S. P. (1-300), to each fluidrachm.		
Calisaya and Strychnine	7 50	4 00
Five grains calisaya bark and 1-64 grain strychnine, to each fluidrachm.		
Cascara Sagrada	9 00	5 00
To each fluidrachm, 20 grains cascara sagrada bark.		
Cascara Sagrada (Cordial Elixir)	8 25	4 50
A combination of cascara, sagrada and berberis aquifolium, with aromatics.		
Cascara Sagrada Compound	9 00	5 00
To each fluidrachm, cascara sagrada, 10 grains; senna leaves, 10 grains; rhubarb, 10 grains, with aromatics.		
Catalysin. (See Pepsin Combined.)		
Cathartic Compound	9 00	5 00
To each fluidounce, sulphate of magnesia, 60 grains; scammony, 60 grains; jalap, 10 grains; licorice, 60 grains; Jamaica ginger, 3 grains, with aromatics.		
Cathartic Compound, Improved	10 50	6 00
To each fluidounce, 10 grains socot. aloes; 60 grains senna; 10 grains jalap; ¼ grain podophyllin; 1 grain leptandrin; 5 grains colocynth; 8 grains gentian root; 10 grains hyoscyamus; 60 grains licorice root, with aromatics.		
Celery and Caffein	18 00	8 00
To each fluidrachm celery seed, 5 grains; bromide caffeine and sodium, 1 gr.		
Celery and Guarana	12 00	7 00
Seven and a half grains celery seed and 7½ grains guarana, to each fluidrachm.		
Cherry Bark and Calisaya with the Lacto-phosphates of Lime and Iron	9 00	5 00
Each fluidounce contains cherry bark (detannated), 40 grains; calisaya bark, 15 grains; lacto-phosphate of lime, 3 grains; lacto-phosphate of iron, 1 grain.		
Cherry Bark, Ferrated	9 00	5 00
To each fluidounce, 80 grains cherry bark (detannated) and 8 grains pyrophosphate of iron.		
Cherry Bark and the Hypophosphites	13 50	8 00
To each fluidrachm, 10 grains cherry bark (detannated) and 2 grains mixed hypophosphites (calcium, sodium and potassium).		
Chloral Hydrate, Formula A	12 75	7 50
Ten grains chloral hydrate to each fluidrachm.		
Chloral Hydrate, Formula B	9 75	5 50
Five grains chloral hydrate to each fluidrachm.		
Chloral Hydrate and Potassium Bromide	10 50	6 00
Five grains each, chloral hydrate and bromide of potassium, per fluidrachm.		
Chloral Hydrate and Potassium Bromide Compound	22 00	13 00
To each fluidrachm, chloral hydrate, 15 grains; bromide of potassium, 15 grains; extract hyoscyamus, ⅛ grain; extract cannabis, ⅛ grain.		
Cimicifuga	8 25	4 50

ELIXIRS.	Pints per doz.	Per gal.
Fifteen grains black cohosh root to each fluidrachm.		
Coca Leaves	$ 9 75	$5 50
Fifteen grains coca leaves to each fluidrachm.		
Coca Compound	9 60	5 00
Coca leaves, 5 grains; celery seed, 3½ grains; black haw, 3½ grains, to each fluidrachm.		
Coca with the Phosphates	12 00	7 00
Coca leaves, 20 grains; calcium phosphate, 2 grains; sodium phosphate, 1 grain; potassium phosphate, ¼ grain; magnesium phosphate, ⅛ grain; strychnine, 1-64 grain, and cherry bark (detannated), 5 grains.		
Columbo and the Hypophosphites	10 50	6 00
Three grains columbo root and 2 grains mixed hypophosphites (calcium, sodium and potassium) to each fluidrachm.		
Corn Silk Juniper and Potassium Acetate	8 00	4 25
To each dessertspoonful, corn silk 15 grains; juniper berries, 7½ grains; potassium acetate, 10 grains.		
Damiana	9 75	5 50
Fifteen grains damiana leaves to each fluidrachm.		
Dandelion	8 00	4 25
Thirty grains dandelion root to each fluidrachm.		
Dandelion Compound	8 00	4 25
Taraxacum, wild cherry bark, gentian and licorice, with aromatics.		
Diaphoretic (Dover's Powder), Assayed	10 50	6 00
Each fluidrachm represents opium, ½ grain; ipecac, ½ grain; being equivalent to 5 grains of Dover's Powder.		
Diuretic	9 00	5 00
To each fluidrachm, 15 grains buchu leaves; 8 grains uva-ursi; 8 grains cleavers and 5 grains juniper berries.		
Diuretic with Acetate of Potassium	9 75	5 50
To each fluidrachm, 15 grains buchu leaves; 8 grains uva-ursi; 8 grains cleavers; 5 grains juniper berries, and 5 grains acetate of potassium.		
Emmenagogue	9 00	5 00
To each fluidrachm, 6 grains caulophyllum; 2 grains iris versicolor, and 5 grains juniper berries, with aromatics.		
Gentian	7 50	4 00
To each fluidounce, 30 grains gentian root, with aromatics.		
Gentian and Bismuth	9 00	5 00
To each fluidounce, 20 grains gentian root and 16 grains ammonio-citrate of bismuth.		
Gentian and Iron, Protoxide	7 50	4 00
Thirty grains gentian root and 16 grains citrate of protoxide of iron to each fluidounce.		
Gentian and Iron, Pyrophosphate	7 50	4 00
Thirty grains gentian root and 8 grains pyrophosphate of iron, to each fluidounce.		
Gentian and Iron, Chloride	7 50	4 00
Corresponding in strength with infusion gentian compound, U. S. P., 1870, and 5 minims official tincture of chloride of iron, to each fluidrachm.		
Grindelia Robusta	8 00	4 25
Fifteen grains grindelia robusta to each fluidrachm.		
Guarana	$ 9 75	$5 50
Eighty grains guarana to each fluidounce.		
Helonias	9 00	5 00
Sixteen grains helonias to each fluidrachm.		
Helonias Compound	9 75	5 50
To each fluidrachm, 15 grains mitchella repens and 4 grains each of viburnum opulus, caulophyllum and helonias.		
Helonias and the Hypophosphites	10 50	6 00
To each fluidrachm, 2 grains helonias and 2 grains hypophosphites (mixed salts).		
Hops	8 25	4 50
Ten grains hops to each fluidrachm.		
Iron, Citrate with Arsenic	8 25	4 50
Two grains ammonio-citrate of iron and 1-48 grain arsenate of soda, to each fluidrachm.		
Iron, Citrate with Bismuth and Strychnine	9 75	5 50
Two grains ammonio-citrate of iron; 2 grains ammonio-citrate of bismuth and 1-64 grain strychnine per fluidrachm.		
Iron, Citrate with Quinine and Arsenic	10 50	6 00
Two grains ammonio-citrate of iron; ½ grain quinine and 1-48 grain arsenate of soda, to each fluidrachm.		
Iron, Citrate with Quinine and Strychnine	10 50	6 00
Two grains ammonio-citrate of iron, ½ grain quinine, and 1-64 grain strychnine per fluidrachm.		
Iron, Citrate with Strychnine	9 00	5 00
Two grains ammonio-citrate of iron and 1-64 grain strychnine to each fluidrachm.		
Iron, Protoxide	8 25	4 50
Each fluidrachm of this elixir contains 2 grains citrate of protoxide of iron.		
Iron, Protoxide, Quinine and Strychnine	10 50	6 00
To each fluidrachm, citrate of protoxide of iron, 2 grains; quinine, ½ grain; strychnine, 1-64 grain.		
Iron, Pyrophosphate	8 00	4 25
To each fluidrachm, 2 grains pyrophosphate of iron.		
Iron, Pyrophosphate with Quinine	10 50	6 00
To each fluidrachm, 2 grains pyrophosphate of iron and ½ grain quinine.		
Iron, Pyrophosphate, Quinine and Arsenic	10 50	6 00
Iron pyrophosphate, 2 grains; quinine sulph., ½ grain; arsenic, 1-30 grain.		
Iron, Pyrophosphate with Quinine and Strychnine	10 50	6 00
To each fluidrachm, 2 grains pyrophosphate of iron, ½ grain quinine, and 1-64 grain strychnine.		
Iron, Pyrophosphate and Strychnine	8 25	4 50
To each fluidrachm, 2 grains pyrophosphate of iron and 1-64 grain strychnine.		
Iron Salicylate	10 50	6 00
Each fluidrachm contains 2 grains salicylate of iron.		
Laxative Elixir. (See Buckthorn bark.)		
Licorice, Aromatic (for Quinine)	7 50	4 00
Licorice root, with aromatics.		
Licorice and Eucalyptus (for Quinine)	8 25	4 50
Lithium, Citrate	13 50	8 00
Two grains citrate of lithium to each fluidrachm.		

ELIXIRS.	Pints per doz.	Per gal.
Lupulin	$8 25	$4 50
To each fluidrachm, 5 grains lupulin.		
Manaca and Salicylates	15 00	9 00
Each fluidrachm of this elixir represents manaca, 10 grains; sodium salicylate, 2 grains; potassium salicylate, 2 grains; lithium salicylate, ½ grain.		
Mandrake Compound	9 75	5 50
To each fluidrachm, mandrake root, 10 grains; senna leaves, 5 grains; jalap root, 5 grains, with aromatics.		
Matico	8 25	4 50
Fifteen grains matico leaves to each fluidrachm.		
Matico Compound	9 75	5 50
Matico, 5 grains; uva-ursi, 5 grains and hydrangea, 5 grains to each fluidrachm.		
Nux Vomica Compound	9 00	5 00
Nux Vomica, valerianate of ammonium, phosphate of sodium, phosphoric and muriatic acids, as per our published formula.		
Oil Gaultheria, with Acetate of Potassium	10 50	6 00
Each pint of this elixir holds in perfect solution the entire constituents of one ounce of oil of gaultheria, and each fluidrachm contains 10 grains of acetate of potassium.		
Passiflora Compound	9 75	5 50
To each fluidrachm, passiflora incarnata, 7½ grains; mixed bromides—potassium, sodium and caffeine, 10 grains.		
Pepsin	9 75	5 50
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300).		
Pepsin and Pancreatin	11 25	6 50
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300), and 1 grain sacch. pancreatin.		
Pepsin and Bismuth	10 50	6 00
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300), and 1 grain ammonio-citrate of bismuth.		
Pepsin, Bismuth and Iron	10 50	6 00
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300); 1 grain ammonio-citrate of bismuth, and 1 grain pyrophosphate of iron.		
Pepsin, Bismuth and Quinine	12 00	7 00
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300); 1 gr. ammonio-citrate of bismuth and ¼ grain quinine.		
Pepsin, Bismuth and Strychnine	10 50	6 00
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300); 1 grain ammonio-citrate of bismuth and 1-64 grain strychnine.		
Pepsin, Bismuth, Strychnine and Iron	10 50	6 00
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300); 1 grain ammonio-citrate of bismuth; 1-64 grain strychnine and 1 grain pyrophosphate of iron.		
Pepsin Combined (Catalysin)	10 00	6 00
To each fluidrachm, 10 grains combined pepsin. (See Digestive Principles).		
Pepsin Combined and Bismuth	11 25	6 50
To each fluidrachm, 10 grains combined pepsin and 1 grain ammonio-citrate of bismuth.		
Pepsin Combined, Bismuth and Strychnine	11 25	6 50
To each fluidrachm, 10 grains combined pepsin; 1 grain ammonio-citrate of bismuth and 1-64 grain strychnine.		
Pepsin Combined with Gentian and Chloride of Iron	$11 25	$6 50
To each fluidrachm, pepsin combined, 10 grains; gentian, 2 grains; tinct. chloride iron, 5 minims, with aromatics.		
Pepsin and Hydrastine	15 00	9 00
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300), and 1-16 grain citrate of hydrastine.		
Pepsin, Hydrastine and Bismuth	18 00	10 00
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300); 1-16 grain citrate of hydrastine and 1 grain ammonio-citrate of bismuth.		
Pepsin, Hydrastine and Strychnine	15 00	9 00
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300); 1-16 grain citrate of hydrastine and 1-64 grain strychnine.		
Pepsin, Hydrastine, Strychnine and Bismuth	18 00	10 00
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300); 1-16 grain citrate of hydrastine; 1-64 grain strychnine and 1 grain ammonio-citrate of bismuth.		
Pepsin and Quinine	12 75	7 50
To each fluidrachm, 3 grains sacch. pepsin, U. S. P. (1-300) and ½ grain quinine sulphate.		
Pepsin and Strychnine	10 50	6 00
To each fluidrachm, 3 grains sacch pepsin, U. S. P. (1-300) and 1-64 grain strychnine.		
Phosphoric Acid Valerianate of Ammonium and Calisaya	9 00	5 00
To each fluidounce, 30 minims diluted phosphoric acid; 1 grain valerianate of ammonium and 8 grains calisaya bark.		
Phosphorus	9 00	5 00
To each fluidrachm, 1-50 grain phosphorus.		
Phosphorus and Nux Vomica	9 00	5 00
To each fluidrachm, 1-50 grain phosphorus and ¼ grain ext. nux vomica.		
Phosphorus, Nux Vomica and Damiana	12 00	7 00
To each fluidrachm, 1-100 grain phosphorus; 1 grain nux vomica and 8 grains damiana.		
Phosphorus, Nux Vomica, Damiana and Iron	12 00	7 00
To each fluidrachm, 1-200 grain phosphorus; 1 grain nux vomica; 8 grains damiana and 1 grain pyrophosphate of iron.		
Piscidia Compound	9 00	5 00
To each fluidrachm, viburnum prunifolium, 7½ grains; golden seal, 7½ grains; represented by the white alkaloid, Jamaica dog wood, 3¾ grains, with aromatics.		
Potassium Bromide	8 25	4 50
To each fluidrachm 10 grains bromide of potassium.		
Potassium Bromide and Caffeine	12 00	7 00
Ten grains potassium bromide and ½ grain caffeine citrate, to each fluidrachm.		
Quinine and Arsenic	10 50	6 00
To each fluidrachm, ½ grain of quinine and 1-48 grain arsenate of sodium.		
Quinine and Iron	10 50	6 00
To each fluidrachm, ½ grain quinine and 2 grains citrate of iron.		
Rheumatic	11 25	6 50

ELIXIRS.	Pints per doz.	Per gal.
To each fluidounce, 120 grains buchu leaves; 60 grains juniper berries, 60 grains burberis vulgaris and 40 grains salicylate of sodium.		
Rhubarb Alkaline. (See Miscellaneous Neutralizing Cordial Imp.)		
Rhubarb and Columbo	$ 9 75	$5 50
Five grains rhubarb and 10 grains columbo to each fluidrachm.		
Rhubarb and Magnesia	9 00	5 00
Six grains rhubarb and 4 grains magnesia to each fluidrachm.		
Salicylic Acid Compound	11 25	6 50
To each fluidrachm, salicylic acid, 5 grains; black cohosh, 5 grains; gelsemium, 1 grain; potassium iodide, 2 grains.		
Sarsaparilla and Calcium Iodide	15 00	9 00
To each fluidrachm, 15 grains sarsaparilla root and 1 grain calcium iodide.		
Saw Palmetto Compound	7 50	4 00
To each fluidrachm, Saw Palmetto 7½ grains, sandalwood 7½ grains, couch grass 15 grs.		
Sarsaparilla and Potassium Iodide	15 00	9 00
To each fluidrachm, 15 grains sarsaparilla root and 1 grain potassium iodide.		
Scullcap, Nux Vomica and the Hypophosphites.	13 50	8 00
To each fluidrachm, 30 grains scullcap; 1 grain nux vomica and 8 grains hypophosphites (mixed salts).		
Senna Compound	15 00	9 00
To each fluidrachm, ext. senna leaves, 3 grains; ext. aloes, 3 grains, with aromatics.		

ELIXIRS.	Pints per doz.	Per gal.
Senna Saline	$ 8 25	$4 50
Sodium Bromide	9 00	5 00
10 grains bromide of sodium to each fluidrachm.		
Stillingia Compound and Potassium Iodide	9 00	5 00
To each fluidounce, stillingia root 50 grains; corydalis, 20 grains; iris versicolor, 12 grains; sambucus flowers, 12 grains; chimaphilla, 12 grains; coriander seed, 6 grains; prickly ash berries, 6 grains; potassium iodide, 8 grains.		
Strychnine, Valerianate	9 75	5 50
To each fluidrachm, 1-40 grain valerianate of strychnine.		
Sumbul Compound	12 00	7 00
To each fluidrachm, 10 grains musk root; 5 grains celery seed; 1 grain hyoscyamus and 3 grains bromide of ammonium.		
Thuja (with Glycerin)	13 50	8 00
To each fluidrachm, 20 grains thuja leaves. (See also Glycerole Thuja for local use.)		
Valerian	9 00	5 00
Eight grains of valerian root to each fluidrachm.		
Wahoo	9 00	5 00
To each fluidounce, 160 grains wahoo, bark of the root.		
Zinc Valerianate	9 00	5 00
To each fluidrachm, 1 grain valerianate of zinc.		

SPECIFIC TINCTURES.

Discount 25 Per Cent.

Generally representing one-half grain per minim, and prepared with the most scrupulous care.

PRICES ARE GIVEN FOR ONE POUND BOTTLES.

For half-pound bottles, add 20 cents per pound list. For quarter-pound bottles, add 30 cents per pound list.
For one-ounce bottles, add $1.00 per pound list.

☞When put up in five-pound bottles, a reduction of 10 cents per pound list is made.

SPECIFIC TINCTURES.	Pints each.
Aconitum Napellus, Leaves	$1 00
Aconitum Napellus, Root	1 15
Agrimonia Eupatoria	1 15
Aletris Farinosa, Root	1 40
Apis Mellifica	1 40
Apocynum Androsemifolium, Root	1 20
Apocynum Cannabinum, Root	1 20
Aralia Hispida	1 00
Asclepias Tuberosa	1 20
Atropa Belladonna, Fresh Leaves	1 20
Atropa Belladonna, Fresh Root	1 25
Avena Sativa	1 20
Baptisia Tinctoria, Root	90
Barosma Crenata	1 35
Berberis Aquifolium	1 50
Bryonia Alba, Root	1 40
Cactus Grandiflorus. (See Cereus.)	
Calendula, Flowers	1 70
Cannabis Indica	1 40
Cantharides	3 00
Caulophyllum Thalictroides, Root	1 00
Cereus Grandiflorus	4 00

SPECIFIC TINCTURES.	Pints each.
Chamomilla	$1 40
Chelidonium Majus	1 00
Chionanthus Virginica	1 20
Cimicifuga Racemosa, Root	1 20
Cinchona Calisaya	1 50
Collinsonia Canadensis, Root	1 20
Colocynthis	1 75
Convallaria Multiflora	1 15
Convallaria Majalis	1 50
Cypripedium Pubescens, Root	1 25
Delphinium Staphisagria, Seed	2 00
Digitalis Purpurea, Leaves	1 05
Dioscorea Villosa, Root	1 10
Drosera Rotundifolia, Herb	2 35
Dulcamara, Leaves and Twigs	1 25
Erigeron Canadensis, Leaves	1 20
Equisetum Hyemale	1 50
Eucalyptus Globulus, Leaves	1 15
Eupatorium Purpureum, Leaves	1 00
Euonymus Atropurpureus, Bark	1 40
Gelsemium Sempervirens, Fresh Root	1 20
Gossypium Herbaceum, Fresh Root Bark	1 15

SPECIFIC TINCTURES.	Pints each.
Grindelia Robusta	$1 40
Hamamelis Virginica, Bark	1 00
Helleborus Niger	1 20
Helonias Dioica, Root	1 50
Hydrangea Arborescens	1 00
Hydrastis Canadensis, Root	1 65
Hyoscyamus Niger, Leaves	1 20
Ignatia	1 50
Ipecacuanha	2 50
Iris Versicolor, Fresh Root	1 25
Leptandra Virginica, Root	1 20
Lobelia Inflata, Fresh Herb	1 20
Lobelia Inflata, Seed	1 75
Lycopus Virginicus, Fresh Herb	1 00
Nux Vomica, Assayed	1.15
Standard—0.75% alkaloids, estimated by titration with volumetric acid solution.	
Passiflora Incarnata	1 75
Phosphorus (Saturated)	1 00
Phytolacca Decandra, Fresh Root	1 00
Pilocarpus Pinnatifolius	1 50
Podophyllum Peltatum, Root	1 00

SPECIFIC TINCTURES.	Pints each.
Polymnia Uvedalia	$1 25
Ptelea Trifoliata, Root Bark	1 00
Pulmonaria Officinale	1 00
Pulsatilla, Herb	1 50
Rheum Officinale	2 00
Rhus Aromatica	1 85
Rhus Toxicodendron, Green Leaves	1 80
Sanguinaria Canadensis, Root	1 00
Scutellaria Lateriflora, Herb	1 10
Senecio Aureus	1 00
Staphisagria, Seed	2 00
Stillingia Sylvatica, Fresh Root	1 10
Stramonium, Fresh Leaves	1 10
Thuja Occidentalis, Leaves	1 20
Triticum Repens	1 00
Ustilago Maydis	1 00
Veratrum Album, Root	1 10
Veratrum Viride, Root	1 15
Viburnum Opulus, Bark	90
Viburnum Prunifolium, Bark	1 15
Xanthoxylum Fraxineum, Bark	1 00
Xanthoxylum Fraxineum, Fruit	1 25

WINES—OFFICIAL.

Discount 25 Per Cent.

Wine of Antimony.
Per gallon..... $5 00 Per quart.....$ 1 35
Per five pint..... 3 50 Per dozen pints.....10 00

Wine of Colchicum Root.
Per gallon..... 5 00 Per quart 1 35
Per five pint..... 3 50 Per dozen pints..... 10 00

Wine of Colchicum Seed.
Per gallon..... 5 00 Per quart..... 1 35
Per five pint..... 3 50 Per dozen pints 10 00

Wine of Ergot.
Per gallon.....$ 5 50 Per quart.....$ 1 45
Per five pint..... 3 85 Per dozen pints..... 10 50

Wine of Ipecac.
Per gallon..... 7 75 Per quart..... 2 05
Per five pint..... 5 35 Per dozen pints..... 14 50

Wine of Opium.
Per gallon..... 10 00 Per quart 2 60
Per five pint..... 7 00 Per dozen pints..... 18 00

WINES—NON-OFFICIAL.

Discount, 25 Per Cent.

Bitter Wine of Iron.
Per gallon.....$4 50 Per quart.....$ 1 20
Per five pint..... 3 25 Per dozen pints..... 9 00
Five grains calisaya bark and two grains ammonio-citrate of iron to each fluidrachm.

Nutritive Wine (Beef and Wine). (See Peptonized Beef and Preparations.)

Wine of Beef and Iron (Beef, Iron and Wine). (See Peptonized Beef and Preparations.)

Wine of Calisaya.
Per gallon.....$4 50 Per quart..... $1 25
Per five pint..... 2 85 Per dozen pints..... 8 25
Five grains calisaya bark to each fluidrachm.

Wine of Calisaya and Iron.
Per gallon.....$4 50 Per quart..... 1 25
Per five pint..... 2 85 Per dozen pints..... 9 00
Five grains calisaya bark and one grain pyrophosphate iron to each fluidrachm.

Wine of Coca.
Per gallon.....$5 00 Per quart.....$ 1 35
Per five pint..... 3 50 Per dozen pints..... 10 00
Sixty grains coca leaves to each fluidounce.

Wine of Comfrey Compound, A. D. (Restorative Wine Bitters.)
Per gallon.....$5 00 Per quart.....$ 1 35
Per five pint..... 3 15 Per dozen pints..... 10 00

Wine of Iron.
Per gallon..... 4 25 Per quart..... 1 15
Per five pint..... 2 65 Per dozen pints..... 8 00
To each fluidrachm, one grain ammonio-citrate of iron.

Wine of Mitchella Compound. (See Miscellaneous.)

Wine of Pepsin.
Per gallon.....$6 00 Per quart.....$ 1 60
Per five pint..... 4 00 Per dozen pints..... 11 00
Three grains sacch. pepsin, U. S. P. (1-300), to each fluidrachm.

Wine of Rhubarb.
Per gallon.....$5 50 Per quart.....$ 1 45
Per five pint..... 3 75 Per dozen pints..... 10 50

Wine of Wild Cherry Bark.
Per gallon.....$4 50 Per quart..... 1 25
Per five pint..... 2 85 Per dozen pints..... 9 00

Wine of Wild Cherry Bark (Detannated) and Iron.
Per gallon.....$5 00 Per quart..... 1 35
Per five pint..... 3 15 Per dozen pints..... 10 00

OLEO-RESINS OR EXTRACTIVE OILS.

Discount 25 Per Cent.

These oils are prepared by exhausting the crude drug with ether, or a mixture of alcohol and ether, according to the nature of the drug, and the concentration of the solution to the proper density. They are very reliable representatives of their respective drugs, and are best administered by dropping the dose on sugar, suspending it in water or mucilage, or triturating it with sugar of milk, ALWAYS TAKING CARE THAT THE BOTTLE BE WELL AGITATED BEFORE THE DOSE IS GIVEN.

OLEO-RESINS.	Price per oz.
Asclepias	$0 90
Capsicum	90
Cubeb	90
Cypripedium	80
Erigeron	80
Eucalyptus Globulus	50
Eupatorium Purpureum. Queen of the Meadow. From the leaves and flowers of the plant.	90
Filicis. Male Fern	90
Iris Versicolor. Blue Flag	80
Koosso (from Koosso Flowers)	2 00
Lobelia Seed	1 00
Ptelea	90

OLEO-RESINS.	Price per oz.
Scutellaria	$0 90
Senecio	90
Stillingia	50
Stillingia Compound (Liniment Stillingia Compound, A. D.)	35
One-pound bottles, each $3 50	
Half-pound bottles, each 1 90	
Quarter-pound bottles, each 1 00	
Composed of oleo-resin stillingia, 1 part; oleo-resin lobelia, ¼ part; oil of cajeput, ½ part; alcohol, 2 parts.	
Xanthoxylum Bark	50
Xanthoxylum Berries	1 00

SOLID EXTRACTS.

Alcoholic, Hydro-Alcoholic, Aqueous and Acetic of very superior quality for Dispensing Purposes.

Discount 25 Per Cent.

NO CHARGE FOR CONTAINERS.

☞ For ½ lb. jars add 15c. per lb. list.
For ¼ lb. jars add 30c. per lb. list.

SOLID EXTRACTS.	Per lb. in lb. Jars.
Aconite, alcoholic	$4 25
Belladonna Leaves, alcoholic, U. S. P.	3 60
Berberis Aquifolium, hydro-alcoholic	5 00
Black Cohosh, hydro-alcoholic	3 00
Black Haw, hydro-alcoholic	3 60
Black Hellebore	3 00
Bladder Wrack	5 50
Butter Nut, hydro-alcoholic	2 50
Calabar Bean, alcoholic, per ounce	1 30
Cannabis Indica, alcoholic	8 00
Cascara Sagrada, hydro-alcoholic	5 00
Clover, Red	3 00
Coca Leaves, hydro-alcoholic	8 00
Colchicum Root, acetic, U. S. P.	3 50
Colocynth, alc., U. S. P. Used in combinations	7 00
Conium	2 50
Culver's Root, hydro-alcoholic	4 00
Damiana, hydro-alcoholic	5 00
Dandelion, hydro-alcoholic	1 35
Digitalis, U. S. P.	3 60
Ergot	7 00

☞ For 2 oz. jars add 65c. per lb. list.
For 1 oz. jars add $1.05 per lb. list.

SOLID EXTRACTS.	Per lb. in lb. Jars.
Fringe Tree Bark, hydro-alcoholic	$3 00
Gentian, U. S. P.	1 20
Grindelia, hydro-alcoholic	3 50
Hyoscyamus, alcoholic, U. S. P.	3 50
Ignatia Bean, alcoholic, per ounce	75
Jaborandi, hydro-alcoholic	8 00
Jalap, alcoholic, U. S. P.	4 00
Mandrake	3 00
Musk Root, per ounce	90
Nux Vomica, alcoholic, U. S. P., Assayed	3 60
Opium, aqueous, U. S. P., Assayed, per ounce. Standard—18% morphine.	1 00
Ox Gall, Ins. in 1 oz. pots, per ounce	30
Poke Root, hydro-alcoholic	3 00
Quassia	4 20
Rhubarb, hydro-alcoholic	5 00
Senna	3 50
Stramonium Leaves	2 40
Stillingia	3 50
Valerian, hydro-alcoholic	3 00
Wahoo	3 60

RESINOIDS OR CONCENTRATIONS.

Discount 25 Per Cent.

These Concentrations as manufactured by us are perfectly reliable representatives of their respective drugs. That the so-termed Resinoids, if prepared with a sufficient knowledge of the characteristics of their respective crudes, are most perfect therapeutic representatives is not doubted.

The proper method of administering these concentrated remedies is to reduce them by prolonged trituration with some inert powder. For this purpose some physicians use powdered cane sugar, others milk sugar or lactin. The latter is generally preferred on account of the greater hardness of its particles. We keep in stock many of these Lactinated Resinoids and prepare others to order. (See Lactinated Powders.)

RESINOIDS.	Price per oz.
Aconitin	$1 50
Aletrin	50
Alnuin	50
Ambrosin	1 00
Ampelopsin	75
Apocynin	1 20
Asclepidin	75
Atropin	1 50
Barosmin	75
Baptisin	75
Caulophyllin	50
Chelonin	1 00
Chimaphillin	75
Chionanthin	1 00
Cimicifugin	45
This preparation is intended to represent all the medicinal principles of this plant.	
Collinsonin	1 20
Colocynthin	1 50
Cornin	50
Corydalin	75
Cypripedin	85
Digitalin	90
Dioscorein	1 00
Euonymin	1 00
Eupatorin	50
Eupurpurin	1 25
Frazerin	60
Gelsemin	1 50
Geranin	50
Gossypin	1 50
Hamamelin	65
Helonin	1 50

RESINOIDS.	Price per oz.
Hydrastin	$1 50
Hyoscyamin	1 75
Irisin	60
Jalapin	50
Juglandin	65
Leontodin	50
Leptandrin	40
Lobelin	1 25
Lupulin	75
Lycopin	60
Macrotin	45
Menispermin	65
Myricin	50
Phytolaccin	75
Podophyllin	40
Populin	50
This preparation contains both the resinous and neutral principles (populin and salicin) of the American poplar or aspen, and may be considered as representing its medicinal properties.	
Prunin	50
Ptelein	1 20
Rhusin	65
Rumin	60
Sanguinarin	65
Scutellarin	1 00
Senecin	85
Smilacin	1 00
Stillingin	1 10
Trillin	60
Veratrin	1 25
Viburnin	1 00
Xanthoxylin	85

POWDERED EXTRACTS.

Discount 25 Per Cent.

NO CHARGE FOR BOTTLES.

POWDERED EXTRACTS.	Price per oz.
Aconite Leaves	$0 40
Aloes	40
Belladonna Leaves	45
Cannabis Indica	75
Colocynth Apple	60
Colocynth Compound (per lb. $3.65)	30
Conium, alcoholic	40
Digitalis	40
Gentian	40
Hyoscyamus, alcoholic (per lb. $6.00)	40
Ignatia Bean, alcoholic	1 00

POWDERED EXTRACTS.	Price per oz.
Ipecac	$1 90
Jalap, alcoholic (per lb. $8.00)	60
Nux Vomica, alcoholic, Assayed	40
Opium, Aqueous, Assayed	1 00
Standard—20% morphine.	
Ox Gall, Insp	25
Rhubarb	45
Rhatany	40
Stramonium Leaves	40
Valerian	40

LACTINATED POWDERS.

Discount 25 Per Cent.

Prepared by grinding thoroughly together one part of the medicinal substance and nine parts sugar of milk. This method of treating concentrated remedies is now endorsed by eminent physicians and is peculiarly applicable to the resinoids. It disguises somewhat the taste, diminishes the shock of acrid principles upon the mucous surfaces of the stomach, divides and reduces the particles of the substance by the prolonged trituration and facilitates administration, especially when the dose is in fractions of a grain. They are put up in bottles of one ounce, and in bulk (pound bottles) and should always be designated in prescriptions as "Lactinated."

LACTINATED POWDERS.	Price per oz.	Price per lb.
Aletrin	$0 40	$5 00
Apocynin	35	4 25
Asclepidin	25	3 00
Baptisin	25	3 00
Caulophyllin	25	3 00
Cimicifugin (Macrotin)	25	3 00
Colocynthin	40	5 00
Corydalin	25	3 00
Cypripedin	30	3 50
Dioscorein	30	3 50
Euonymin	35	4 00
Eupurpurin	35	4 00
Gelsemin	40	5 00
Helonin	40	5 00
Helonin Compound	40	5 00
Helonin, ½ gr.; Eupurpurin, ¼ gr.; Senecin, ⅓ gr.; Lactin, 9 grs.		
Hydrastin	30	3 75
Irisin	25	3 00
Leptandrin	$0 25	$3 00
Leptandrin Compound	30	3 50
Leptandrin, ¾ gr.; Apocynin, ¾ gr.; Podophyllin, ⅛ gr.; Lactin, 9 grs.		
Lupulin	25	3 00
Lycopin	25	3 00
Phytolaccin	25	3 00
Podophyllin	25	3 00
Ptelein	35	4 25
Scutellarin	30	3 50
Senecin	25	3 00
Powd. Alc. Ext. Belladonna	25	3 00
Powd. Alc. Ext. Conium	25	3 00
Powd. Alc. Ext. Ignatia	25	3 00
Powd. Alc. Ext. Nux Vomica, Assayed	25	3 00
Powd. Aqueous Ext. Opium, Denar, Assayed Standard—2% morphine.	50	6 00
Iron by Hydrogen	20	1 00

MISCELLANEOUS.

Discount 20 Per Cent.

Prices are given for one pint, five pint and gallon bottles. If ordered in quart bottles, 20 cents per gallon will be added to list price.

MISCELLANEOUS.	Pints each.	Per five-pint.	Per gallon.
Antiseptic Solution	$0 70	$2 85	$4 50
This antiseptic solution consists of a five per cent. solution of boroglyceride in distilled extract of hamamelis and associated with benzoic acid, thymol, eucalyptol and oil of gaultheria.			
Blackberry Cordial, Aromatic	75	3 15	5 00
This is a cordial elixir of the bark of the blackberry root with phosphate of sodium and aromatics.			
Brown Mixture, Improved (with Chloride of Ammonium)	75	3 15	5 00
Buchu and Eucalyptus, Compound Ext.	1 00	4 70	7 50
Component parts—Buchu leaves, eucalyptus leaves, juniper berries, acetate of potassium.			
Burdock Compound	1 25	5 10	8 00
Composed of burdock seed, vine maple and bittersweet.			
Burdock Compound with Potassium Iodide	1 80	6 25	10 00
Caffeo-Bromide Comp., Granular Effervescent.			
Per dozen, in four-ounce wide-mouth bottles.....$6 25			
Per pound, in wide-mouth bottles.....$1 25			
This preparation contains hydrobromic acid, caffeine and acetanilid.			
Caffeotanilid			
One-ounce bottles, each...$0 30			
One-fourth pound bottles, each 1 00			
One-half pound bottles, each 1 80			
One pound bottles, each... 3 50			
Composed of acetanilid, Sodium Bicarbonate and Caffeine. See also Compressed Tablets.			
Celery Compound, Glycerole (for Teething Infants)	$0 75	$3 15	$5 00
Celery, Catnip, and German Chamomile.			
Chionanthus Compound	1 00	4 70	7 50
Composed of chionanthus, podophyllum, leptandra, Apocynum Cannabinum, berberis vulgaris, citrate of chinoidine and bromide of potassium.			
Chlorodyne (Chandler's Formula, Improved)	4 00		

MISCELLANEOUS.	Pints each.	Per five-pint.	Per gallon.
One-ounce bottles, each...$0 30 Four-ounce bottles, each... 1 10 Eight-ounce bottles, each.. 2 10 Muriate morphine, ¼ grain; camphor, ¼ grain; Cannabis indica leaves, 10 grains; oil peppermint, ¼ grain; capsicum, 2 grains; chloroform, 6 minims; hydrocyanic acid, 1½ minims, to each fluidrachm.			
Chlorodyne without Capsicum.....	$4 00		
One-ounce bottles, each...$0 30 Four-ounce bottles, each... 1 10 Eight-ounce bottles, each.. 2 10 Formula same as Chandler's Improved, with the capsicum omitted.			
Cholera Mixture.....	75	$2 75	$4 00
This preparation contains in each fluidrachm 1-500 gr. copper arsenite associated with camphor, cardamom and other aromatics.			
Eczema Lotion.....	1 50	5 10	8 00
A combination of antiseptic oils with hydrocyanic acid, nitric acid, bichloride of mercury and glycerin.			
Elixir of Burdock Seed.....	80	3 50	5 50
Each fluidounce of this elixir represents 120 grains burdock seed.			
Essence of Jamaica Ginger.....	1 00	4 70	7 50
The essence is prepared from the finest, select, unbleached Jamaica ginger.			
Five Bromides.....	75	3 50	5 65
To each fluidrachm 15 grains mixed bromides potass., sodium, ammonium, calcium and lithium.			
Hemorrhoidal Lotion.....	2 00		
(Iodine, Stramonium and Tannin.) Four-ounce bottles, each... $0 60 Eight-ounce bottles, each.. 1 10			
Laxative Cordial (Red Clover Compound).....	75	3 15	5 00
Each fluidrachm of this cordial represents red clover, 15 grains; cascara sagrada, 8 grains; berberis aquifolium, 3 grains; iris versicolor, 3 grains.			
Lime Juice and Pepsin.....	85	3 75	6 00
This preparation contains 25 per cent. pure lime juice, and each fluidrachm contains 3 grains saccharated pepsin, U. S. P. (1-300).			
Liquid Ergotin (for hypodermic use)....	2 00		
One ounce bottles, each...$0 20 Four ounce bottles, each... 65 Eight ounce bottles, each.. 1 05 Each minim represents one grain of all the principles of prime Spanish ergot soluble in water.			
Liquid Extract of Red Clover.....	1 50	6 25	10 00
1 c.c. represents 2 grammes red clover.			
Liquid Fruit Cathartic	80	3 50	5 50
Liquor Acidi Phosphorici.....	60	2 35	3 75
Liquor Acidi Phosphorici Comp. with Iron.....	60	2 35	3 75
Liquor Hydrastine.....	1 25	4 50	
This preparation represents only the white alkaloid of golden seal in the proportion of 20 grains of the alkaloid to the pint.			
Mandrake Compound.....	$1 00	$4 70	$7 50
Composed of podophyllum, leptandra, apocynum, cannabinum berberis vulgaris, chionanthus.			
Maskitin	75	3 25	5 00
For covering the taste of bitter substances, such as quinine, cinchonidine, etc.			
McDade's Prescription.....	1 00	4 40	7 00
This preparation is a fluid extract of the fresh smilax, sarsaparilla, stillingia, lappa minor and phytolacca, equal parts, with xanthoxyllum carolinianum one-half part.			
Neutralizing Cordial, Improved (with Brandy)	80	3 50	5 50
Each fluidounce of this alkaline cordial represents rhubarb root, 24 grains; golden seal root, 16 grains; cinnamon bark, 16 grains; coto bark, 4-10 grains; carbonate of potassium, 8 grains; with brandy, sugar and oil of peppermint.			
Neutralizing cordial with Pancreatin....	65	2 85	4 50
Pulmonic Honey	65	2 85	4 50
A pure antispasmodic expectorant.			
Salicylate Sodium Compound.....			
One-ounce bottles, each.. $0 30 One-fourth pound bottles, each..... 1 00 One-half pound bottles, each..... 1 80 One-pound bottles, each... 3 50 Composed of sodium salicylate, acetanilid and caffeine. See also Compressed Tablets.			
Sarsaparilla, Red Clover and Potassium Iodide	1 00	4 70	7 50
Component Parts—Sarsaparilla root, red clover tops, burdock seed, berberis aquifolium, senna leaves, guaiac and potassium iodide.			
Saw Palmetto with Hypophosphites of Lime and Soda.....	1 00	4 00	6 00
Exhibited in the form of a syrup.			
Silva's Hypnotic.....	1 60	7 50	12 00
Formula of C. C. P. Silva, M. D., professor of materia medica and therapeutics, College of Physicians and Surgeons, Chicago. Each fluidrachm represents bromide of potassium, 15 grains; chloral hydrate, 7½ grains; sulphate of morphine, 1-16 grain; fluid extract hyoscyamus, 3 gtt.			
Sumbuline.....	1 50	6 25	10 00
Composition — Sumbul root, celery seed, kola nuts, cramp bark, bromide ammonium, bromide caffeine and sodium.			
Syrup Trifolium Compound.....	1 00	3 75	6 00
Component Parts -Red clover tops, stillingia root, burdock root, poke			

MISCELLANEOUS.	Pints each.	Per five-pint.	Per gallon.
root, prickly ash bark, berberis aquifolium, cascara amarga and iodide of potassium.			
The Renovator. See preparations of the hypophosphites. Hypophospholoid.			
Tonic of the Four Chlorides	$ 45	$1 60	$2 50
Warburg's Tincture, (Formula A)	3 00		
One-half pint bottles each $1 55			
Four ounce bottles, each 80			
Warburg's Tincture, (Formula B.	3 00		
One-half pint bottles, each $1 55			
Four ounce bottles, each 80			
Warburg's Tincture, (Formula C)	1 50		
One-half pint bottles, each $0 80			
Four ounce bottles, each $0 45			
Wine of Mitchella Compound	$1 00	$4 70	$7 50
Composed of mitchella repens, cimicifuga, senecio, viburnum prunifolium and Hyoscyamus, formed into a vinous elixir with the fermented juice of the fruit of rhus glabrum.			
Yerba Santa Cough Mixture	1 00	4 70	7 50
Each fluidounce represents yerba santa, 120 grains; grindelia robusta, 60 grains; wild cherry bark, 30 grains; cubeb, 15 grains; licorice root, 40 grains; tar, 5 grains; bromide of ammonium, 10 grains.			

MEDICINAL SPECIALTIES.

Discount 20 Per Cent.

Nitrogenized Iron.
- One lb. bottles (by weight) each $0 75
- Five lb. bottles (by weight) each 3 50

For the exhibition of iron as a reconstructive.

Nitrogenized iron is a perfect and direct combination of ova-albumen, ferric oxide and soda.

Hæmo-Cardiacin (Nitrogenized Iron, Cherry and Digitalis.)
- One lb. bottles (by weight) each 1 00
- Five lb. bottles (by weight) each 4 75

For the exhibition of iron as a reconstructive in cardiac affections. Associating iron, cherry, and digitalis, as suggested by Fothergill, in diseases of the heart.

Formula—Nitrogenized iron, 12 fluidounces; fluid extract cherry bark (detannated), 4 fluidounces; fluid extract digitalis, 2 fluidrachms.

Hæmo-Neuralin (Nitrogenized Iron and Soda with the Hypophosphites.)
- One lb. bottles (by weight) each 85
- Five lb. bottles (by weight) each 4 00

Metho-Glycerole of Bismuth and Hydrastia.
- Pint bottles, each 1 75
- Five pint bottles, each 7 60
- One gallon bottles, each 12 00

Composition—Soluble citrate of bismuth, citrate of hydrastine, methylated spirit and glycerine.

Migrainin (Celery and Detannated Guarana).
- Pint bottles, each 1 25
- Five pint bottles, each 5 10
- One gallon bottles, each 8 00

Pepso-Ptelea (Pepsin and Wafer Ash.)
- One lb. bottles (by weight) each 1 25
- Five lb. bottles (by weight) each $5 75

Prescribed in dyspepsia, gastralgia or inflammatory conditions of the stomach, the stomach derangements of infants dependent upon dentition or imperfect nutrition, in diarrhœa, from faulty action of the digestive organs, and in nursing, sore mouth.

Bromal $1 00 $4 40 7 00

Each fluidrachm contains 15 grains mixed bromides ammonium, calcium, lithium, potassium, sodium and caffein, combined with the alkaloids of 1-5 grain opium testing 15 per cent. morphine.

White Pine Expectorant (Pinus Strobus Compound.)
- Pint bottles, each 75
- Five-pint bottles, each 2 80
- One-gallon bottles, each 4 35

Composition—white pine bark, balm of Gilead, sassafras bark, wild cherry bark, spikenard root, blood root, chloroform, acetate of morphine.

White Pine Expectorant (without chloroform).
- Pint bottles, each 75
- Five-pint bottles, each 2 80
- One-gallon bottles, each 4 35

Same as above, with the exception that the chloroform is omitted from the formula.

White Pine Expectorant (without morphine).
- Pint bottles, each 75
- Five-pint bottles, each 2 80
- One-gallon bottles, each 4 35

Same as White Pine Expectorant, with the exception that the morphine only is omitted from the formula.

FLUID MALT PREPARATIONS.

Discount 20 Per Cent.

Fluid Extract of Malt differs from the ordinary malt extract only in being prepared by the arbitrary standard of minim per grain, as with fluid extracts in general, and containing a small proportion of spirit for its preservation. It is very palatable, and owing to its diminished density, easily dispensed.

FLUID MALT PREPARATIONS.	Pints each.	Per five-pint.	Per gallon.
Fluid Extract Malt (simple).....	$0 60	$2 60	$4 00
As here offered it consists simply of the malted cereal extract prepared by the usual method which is based upon the formula of Liebig.			
Fluid Extract of Malt, with Cascara Sagrada.....	65	2 85	4 50
Each fluidrachm represents 8 grains cascara sagrada.			
Fluid Extract of Malt, with Golden Seal.	65	2 85	4 50
This liquid extract of malt, with hydrastis canadensis, is from the same formula so long employed by us. Each fluidrachm represents 5 grains hydrastis canadensis.			
Fluid Extract of Malt, with Golden Seal and Cascara Sagrada	$0 75	$3 15	$5 00
Each fluidrachm represents 5 grains hydrastis canadensis, and 4 grains cascara sagrada.			
Fluid Extract of Malt, with Iron, Quinine and Strychnine.....	75	3 15	5 00
Each fluidounce represents 4 grains pyrophosphate iron; 1 grain quinine sulphate, and 2-75 grain Strychnine.			

PREPARATIONS OF THE HYPOPHOSPHITES.

Discount 20 Per Cent.

Prices are given for one-pint, five-pint and gallon bottles. If ordered in quart bottles, 20 cents will be added to the list price.

HYPOPHOSPHITES.	Pints each.	Per five-pint.	Per gallon.
Syrup of the Calcic Hypophosphite (Hypophosphite of calcium).....	$0 60	$2 60	$4 00
Each fluidrachm contains 5 grains of the salt.			
Syrup of the Calcic and Sodic Hypophosphites (hypophosphites of calcium and sodium).....	60	2 60	4 00
Each fluidrachm contains 3 grains of the lime salt, and 2 grains of the soda salt.			
Syrup of the Ferric Hypophosphite (hypophosphite of Iron).....	60	2 60	4 00
Each fluidrachm contains 1 grain of the soluble hypophosphite of iron.			
Syrup of the Manganous Hypophosphite (hypophosphite of manganese)	1 00	4 50	7 00
Each fluidrachm contains 2 grains of the salt.			
Syrup of the Sodic Hypophosphite (hypophosphite of sodium).....	60	2 60	4 00
Each fluidrachm contains 5 grains of the salt.			
Syrup of the Mineral Hypophosphites (Churchill's formula).....	60	2 60	4 00
Each fluidrachm contains 5 grains of the mixed hypophosphites of calcium, sodium and potassium.			
Syrup of the Mineral Hypophosphites (Ferruginous). Churchill's formula, with iron	60	2 60	4 00
Each fluidrachm contains 5 grains of the mixed hypophosphites of calcium, sodium, potassium and iron.			
Hypophospholoid (Syrup of the Mineral and Alkaloid Hypophosphites).....	$0 65	$2 60	$4 00
Composition.—To each fluidrachm: Hypophosphite of calcium, ½ grain; hypophosphite of sodium, ½ grain; hypophosphite of iron, ⅓ grain; hypophosphite of quinine, ⅓ grain; hypophosphite of strychnine, 1-96 grain.			
Hypophospholoid with Cherry Detannated	65	2 60	4 00
The composition of this syrup is identical with the preceding, excepting that each fluidrachm represents, in addition, 20 grains of detannated cherry bark.			
Hypophospholoid with Manganese.....	65	2 60	4 00
The composition of this syrup is identical with hypophospholoid, excepting that each fluidrachm represents, in addition, ¼ grain of hypophosphite of manganese.			
Hematic Hypophosphites.....	60	2 00	3 15
Each fluidounce contains: Potassium hypophosphite, 1½ grains; manganese hypophosphite, 1 grain; strychnine hypophosphite, 1-16 grain; iron hypophosphite, 1¼ grains; calicum hypophosphite, 1 grain; quinine hypophosphite, 7-16 grain.			
Elixir of Cherry Bark and the Hypophosphites. (See Elixirs.)			
Nitrogenized Iron and the Hypophosphites. (See Medicinal Specialties. Hæmoneuralin.)			

SYRUPS.

Discount 20 Per Cent.

NO CHARGE FOR CONTAINERS.

SYRUPS.	Pints each.	Per gal.
Blackberry	$0 60	$4 00
Blackberry, Aromatic	60	4 00
Bromide of Iron	80	
Buckthorn Berries	80	5 50
Corydalis Compound, A. D	80	5 50
Chloride of Iron (Deprived of astringency)	80	5 50
Each fluidrachm contains 5 drops tinct. chloride of iron, U. S. P.		
Dover's Powder. (Forty grains Dover's Powder to each fluidounce)	70	4 50
Ginger, U. S. P	50	3 00
Horehound Compound, A. D	60	4 00
Hydriodic Acid (Colorless)	70	4 80
Iodide of Calcium	1 00	7 00
Iodide of Iron, U. S. P	85	
Iodide of Iron, Tasteless	85	
Iodide of Manganese	1 60	12 00
Iodides of Iron and Manganese	1 00	7 50
Each fluidrachm of this syrup contains 2 grains iodide of iron and 1 grain iodide manganese.		
Ipecac, U. S. P	70	4 50
Lactate of Iron	1 25	9 00
Lacto-Phosphate of Iron	1 25	9 00
Lacto-Phosphate of Lime, U. S. P	1 10	8 00
Lacto-Phosphates of Lime and Iron	1 10	8 00
Lacto-Phosphates of Lime and Pepsin	1 25	9 00
Lacto-Phosphates of Lime and Soda	1 10	8 00
Lacto-Phosphates of Lime, Soda, Potassa and Iron	1 25	9 00
Lactucarium, U. S. P	1 00	7 50
Lime, U. S. P	70	5 50
Orange Peel	50	3 00
Oxide of Iron (Soluble)	75	5 00
One hundred grains of this syrup represents 3 grains soluble oxide of iron.		

SYRUPS.	Pints each.	Per gal.
Phosphates Comp. (Chemical Food)	$0 70	$4 75
Phosphates Compound	75	5 00
This syrup is prepared from pure bone ash and all the phosphates are held in solution with ortho-phosphoric acid as neither hydrochloric nor citric acid is used in the process.		
Phosphates of Iron, Quinine and Strychnine, U. S. P	80	5 35
Poke Root Compound, A. D	80	5 50
Protoxide of Iron (Ammonio-citrate)	80	5 00
Pyrophosphate of Iron	75	5 00
Rhubarb, U. S. P	58	3 60
Rhubarb, Aromatic, U S. P	58	3 60
Rhubarb and Potassa (Neutralizing Cordial)	58	3 60
Sarsaparilla	60	4 00
Sarsaparilla Compound	58	3 60
Sarsaparilla and Iodide of Calcium	70	4 75
Sarsaparilla and Iodide of Potassium	75	5 00
Senega, U. S. P	80	5 50
Spikenard Compound, A. D	60	4 00
Squaw Vine Compound, A. D	58	3 75
Squill, U. S. P	60	3 75
Squill Compound, U. S. P	70	4 40
Stillingia	60	4 00
Stillingia Compound	58	3 75
Sunflower Seed	60	4 00
Superphosphate of Iron	80	5 50
Tar, U. S. P	50	3 00
Tolu, U. S. P	50	3 00
Wild Cherry Bark, U. S. P	50	3 00
Yellow Dock Compound, A. D	60	4 00
Yerba Santa Compound (Aromatic)	70	4 50
For quinine mixtures.		

GLYCEROLES.

DISCOUNT 20 PER CENT.

GLYCEROLES.	Pints each.	Per gal.
Calendula Flowers	$1 50	$11 00
Fifteen grains to each fluidrachm.		
Damiana Compound	1 75	13 00
To each fluidrachm, damiana, 15 grains; nux vomica, 1 grain, and phosphorus, 1-100 grain.		
Grindelia Robusta	1 50	11 00
Fifteen grains to each fluidrachm.		
Hemlock Bark (for local use)	1 50	11 00
Sixty grains to each fluidrachm.		
Phosphorus (Luhn's elixir)	1 50	11 00
Contains 1-24 grain phosphorus per fluidrachm.		

GLYCEROLES.	Pints each.	Per gal.
Primrose Evening (for local use)	$1 50	$11 00
Sixty grains to each fluidrachm.		
Squill Compound	1 25	9 00
Composition similar to hive syrup, but much more efficient.		
Tannic Acid, U. S. P., 1870	1 50	11 00
Fifteen grains to each fluidrachm.		
Tar	65	4 80
Thirty grains to each fluidrachm.		
Thuja Occidentalis	1 50	11 00
Fifteen grains to each fluidrachm.		
Yerba Santa	1 50	11 00
Fifteen grains to each fluidrachm.		

DISTILLED EXTRACTS.

DISCOUNT 20 PER CENT.

DISTILLED EXTRACTS.	Per pint.	Per gal.
Arnica	$0 50	$3 25
Calendula	50	3 25
Copaiba	60	4 00
Cubeb	60	4 00
Erigeron Canadense	50	3 25

DISTILLED EXTRACTS.	Per pint.	Per gal.
Eucalyptus Globulus	$0 60	$4 00
Hamamelis, No. 1, very fine and strong	40	2 50
Hamamelis, No. 2	25	1 25
Hops	50	3 25

MEDICATED BALSAMIC SUPPOSITORIES.

Discount 20 Per Cent.

BASE: CACAO BUTTER, PARAFFIN AND FIR BALSAM.

Put up in boxes of one dozen Suppositories.

PRICES.

One box	$0 50
Six boxes	2 50
Twelve boxes	4 50

VACINAL.

No. 500.
- Sulpho-Carbolate of Bismuth ..... 3 grains
- Sulpho-Carbolate of Hydrastine ..... ¼ grain
- For leucorrhœa.

No. 501.
- Iodide of Bismuth ..... 3 grains
- Muriate of Hydrastine ..... ¼ grain
- Extract of Belladonna ..... ½ grain
- For ulceration of the os.

No. 502.
- Iodoform ..... 2 grains
- Extract of Belladonna ..... ½ grain
- Hamamelin ..... 1 grain
- For ulceration of the os, attended with flabby condition.

No. 503.
- Sub-Nitrate of Bismuth ..... 5 grains
- Muriate of Hydrastine ..... ¼ grain
- Extract of Belladonna ..... ½ grain
- Gelsemin ..... ⅛ grain
- Hamamelin ..... 1 grain
- For painful menstruation.

RECTAL.

No. 600.
- Iodoform ..... 2 grains
- Extract Stramonium ..... ½ grain
- Hamamelin ..... 1 grain
- For the discussion of hemorrhoidal tumors.

No. 601.
- Tar ..... 3 grains
- Biborate of Sodium ..... 2 grains
- Potassa Alum ..... 2 grains
- For itching piles.

No. 602.
- Tannate of Bismuth ..... 5 grains
- Muriate of Hydrastine ..... ⅛ grain
- Gelsemin ..... ⅛ grain
- In chronic diarrhœa and dysentery.

☞ The above are our Special Formulæ. Any desired formula can be made on short notice. In sending formula, simply give the desired medicinal ingredients in grains.

MEDICATED GLYCO-GELATIN SUPPOSITORIES.

Discount 20 Per Cent.

Put up in boxes of one dozen Suppositories.

PRICES.

One box	$0 50
Six boxes	2 50
Twelve boxes	4 50

FORM A.

FORMULAS.

1. Morphine Sulphate ..... ¼ grain
   Properties—Anodyne.

Suppositories containing Cocaine Muriate are sold at the following prices:

One box	$0 60
Six boxes	3 50
Twelve boxes	6 00

2. Podophyllin ..... 1 grain
   Properties—Laxative.
3. Carbolic Acid ..... 2 grains
   Properties—Antiseptic, azymotic.
4. Hydrastis Canadensis ..... 5 grains
   Each suppository contains the active constituents of five grains of the root.
   Properties—Tonic, with a special action upon mucous surfaces. It is indicated in vaginal irritation or inflammation.
5. Hamamelis Virg. (Distilled Extract) ..... 5 grains
   Prepared from a very concentrated Distilled Extract of Witch Hazel.

6. Iodoform ..... 3 grains
Largely prescribed in the treatment of ulceration of the os, and scirrhus affections.

7. Calendula ..... 10 grains
Each suppository contains the active constituents of ten grains of the flowers.

8. Collinsonia ..... 2 grains
Each suppository represents two grains of the root. They are indicated in hemorrhoids with rectal irritation and partly scybalous and semi-fluid fæces.

9. Æsculus Hippocastanum ..... 1 grain
Each suppository contains ½ grain extract of the nut of Horse Chestnut. Indicated in hemorrhoids with purple, hard and very sore tumors, of aching but rarely bleeding, tendency.

10. Boracic Acid, Impl. Powder ..... 5 grains
Properties—Antiseptic, azymotic. Used in leucorrhœa and aphthous sores of the vagina.

11. Powdered Opium ..... 2 grains
Oil of Erigeron ..... 1 grain
Properties—Anodyne, styptic.

12. Acetate of Lead ..... 1⅓ grains
Powdered Opium ..... 1 grain
Properties—Astringent, anodyne.

13. Iodoform ..... 2 grains
Subnit. Bismuth ..... 5 grains
Extract Hamamelis ..... ½ grain
Extract Stramonium ..... ½ grain
Used in hemorrhoids.

14. Powdered Opium ..... 1 grain
Extract Belladonna ..... ½ grain
Properties—Anodyne.

16. Morphine Muriate ..... ¼ grain
Boroglyceride ..... 2 grains
Fluid Extract Calendula ..... 3 grains
Fluid Extract Balm Gilead Buds ..... 5 grains
For ulceration of rectal and vaginal canal.

17. Iodoform ..... 3 grains
Oil Erigeron ..... 2 grains
Extract Belladonna ..... ¼ grain
Properties—Discutient, styptic and anodyne. Very valuable in the treatment of hemorrhoidal tumors.

18. Iodoform ..... 3 grains
Oleo-resin Eucalyptus ..... 2 grains
Prescribed in gonorrhœa and leucorrhœa.

19. Fluid Extract Hamamelis ..... 10 grains
Tar ..... 10 grains
Extract Belladonna ..... ½ grain
Indicated in the treatment of hemorrhoids.

20. Extract Æsculus Hip. (fruit) ..... 1 grain
Tar ..... 5 grains
Used in hemorrhoids.

21. Tar ..... 5 grains
Extract Belladonna ..... ½ grain
Indicated in itching of the rectum.

22. Podophyllin ..... 1 grain
Extract Nux Vomica ..... 1 grain
Colocynth ..... 1 grain
Castor Oil ..... 5 grains
Indicated in constipation.

23. Extract Jalap ..... 3 grains
Extract Rhubarb ..... 3 grains
Powdered Soap ..... 2 grains
Castor Oil ..... 5 grains

24. Sulphate of Zinc ..... 2 grains
Oil of Erigeron ..... 2 grains
For leucorrhœa.

25. Acetate of Lead ..... 1 grain
Powdered Opium ..... 1 grain
Oil of Erigeron ..... 2 grains
Properties—Astringent, anodyne.

27. Carbolic Acid ..... ½ grain
Acetate of Zinc ..... 1 grain
Extract Hydrastis Canadensis ..... 3 grains
Extract Belladonna ..... 1 grain
Properties—Antiseptic, astringent and anodyne. Used in vaginal irritation.

28. Iodoform ..... 2 grains
Oil Sandalwood ..... 2 grains
Chlorate of Potassa ..... 3 grains
Morphine Sulphate ..... ¼ grain
Used in female gonorrhœa and syphilis.

29. Extract Aloes Socot ..... 2 grains
Extract Senna Alex ..... 2 grains
Powdered Soap ..... 1 grain
Carbolic Acid ..... ½ grain
Oil Wormseed ..... ¼ grain
For pin worms.

30. Belladonna ..... 1 grain
Gelsemium ..... 3 grains
Opium ..... 1 grain
For dysmenorrhœa.

31. Morphine ..... ⅛ grain
Gallic Acid ..... 1 grain
Tannic Acid ..... ½ grain
Bismuth Subnitrate ..... 10 grains

32. Extract Colocynth Comp ..... 5 grains
Extract Aloes ..... 4 grains
Extract Belladonna ..... 1 grain
Extract Nux Vomica ..... 1 grain
Podophyllin ..... 1 grain
Properties—Cathartic.

34. Hydrastis Canadensis ..... 3 grains
Subnitrate of Bismuth ..... 15 grains
For dysmenorrhœa and leucorrhœa.

35. Iodoform ..... ½ grain
Tar ..... 5 grains
Fluid Extract Hamamelis ..... 5 grains
Sulphate Morphine ..... ¼ grain
Indicated in hemorrhoids.

36. Fir Balsam ..... 5 grains
Fluid Extract Balm Gilead Buds ..... 3 grains
Boroglyceride ..... 1 grain
Hyoscyamus ..... 1 grain
For hemorrhoids.

37. Iodoform ..... 2 grains
Extract Belladonna ..... ½ grain
Hamamelis ..... 1 grain
Boroglyceride ..... 2 grains
For ulceration of the os attended with flabby condition.

38. Powdered Opium ..... 1 grain
Properties—Anodyne.

39. Iodoform ..... 2 grains
Ergotin ..... 1 grain
Extract Belladonna ..... ½ grain
For hemorrhoids.

40. Santonin ..... 2 grains
Powdered Borax ..... 2 grains
For pin worms.

41. Eucalyptus ..... 2 grains
Prescribed in gonorrhœa and leucorrhœa.

42. Iodoform ..... 2 grains
Balsam Peru ..... 2 grains
Used in ulcerations, etc.

44. Ergotin ..... 2½ grains
Fluid Extract Hamamelis ..... 2 grains
For piles.

46. Extract Nux Vomica ..... 2 grains
Camphor, Monobromated ..... ½ grain
For spermatorrhœa.

48. Iodoform ..... 2 grains
Lupulin ..... 3 grains
Tannic Acid ..... 1 grain
Sulphate of Zinc ..... 1 grain
Used in female gonorrhœa and syphilis.

SPECIAL FORMULÆ—FORM A.

300. Fluid Extract Hamamelis ..... 5 grains
Eucalyptus ..... 1 grain
Tar ..... 5 grains
Used for piles.

302. Blue Cohosh ..... 3 grains
Wild Yam ..... 4 grains
Ladies' Slipper ..... 3 grains
For dysmenorrhœa.

303. Oil Erigeron ..... 5 grains
Fluid Extract Hamamelis ..... 3 grains
Fluid Extract Hydrastis ..... 3 grains
For uterine hemorrhage.

305. Blue Cohosh ..... 5 grains
Beth Root ..... 4 grains
Serpentaria ..... 1 grain
For suppressed menstruation.

306. Fluid Extract Hydrastis ..... 3 grains
Black Cohosh ..... 3 grains
Boxwood ..... 4 grains
Uterine Tonic.

307. Beth Root ..... 3 grains
Fluid Extract Hamamelis ..... 4 grains
Ladies' Slipper ..... 2 grains
Fluid Extract Hydrastis ..... 2 grains
For prolapsus.

308. Powdered Borax ..... 5 grains
Fluid Extract Balm Gilead Buds ..... 5 grains
Used for ulceration of the vagina.

309. Senecin ..... 10 grains
Used in amenorrhœa, dysmenorrhœa, menorrhagia, hysteria, gravel, strangury, chlorsis, dropsy, dysentery gonorrhœa.

310. Populin ..... 2 grains
Tincture of Myrrh ..... 1 grain
Used in scalding and suppression of urine, catarrh of the bladder, and chronic debility of the mucous membrane.

311. Rhusin (Upland Sumach) ..... 2 grains
Used in diabetes, leucorrhœa, gonorrhœa, scrofula, ulceration and hemorrhoids.

312. Red Clover ..... 15 grains
Properties—Antispasmodic, stimulant and detergent, said to be excellent in cancerous difficulties, ulcers, etc.

313. Oil Erigeron ..... 2 grains
Used in hemorrhage from the bowels and uterus. Is regarded as almost a specific.

314. Macrotin ..... 2 grains
Used in prolapsus uteri and spermatorrhœa.

315. Iron Sub. Sulphate ..... 1 grain
Ergotin ..... 1¼ grains
Extract Hamamelis ..... 4 grains
Used in hemorrhoidal conditions of the lower rectum (capillary, venous, arterial hemorrhoids).

316. Resorcin ..... 1½ grains
Extract Belladonna ..... ¼ grain
Extract Hamamelis ..... 4 grains
Prescribed in rectal ulcerations. Especially efficient in some forms of malignant or rodent ulcerations.

318. Hydrag. Subchlor ..... 1 grain
Powdered Opium ..... ½ grain
Extract Belladonna ..... ¼ grain
Used in fissures and irritable ulcerations of the rectum.

319. Resorcin ..... 1 grain
Cocaine ..... ½ grain
Used in spasmodic stricture and painful ulcerations of the sphincter ani.

320. Pinus Canadensis, White ..... 2 grains
Cocaine ..... ½ grain

321. Hydrastine Muriate ..... ½ grain
Cocaine ..... ½ grain

322. Cocaine ..... ½ grain

323. Cocaine Muriate ..... ⅓ grain
Morphine Sulphate ..... 1-6 grain

324. Cocaine Muriate ..... ¼ grain
Morphine Acetate ..... 1-6 grain
Iodoform ..... 5 grains

325. Thuja ..... 10 grains

326. Boroglyceride ..... 2 grains
Hydrastine Muriate ..... ⅛ grain
Eucalyptol ..... 1 grain
Thymol ..... ½ grain
Benzoic Acid ..... 1 grain
Oil Wintergreen ..... 3 minims
Especially adapted for leucorrhœa, cervical congestion and uterine ulceration.

FORM B.

FORMULAS.

51. Oil Erigeron ..... 1 grain
Properties—Powerful styptic.

52. Carbolic Acid ..... 1 grain
Properties—Antiseptic, azymotic. Used in gonorrhœa, ulceration of the os, etc.

53. Extract Belladonna ..... 1 grain
Properties—Anodyne.

54. Fluid Extract Calendula ..... 3 gtt.
Properties—Stimulant, antiseptic.

55. Ergotin ..... 1 grain
Used in leucorrhœa, amenorrhœa and gonorrhœa.

56. Powdered Opium ..... ½ grain
Properties—Anodyne.

58. Iodoform ..... 1 grain
Oil Erigeron ..... 1 grain

60. Hydrastis Canadensis ..... 3 grains
Each Suppository contains the active constituents of three grains of the root.
Properties—Tonic, with a special action upon mucous surfaces. Is indicated in urethral or vaginal irritation or inflammation.

61. Iodoform ..... 1 grain
Properties—Tonic, azymotic.

62. Fluid Extract Gelsemium ..... 2 gtt.
Used in gonorrhœa and nocturnal emissions.

63. Sulphate of Zinc ..... ¼ grain
Prescribed in chronic gonorrhœa, gleet and leucorrhœa.

64. Iodine (Churchill's).
Is a favorite local application with many physicians, and it does not provoke the uterine colic, as does the common form.

65. Oleo-Resin Eucalyptus ..... 3 grains
Prescribed in gonorrhœa and leucorrhœa.

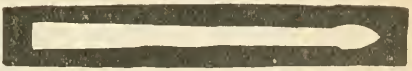
66. Nitrate of Sanguinarina ..... 1-100 grain
Stimulant; tonic to mucous surfaces.

67. Santonin ..... 2 grains
For pin worms.

74. Iodoform ..... 3 grains
Balsam Peru ..... 2 grains

76. Sulphate of morphine ..... ¼ grain
Properties—Anodyne.

FORM C.



For the nasal passages. The Suppositories, or Bulb Bougies, have been very successfully used for the local treatment of catarrhal affections.

FORMULÆ.

127. Potassium Chlorate ..... 1 grain
Boracic Acid ..... 1 grain

129. Iodoform ..... 1 grain
Eucalyptol ..... 1 grain

130. Iodoform ..... 1 grain
Carbolic Acid ..... ⅛ grain

131. Hydrastis ..... 2 grains
Sodium Chloride ..... 2 grains

133. Boroglyceride ..... 1 grain
Iodoform ..... ½ grain
Eucalyptol ..... ½ grain

134. { Boroglyceride ..... 1 grain
{ Oleo-Resin Erigeron ..... 1 grain
Powerfully styptic.

135. { Boroglyceride ..... 1 grain
{ Sulphate Morphine ..... ⅛ grain

136. { Boroglyceride ..... 1 grain
{ Extract Belladonna ..... ½ grain

138. { Boroglyceride ..... 1 grain
{ Extract Hydrastis ..... ½ grain

MEDICATED GELATIN BOUGIES.

FORM D.

FORMULAS.

I. X. L. { Extract Belladonna ..... ¼ grain
{ Tannate of Quinine ..... 1 grain

Excelsior No. 1. { Fluid Extract of Hydrastis ..... 1 grain
{ Sulphate of Copper ..... ½ grain
{ Powdered Boracic Acid ..... 1 grain

Excelsior No. 2. { Boracic Acid ..... 1 grain
{ Sulphate of Morphine ..... ⅛ grain
{ Subnitrate of Bismuth ..... 3 grains
{ Sulphate of Quinine ..... ½ grain

Excelsior No. 3. { Sulphate of Zinc ..... ½ grain
{ Carbolic Acid ..... ¼ grain
{ Extract Hydrastis ..... 1 grain
{ Extract Belladonna ..... ½ grain
{ Boroglyceride ..... 1 grain

Excelsior No. 4. { Iodoform ..... 2 grains
{ Sulphate of Zinc ..... ½ grain

Excelsior No. 5. { White Pinus Canadensis (Kennedy's) ..... 1 grain
{ Cocaine Hydrochlorate ..... ½ grain

FORM E.

FORMULÆ.

100. { Iodoform ..... 1 grain
{ Oil of Sandalwood ..... 1 grain
{ Sulphate of Zinc ..... ½ grain
{ Sulphate of Morphine ..... ¼ grain
For gonorrhœa.

101. { Oil of Sandalwood ..... 1 grain
{ Extract of Hydrastis ..... 1 grain
{ Sulphate of Zinc ..... ½ grain
{ Sulphate of Morphine ..... ¼ grain
For gonorrhœa.

102. { Powdered Opium ..... 1 grain
{ Powdered Camphor ..... 1 grain
For chordee.

103. { Sulphate of Zinc ..... ⅛ grain
{ Acetate of Lead ..... ¼ grain
{ Sulphate of Morphine ..... 1-16 grain
{ Extract Belladonna ..... 1-16 grain
{ Extract of Hydrastis ..... 1 grain
Ricord's Urethral Bougie.

111. { Balsam Copaiba ..... 1 grain
{ Gelsemium ..... ¼ grain
{ Oil of Cubeb ..... ½ grain

112. { Hydrastis Canadensis ..... 2 grains
{ Sulphate of Zinc ..... ¼ grain
For gonorrhœa.

113. Iodoform ..... 2 grains

115. { Sulphate of Zinc ..... ½ grain
{ Carbolic Acid ..... ¼ grain
For gonorrhœa.

117. { Iodoform ..... 2 grains
{ Powdered Opium ..... 1 grain

118. { Hamamelis ..... 3 grains
{ Hydrastine Muriate ..... ¼ grain
{ Picis Liquidæ ..... 2 grains
Used in the first stages of gonorrhœa.

119. { Hamamelis ..... 3 grains
{ Iodoform ..... 1 grain
{ Picis Liquidæ ..... 2 grains

120. Cocaine Hydrochlor ..... ½ grain

121. { Hydrastine Hydrochlor ..... ¼ grain
{ Cocaine Hydrochlor ..... ½ grain

122. { Extract Pinus Canadensis (Kennedy's) ..... 1 grain
{ Cocaine Hydrochlor ..... ¼ grain

123. Thuja ..... 5 grains

FORM F.

FORMULÆ.

141. { Sulpho-Carbolate of Bismuth ..... 1 grain
{ Sulpho-Carbolate of Hydrastine ..... ⅛ grain
For gonorrhœa.

142. { Sulpho-Carbolate of Zinc ..... ⅛ grain
{ Sulpho-Carbolate of Hydrastine ..... ⅛ grain
For gonorrhœa.

143. { Iodide of Bismuth ..... 1 grain
{ Gelsemin ..... ¼ grain
For stricture.

144. { Iodoform ..... 1 grain
{ Tannic Acid ..... 1 grain
{ Gelsemin ..... ¼ grain

145. Balsam Copaiba ..... 10 gtt.

DR. PRESTON B. ROSE'S

PEPTONIZED BEEF AND ITS COMBINATIONS.

NET PRICES.

We are exclusive agents for the sale of this valuable therapeutic nutrient which, since its successful production, has revealed some very important facts connected with the digestion and assimilation of foods. An important feature of this peptone is its remarkable action upon fats, which has enabled us to produce a TRUE EMULSION, so closely approximating that of the intestinal tract that it has been denominated ARTIFICIAL CHYLE. This product emulsifies all oils, both fixed and essential, without the intervention of gums or other accessories and it reduces the oil globules to an extent heretofore unattainable, thus producing an emulsion that will be taken up by the lacteals readily, and without the usual regurgitation.

☞ Full descriptive matter will be mailed upon application.

Peptonized Beef (Dr. Rose's).
- Large bottles, each $1 00
- Large bottles, per dozen 10 00
- Small bottles, each 60
- Small bottles, per dozen 5 75

PEPTONIZED BEEF EMULSION.

Peptonized Beef with Cod Liver Oil (The Ideal Emulsion).
- One pint bottles, each $0 85
- One pint bottles, per dozen 8 00

THE IDEAL EMULSION is made from the PUREST Norwegian Cod Liver Oil and contains NOT A PARTICLE OF GUM OR OTHER EMULSIVE ACCESSORIES; THUS ALL INERT MUCILAGE AND OTHER EMULSIVE AGENTS ARE REJECTED.

Nutritive Wine (Beef and Wine).
- Pint bottles, each $0 60
- Five pint bottles, each 2 50
- Gallon bottles, each 3 75

Beef, Iron and Wine (Improved).
- Pint bottles, each 60
- Five pint bottles, each 2 50
- Gallon bottles, each 3 75

Beef, Malt and Hops.
- Pint bottles, each 80
- Five pint bottles, each 3 10
- Gallon bottles, each 5 00

The beef used in these preparations is Dr. Preston B. Rose's Liquid Peptone, which contains both the albuminous and extractive principles of fresh lean beef in a highly concentrated form.

DIGESTIVE PRINCIPLES.

NET PRICES.

Catalysin (Combined Pepsin), Saccharated.
- In one-fourth pound bottles, each $1 35
- In one-half pound bottles, each 2 60
- Per pound 5 00

The Digestive Ferments represented in this preparation are pork, rennet and poultry pepsin, pancreatin, ptyalin and diastase, associated with lactic and muriatic acids.

Catalysin, Saccharated with 10 per cent. Pure Powdered Willow Charcoal.
- One-fourth pound bottle 1 35
- One-half pound bottle 2 60
- One pound bottle 5 00

Pancreatin, Saccharated.
- Per ounce 40
- One-fourth pound bottles, each 1 35
- One-half pound bottles, each 2 65
- Per pound 5 00

Pepsin, Pork, Saccharated, U. S. P., 1890 (1-300).
- One-fourth pound bottles, each 45
- One-half pound bottles, each 85
- Per pound $1 50

One grain dissolves 500 grains coagulated albumen.

Pepsin, Pork, Pure Powdered (1-3000).
- Per ounce 75
- One-fourth pound bottles, each 2 20
- One-half pound bottles, each 4 10
- Per pound 8 00

Pepsin, Pork, Scale, 1-3000 (for solutions).
- Per ounce 75
- One-fourth pound bottles, each 2 20
- One-half pound bottles, each 4 10
- Per pound 8 00

Peptic Extract, White.
- Pint bottles, each 75
- Five-pint bottles, each 2 50
- Per gallon 4 00

Peptic Extract (Aromatized), Red.
- Pint bottles, each 80
- Five-pint bottles, each 2 80
- Per gallon 4 50

PLASTERS.

NET PRICES.

Belladonna, U. S. P., half-pound rolls, per lb $1 50

Lead, U. S. P., Diachylon, half-pound rolls, per lb 40

Lead, Red Oxide, A. D., Black Salve, half-pound rolls, per lb 50

Resin, U. S. P., Adhesive Plaster, half-pound rolls, per lb 45

Resin Compound, A. D. (Beach's Adhesive Plaster), half-pound rolls, per lb $0 50

Tar Compound, Irritating Plaster, one-pound cans, per lb 45

Tar Compound, Irritating Plaster, two-ounce boxes, per lb 50

CERATES.

NET PRICES.

IN ONE POUND JARS. NO CHARGE FOR JARS.

Cantharides, U. S. P., Blister, in one-pound tins, per lb.	$1 00
Cantharides, in two-ounce boxes, per lb.	1 25
Carbonate of Zinc, per lb.	85
Lard, U. S. P., Simple Cerate, per lb.	85
Lead, Subacetate, U. S. P. (Goulard's), per lb.	60
Resin, U. S. P., Basilicon Ointment, per lb.	$0 50
Resin Compound, per lb.	50
Savin, per lb.	75
Soap, per lb.	60
Spermaceti, U. S. P., per lb.	75

COLLODIONS.

NET PRICES.

NO CHARGE FOR CONTAINERS.

COLLODIONS.	Pints each.	1 fl. oz. each.
Contractile	$1 00	$0 15
Flexible	1 00	15
Simple	1 00	15
Salicylated Compound, Corn Cure		$0 20
VESICANT.		
Cantharides	$2 50	25

TINCTURES—U. S. P. AND A. D.

NET PRICES.

NO CHARGE FOR CONTAINERS.

PRICES ARE GIVEN FOR ONE POUND BOTTLES.

For one-half lb. bottles, add 10 cents per pound list. For one-fourth pound bottles, add 20 cents per lb. list.

For five pound bottles, deduct 5 cents per pound list.

TINCTURES.	Per lb.
Aconite Root, U. S. P.	$0 60
Aconite Root (Fleming's)	70
Aloes, U. S. P.	50
Aloes and Myrrh, U. S. P.	65
Aralia Spinosa, A. D.	60
Arnica Flowers, U. S. P.	50
Arnica Root, U. S. P.	60
Asafetida, U. S. P.	60
Asafetida Compound, A. D.	75
Balm of Gilead Buds	80
Belladonna, U. S. P.	50
Benzoin, U. S. P.	60
Benzoin Compound, U. S. P.	65
Black Cohosh Compound, A. D.	60
Blood Root, U. S. P.	50
Blue Cohosh Compound, A. D.	60
Blue Flag, A. D.	60
Bryonia, U. S. P.	60
Calendula, U. S. P.	60
Cannabis Indica, U. S. P.	70
Cantharis, U. S. P.	60
Capsicum, U. S. P.	50
Capsicum and Myrrh (Hot Drops)	70
Cardamom, U. S. P.	75
Cardamom Compound, U. S. P.	50
Castor	1 10
Castor Ammoniated	1 10
Catechu Compound, U. S. P.	60
Chirata, U. S. P.	80
Cimicifuga, A. D.	60
Cimicifuga, U. S. P.	60
Cimicifuga Compound, A. D.	60
Cinchona, U. S. P.	65
Cinchona Compound, U. S. P.	60
Cinnamon, U. S. P.	50
Cinnamon Compound, A. D.	$0 50
Cochineal	60
Colchicum Seed, U. S. P.	60
Colchicum Compound	50
Columbo	50
Conium Seed	50
Corydalis	60
Corydalis Compound, A. D.	75
Cramp Bark Compound	75
Cubeb, U. S. P.	60
Digitalis, U. S. P.	50
Galls, U. S. P.	50
Gelsemium, U. S. P.	60
Gentian	60
Gentian Compound, U. S. P.	50
Gentian Compound, A. D.	75
Ginger, U. S. P.	60
Golden Seal, A. D.	60
Golden Seal, U. S. P.	75
Golden Seal Compound, A. D.	75
Guaiac, U. S. P.	60
Guaiac, Ammoniated, U. S. P.	70
Guaiac (Dewee's)	80
Helleborus	50
High Cranberry Compound, A. D.	60
Hops, U. S. P.	60
Hyoscyamus, U. S. P.	50
Hypericum, A. D.	85
Ignatia	75
Iodine, U. S. P.	90
Iodine, Colorless	1 00
Iodine Compound	1 00
Iodine (Churchill's)	1 25
Ipecac and Opium, U. S. P., Assayed	1 50
Iron, Acetate	65

TINCTURES.	Per lb.
Iron, Acetate (Rademacher's)	$0 80
Iron, Chloride, U. S. P.	40
Jalap	75
Kalmia, A. D.	60
Kino, U. S. P.	60
Laricis Compound, A. D.	50
Lavender Compound, U. S. P.	55
Leptandra, A. D.	60
Lobelia, U. S. P.	50
Lobelia Compound, A. D.	50
Lobelia and Capsicum Compound, A. D.	50
Lupulin	1 00
Matico, U. S. P.	50
Myrrh, U. S. P.	70
Nux Vomica, U. S. P., Assayed	60
Standard—0.3% alkaloids, estimated by titration with volumetric acid solution.	
Opium, U. S. P., Assayed	90
Standard—Six grains morphine to each fluidounce.	
Opium, Camphorated, U. S. P., Assayed	50
Standard—0.250 grain morphine to each fluidounce.	
Opium Comp. (Dr. Squibb's Diarrhœa Mixture), Assayed	85
Opium Deod. (See Fluid Extracts.)	
Orange Peel, Bitter, U. S. P.	50
Orange Peel, Sweet, U. S. P.	50

TINCTURES.	Per lb.
Passiflora Incarnata	$1 25
Pectoralis (Bateman's Pectoral Drops)	60
Physostigma, U. S. P.	75
Phytolacca, A. D.	60
Podophyllum, A. D.	60
Polygonum, A. D.	60
Pyrethrum, U. S. P.	70
Quassia, U. S. P.	50
Rhatany	60
Rhubarb, U. S. P.	60
Rhubarb and Senna	75
Rhubarb Compound	60
Rhubarb Aromatic, U. S. P.	60
Rhubarb, Sweet, U. S. P.	60
Saffron, U. S. P.	50
Sanguinaria Compound (Acetic) A. D.	60
Senna Compound, A. D., Ed.	55
Serpentaria, U. S. P.	60
Serpentaria, Compound, A. D.	60
Squill, U. S. P.	60
Stramonium, U. S. P.	60
Strophanthus, U. S. P.	1 10
Sumbul, U. S. P.	75
Tolu, U. S. P.	75
Valerian, U. S. P.	60
Valerian, Ammoniated, U. S. P.	85
Veratrum Viride, U. S. P.	85

OINTMENTS.

BENZOINATED.

NET PRICES.

IN ONE POUND JARS OR CANS. NO CHARGE FOR JARS.

OINTMENTS.	Per lb.
Baptisia, A. D.	$0 60
Bear's Foot	80
Belladonna, U. S. P.	80
Bittersweet (False)	90
Cantharides	80
Creasote	65
Evening Primrose	90
Iodine, U. S. P.	70
Iodine Compound	70
Juniper (Howe's)	75
Lead (Diachylon) Herba's Lead Ointment	70
Lead, Carbonate, U. S. P.	70
Lead Compound, A. D., Meyer's Lead Ointment	70
Mercurial, one-half Mercury. *Market rates.*	
Mercurial, one-third Mercury. *Market rates.*	
Mercuric Iodide, Red	1 00
Mercuric Nitrate, U. S. P., (Citrine Ointment	60
Poke Root, A. D.	80

OINTMENTS.	Per lb.
Rose Water, U. S. P. (Cold Cream)	$0 90
Sambucus Nigra (discutient)	90
Scrophularia (Heal All)	90
Stramonium	75
Sulphur, U. S. P.	45
Sulphur, Alkaline	45
Tar, U. S. P.	45
Tar Compound	60
Tar, borax and alum. For itching piles.	
Thymol (Camphorated, 10 per cent. Thymol)	2 40
Zinc Oxide	60
This ointment contains 20 per cent. zinc oxide but differs from the official preparation in that the base is composed of cocoanut oil and mutton tallow, which furnishes an article very smooth and white, having an agreeable odor, with but little tendency to become rancid.	
Zinc Oxide Compound, A. D.	75

OLEATES.

NET PRICES.

CONTAINERS INCLUDED.	Per lb.	Per ½ lb.	Per ¼ lb.	Per oz.
Oleate of Aconitine, 2 per cent.	$7 00	$3 55	$1 80	$0 50
Oleate of Atropine, 2 per cent.	5 00	2 55	1 30	40
Oleate of Bismuth	3 25	1 70	90	25
Oleate of Copper	2 25	1 20	65	20
Oleate of Mercury, 5 per cent	1 50	80	44	15
Oleate of Mercury, 10 per cent.	2 00	1 05	56	20
Oleate of Mercury, 15 per cent.	2 50	1 30	70	25

CONTAINERS INCLUDED.	Per lb.	Per ½ lb.	Per ¼ lb.	Per oz.
Oleate of Mercury, 20 per cent., U. S. P.	$3 25	$1 70	$0 90	$0 30
Oleate of Mercury, 5 per cent., and Morphine, 2 per cent.	4 50	2 30	1 20	40
Oleate of Mercury, 10 per cent., and Morphine, 2 per cent	5 00	2 55	1 30	40
Oleate of Mercury, 20 per cent., and Morphine, 2 per cent.	5 50	2 80	1 44	45

CONTAINERS INCLUDED.	Per lb.	Per ½ lb.	Per ¼ lb.	Per oz.
Oleate of Morphine, 2 per cent...	$3 00	$1 55	$0 80	$0 25
Oleate of Morphine, 5 per cent...	5 00	2 55	1 30	40
Oleate of Quinine, 5 per cent.....	3 00	1 55	81	30
Oleate of Quinine, 10 per cent....	$5 00	$2 55	$1 30	$0 45
Oleate of Zinc, Powdered	2 25	1 20	65	20

OINTMENTS OF THE OLEATES.

NET PRICES.

Ointment of Oleate of Bismuth, per lb..... $1 50
Twenty per cent. oleate.

Ointment of Oleate of Copper, per lb..... 1 30
Twenty per cent. oleate.

Ointment of Oleate of Mercury, per lb..... $1 30
Ten per cent. oleate.

Ointment of Oleate of Zinc (Neutral), per lb..... 75

COMPOUND POWDERED DRUGS.

IN TIN CANS.

NET PRICES.

COMPOUND POWDERED DRUGS.	Per lb.
Alkaline Powder.....	$0 22
Bicarbonate Sodium, 3 parts. Phosphate Sodium, 1 part.	
Aromatic Powder, U. S. P.....	80
Cinnamon, 35 parts. Ginger, 35 parts. Cardamon, 15 parts. Nutmeg, 15 parts.	
Catechu Compound, Br.....	50
Catechu, 4 parts. Kino, 2 parts. Cinnamon, 1 part. Rhatany, 2 parts. Nutmeg, 1 part.	
Chalk Aromatic, Br.....	50
Cinnamon, 4 parts. Nutmeg, 3 parts. Saffron, 3 parts. Cloves, 1½ parts. Cardamom, 1 part. Sugar, 25 parts. Chalk, 11 parts.	
Chalk Aromatic with Opium.....	60
Composition same as Chalk Aromatic, excepting that each forty grains contain one grain of opium.	
Chalk Compound, U. S. P.....	40
Prepared Chalk, 30 parts. Powdered Acacia, 20 parts. Powdered Sugar, 50 parts. For making chalk mixture.	
Charcoal Compound, A. D.....	40
Charcoal, 2 parts. Rhubarb, 1 part. Bicarbonate Sodium, ½ part.	
Composition Powder.....	35
Powdered Bayberry, 16 parts. Powdered Ginger, 1 part. Powdered Cloves, 1 part. Powdered Capsicum, 1 part.	
Diaphoretic Powder.....	1 25
Dover's Powder.....	1 10
Golden Seal Compound, A. D.....	60
Golden Seal, Blue Cohosh, Helonias. } Equal parts.	
Ipecac Compound, A. D.....	$0 85
Pleurisy Root, Blood Root, Ipecac, Nitrate Potassium. } Equal parts.	
Jalap Compound (Anti-bilious Physic).....	75
Alex Senna, 16 parts. Jalap, 8 parts. Jamaica Ginger, 1 part.	
Kino Compound, Br.....	75
Kino, 15 parts. Opium, 1 part. Cinnamon, 4 parts.	
Ladies' Slipper Compound, A. D.....	60
Ladies' Slipper, Pleurisy Root, Skunk Cabbage, Scullcap. } Equal parts.	
Licorice Compound, U. S. P.....	40
Senna, 18 parts. Licorice Root, 16 parts. Fennel Seed, 8 parts. Sulphur, Washed, 8 parts. Powdered Sugar, 50 parts.	
Lobelia Compound, A. D.....	80
Lobelia, 6 parts. Blood Root, 3 parts. Skunk Cabbage, 3 parts. Ipecac, 4 parts. Capsicum, 1 part.	
Pink Root Compound, A. D.....	60
Pink Root, 2 parts. Bitter Root, 2 parts. Swamp Milkweed, 2 parts. Mandrake, 2 parts. Balmony, 4 parts.	
Pleurisy Root Compound, A. D	60
Pleurisy Root, 4 parts. Spearmint, 4 parts. Sumach Berries, 4 parts. Skunk Cabbage, 2 parts. Ginger, 1 part. Bayberry, 2 parts.	
Resin of Podophyllum Compound, A. D.....	80
Podophyllin, 1 part. Bitartrate Potassium, 45 parts.	
Rhubarb Compound, A. D.....	80
Rhubarb, Bi-Carbonate Potassium, Peppermint Leaves. } Equal parts.	

COCAINE TABLETS.

FOR SOLUTION.

NET PRICES.

	Per 100.
Cocaine Hydrochlorate, 1⅛ grains	$1 85
Cocaine Hydrochlorate, 2¼ grains	3 50

Dissolve one 1⅛ grain tablet in one fluidrachm of distilled water for a two per cent. solution, and for a four per cent. solution dissolve one 2¼ grain tablet in one fluidrachm distilled water.

DIPSOMANIA TABLETS.

NET PRICES.

TABLET TRITURATES.	Per 100
Chloride Gold and Sodium Compound	$1 00
Chloride of Gold and Sodium, ⅛ gr.; Muriate Ammonia, 1-16 gr.; Nitrate Strychnine, 1-50 gr.; Atropine Sulphate, 1-200 gr.; Cocaine Muriate, 1-6 gr.	

HYPODERMIC TABLETS.	Per tube boxes of 25.	Per 100 in 4 tubes.
Chloride of Gold and Sodium with Nitrate Strychnine	$0 26	$0 75
Chloride Gold and Sodium, 1-10 gr.; Nitrate Strychnine, 1-40 gr.		

These tablet triturates and hypodermic tablets are to be used together. They are prepared for the purpose of furnishing in a compact and convenient form, substantially the chloride gold cure for inebriety, recommended by Dr. J. L. Gray, of La Porte, Ind., which treatment has received the endorsement of many eminent practitioners. Directions for use accompany each package.

This Formula Is an Improvement,

As experience has suggested,

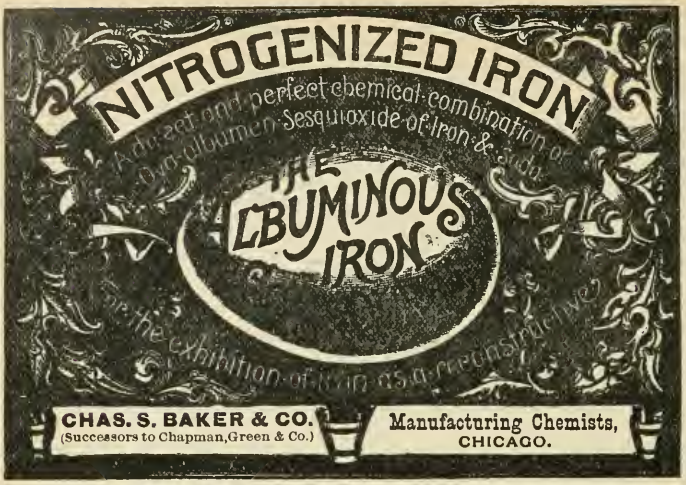
on Elixir Senecio Compound,

Which we have sold for several years.

The improvement consists essentially in the addition of Wine of Rhus Glabrum, prepared by fermentation of the expressed juice of the fruit. . . . . .

As now prepared

It has no Superior As a Uterine Tonic.



It is the Most Palatable, Most Easily Assimilated, and Most Efficient of all the Preparations of Iron.

NITROGENIZED IRON

Is a Direct Food for Impoverished Blood.

Especially Valuable in the Treatment of Anæmic Women and Children.

HÆMO-CARDIACIN

...IS ESSENTIALLY A CARDIAC TONIC.

It Regulates the Circulation, and at the same time increases the red globules in the blood, and the innervation of the heart.

It has been used with great success not only in functional disorders of the heart, but in **organic** diseases of that organ, in which it possesses unparalleled power as a palliative.

Metho-Glycerole of Bismuth and Hydrastia.

Originated by our house in 1872, and first furnished under the title "LIQUOR BISMUTHI ET HYDRASTIÆ."

IT IS UNEQUALED AS A CURATIVE AGENT IN IRRITABLE, INFLAMMATORY OR ULCERATIVE CONDITIONS OF THE MUCOUS TRACT, AS:

Diseases of the nasal passages (locally), nasal catarrh and ozæna.

Of the eye (locally), conjunctivitis, gonorrhœal and purulent ophthalmia; ulceration of the cornea.

Of the throat (locally), pharyngitis and laryngitis.

Of the stomach and intestines (internally and locally), stomatitis; gastro-intestinal catarrh; gastric ulcer; dysentery.

Of the reproductive organs and bladder (locally), gonorrhœa, urethritis; cystitis; vaginitis; metritis; uterine, vaginal and vesical catarrh, and ulceration of the os-uteri.

Antiseptic Charcoal Tablets

The Best Intestinal Antiseptic.

The value of Charcoal as an absorbent and antiseptic has been long known. Reinforced by Salicylate of Bismuth and other antiseptics, it is unrivaled as an efficient Intestinal Antiseptic which may be used indefinitely without injury. The greatest drawback to the general use of Charcoal is the inconvenience of its administration. This difficulty is wholly overcome in the ANTISEPTIC CHARCOAL TABLETS, which we offer put up in convenient form for administration without the use of any vehicle. These Tablets are

A Ready Cure for Indigestion and Constipation.

They are prepared from the formula of a well known and experienced physician, and have proved their value by many years of use by many eminent practitioners. The Cereal Charcoal from which they are prepared is superior to any other form of Charcoal in absorbent and antiseptic properties.

PUT UP IN BOXES OF 40 TABLETS.

RETAIL PRICE, 40c. PER BOX.

PRICE LIST.

Columbia Chemical Company,

WASHINGTON, D. C.

GOODS
EXCHANGEABLE and RETURNABLE.

FREIGHT ALLOWED On GROSS Orders.

Adv. "THE DOCTOR'S COLUMN."

Usual Jobbing Discounts.

Send for Advertising Proposition.

AUGUST 10th, 1895.

ANIMAL EXTRACTS:

.....Cerebrine,
.....Cardine,
.....Testine,
.....Ovarine,
.....Medulline,
.....Thyroidine,
Per case of 1 doz. 2-drachm vials.....$10

GASTRINE (New):
Per case, 1 doz. 6-oz. bottles.....$10

PULMOLINE:
Per case, 1 doz. 6-oz. bottles.....$10

TESTINE No. 2 (Powerful aphrodisiac):
Per case, 1 doz. 2-dr. vials.....$10

PETROLEINE:
Per case, 1 doz. 6-oz. bottles.....$10

CATARRHINE:
Box containing Powder, Ointment and Insufflater (one month's treatment),
per case, 1 doz. boxes.....$21

ECZEMICURE:
Per case, 1 doz. 2-oz. jars..... $8

RESTORATIVE WINE OF COCA:
Per case, 1 doz. pint bottles..... $7

COCANIZED BEEF, WINE AND IRON:
Per case, 1 doz. bottles.....$10

NATROLITHIC WATER:
Cases of 1 and 2 doz.
(full pints) per doz..... $2

NATROLITHIC SALT:
Per case, 1 doz. bottles, (each 8 dose)..... $4

PIL FEBRICIDE:
Per doz. boxes, 20 pills..... $4
Per doz. bottles, 100 each.....$18

COMPOUND EMULSION COD LIVER OIL: (Special)
Per case, 1 doz. 16-oz. bottles $8

COLUMBIA CHEMICAL COMPANY,
WASHINGTON, D. C.

Ridge's Food

USED FOR 30 YEARS

Still Unexcelled

For **Infants,** Children, Dyspeptics, **Invalids,** and Old People.

PRICE LIST. (In ordering please give sizes.)

No. 1, in Cans, Retail			$ .35 each.	Wholesale,	$2.80	per doz.	in Cases	containing	3 doz.
" 2,	"	"	.65 "	"	5.20	"	"	"	1 "
" 3,	"	"	1.25 "	"	10.00	"	"	"	1 "
" 4,	"	"	1.75 "	"	14.00	"	"	"	1 "

In lots of 2 gross, (assorted or otherwise,) freight prepaid.

Discount 20 per cent off, 30 Days; 1 per cent. additional for Prompt Cash.

WOOLRICH & CO., PALMER, MASS.

UP TO DATE BRUSHES **THAT WILL SELL.**

This comprises the PRINCIPLE LINE OF BRUSHES usually sold by DRUGGISTS.

We issue a Complete Catalogue of

PAINTERS' SUPPLIES

MAILED ON REQUEST.

"ECHO."
Flowing White Bristles. Black Enamel Hdl's.

Very popular for General use in Paint, Varnish and Enamels.

1 in....	℔ doz.	.60
1½ in...	"	.89
2 in....	"	$1.13
2½ in...	"	1.49
3 in....	"	1.87

"EXTRA."
Flat Varnish. Cedar Handles.

1 in....	℔ doz.	.60
1½ in..	"	.84
2 in....	"	$1.15
2½ in..	"	1.73

"EXTRA."
Varnish. Chiseled. Same as cut.

1 in....	℔ doz.	.80
1½ in..	"	$1.20
2 in....	"	1.60
2½ in..	"	2.20

"LEADER" WALL.
Brass Bound. All Bristle.

2½ in..	℔ doz.	$1.00
3 in....	"	1.33
3½ in..	"	1.67
4 in....	"	2.12

COLUMBIAN WALL.
Brass Bound. Chinese Bristles.

2½ in..	℔ doz.	$1.33
3 in....	"	2.00
3½ in..	"	2.47
4 in....	"	3.20

"STANDARD" WHITEWASH.
Brass Bound.

No. 3.
7 in... $2.06 ℔ doz.
No. 5.
8 in... $2.55 ℔ doz.
No. 7.
9 in... $3.16 ℔ doz.

"HUSTLER" KALSOMINE.
Brass Bound.

7 in... $5.75 ℔ doz.
8 in... 7.00 ℔ doz.

"NATIONAL" WALL
Nickel Bound. White Bristles.

3 in...	℔ doz.	$3.75
3½ in.	"	5.00
4 in...	"	6.00
4¼ in.	"	7.19

"DEFENDER" WALL.
Nickel Bound. Chinese Bristles.

3 in...	℔ doz.	$3.25
3½ in.	"	4.38
in...	"	5.62
½ in.	"	6.69

EX EX SASH.
Wire Bound. White Bristles.

No. 1...	Doz.	.31
" 2...	"	.40
" 3...	"	.51
" 4...	"	.60
" 5...	"	.73
" 6...	"	.86
" 7...	"	.95
" 8...	"	$1.03

CELESTIAL.
Chiseled. Flat Varnish.

Black Chinese Bristles for General use.

1 in...	℔ doz.	.72
1½ in.	"	$1.04
2 in...	"	1.38
2½ in.	"	1.88
3 in...	"	2.56

Above prices are "NET" F. O. B. Chicago. Terms 60 Days. 2 Per Cent Cash 10 Days.

GEO. E. WATSON CO., 38 Randolph St., CHICAGO, ILL.

SPECIAL OFFER.

Exceptional advertising offers to druggists on the following. Write for particulars.

	Retail.	Doz.	6 Doz.	12 Doz.
Elliman's Royal Embrocation (for animals)	.75	$6.75	$6.25	$5.75
Elliman's Universal Embrocation (for human use)	.40	3.40	3.25	3.00
Vibrona, an excellent Tonic Wine, manufactured by Messrs. Fletcher, Fletcher & Co., London and New York. A choice vintage Tarragona Port, fortified with the Hydrobromic Extract of Cinchona	1.00	9.00	....	8.34
Hyperphosphine, manufactured by Messrs. Georges Prunier & Cie., Paris, France. A general reconstructive of the nervous system. The most reliable form for the administration of the Phospho glycerates. Supplied in the form of syrup, granulated, and wafer cachets	1.25	11.00	10.50	10.00

Franz Josef Natural Aperient Water, from Budapest, Hungary. The most palatable and reliable of all the natural purgative waters.

$2.75 per dozen; case of 50 bottles, $10.50.

Cornaille's French re-enforced Filter Papers. Round and square, gray and white, all sizes and varieties; also, special filtering pulps. The strengthened centers and radiations, and the remarkable purity of these papers, make them more economical and satisfactory than any others in the market. Price list on application. May be ordered through all wholesalers. Specify "CORNAILLE'S."

Correspondence Solicited.

ELIJAH J. MOLLOY.

101 Beekman Street, NEW YORK.

Just's Food

	WHOLESALE		RETAIL.
50 c. size,	*$48.60 per gross,*		*$4.50 per doz.*
$1.00 "	*97.20 "*	*"*	*9.00 " "*

TERMS—30 days, or less 2 per cent for prompt cash on receipt of invoice and bill of lading.

Freight prepaid to destination on gross lots.

Smaller quantities f. o. b. Syracuse.

JUST'S FOOD CO., SYRACUSE, N. Y.

MINIMUM WHOLESALE QUANTITY IS AN ASSORTED ORDER AMOUNTING TO PRICE OF ONE GROSS SMALL.

WE MAKE A SPECIALTY OF

Wines for Druggists

AND CALL PARTICULAR ATTENTION TO OUR

OLD PORT,
SHERRY,
SWEET CATAWBA,

All of which are MADE FROM LAKE KEUKA GRAPES, and are *well matured, rich* and *mellow*, and specially adapted to Druggists' trade.

FIVE GALLONS, - - $5.00
No charge for Keg.

ONE CASE, - - - - $4.00
Containing 12 Quart Bottles.

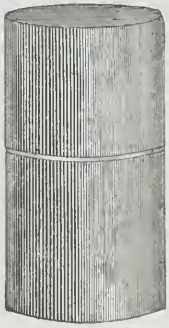
HAMMONDSPORT VINTAGE CO.,

PENN YAN, N. Y.

"DRINK only the PUREST."

WRIGHT & TAYLOR,

DISTILLERS, - LOUISVILLE, KY.



Twelve quart bottles in a case $9.00 to dealers. Special discount as to quantity.

IN BOND AND TAX-PAID.

If you want purity and richness of flavor, try our "Pride of Louisville," ten years old, and "Old Kentucky Taylor," eight years old. Our own distillation and guaranteed pure. Bottled and shipped direct from our warehouses by us. None genuine without our signature on both labels. For consumption, indigestion and all ailments requiring stimulants, these whiskies have no superior. Sold by all first-class druggists and liquor dealers. Send us trial order and mention ERA.

Eisner & Mendelson Co.,

NEW YORK,

Sole Agents for the Genuine

JOHANN HOFF'S MALT EXTRACT.

PRICE LIST:

1 Doz.....$ 3.00.
1 Gross..... 36.00, less 5 per cent.

Discount for Cash in 5 days, 5 per cent.

JOHANN HOFF'S MALT EXTRACT, with IRON.

1 Doz.....$ 3.50.
1 Gross..... 42.00, less 10 per cent.

CARLSBAD SPRUDEL SALT.

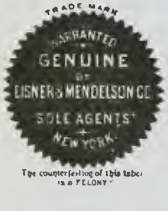
1 Doz.....$8.00.
1 Gross.....Doz. 8.00, less 5 per cent.

Discount for Cash, 5 days, 1 per cent.

CARLSBAD SPRUDEL WATER.

Case, 50 bottles.....$14.00, f. o. b., N. Y.

HUNYADY MATYAS



"SEAL BRAND."

Each Bottle bears our Guarantee Label.

1 case, 50 bottles. $7.50)
5 " lots.....@ 7.00 } f. o. b. New York.
10 " lots.....@ 6.50)

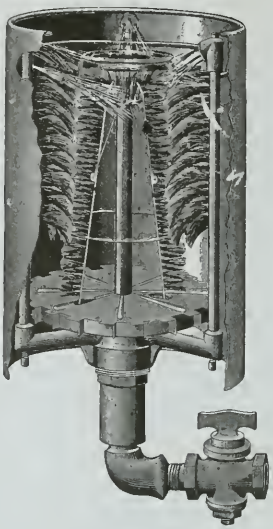
Discount for Cash, 5 days, 1 per cent.

Eisner & Mendelson Co.,

152 & 154 Franklin St.,

NEW YORK.

THE GRAND RAPIDS TUMBLER WASHER.



THE BEST REVOLVING BRUSH MACHINE ON THE MARKET.

Can be taken all apart and cleaned in five minutes. Takes only common ⅜-inch water-pipe connection. No ice cream soda outfit complete without our Washer.

Write for circular and testimonials.

PRICES:

Open end, same as cut, to be used over a sink at counter.....$18.00

Closed bottom, to put up anywhere..... 20.00

FROST & MERCER,

GRAND RAPIDS, MICH.

PRICE LIST OF

J. & J. CASH'S SPECIALTIES.

FRICTION TAPE BATH GOODS.

TOWELS, Bleached,	per doz.....	$11.50
TOWELS, Unbleached,	"	10.50
GLOVES (without thumbs), Bleached,	per doz. pair.	4.20
GLOVES (without thumbs), Unbl'ched,	" "	3.90
GLOVES (with thumbs), Bleached,	" "	4.50
GLOVES (with thumbs), Unbleached,	" "	4.20
STRAPS, per doz.....		6.00

SUBJECT TO DISCOUNTS.

These goods have been sold in America for the past 25 years. Sample of Material sent on application.

J. & J. CASH, Ltd., - COVENTRY, England.

AMERICAN AGENCY: 92 Greene St., NEW YORK.

CHR. HANSEN'S LABORATORY, LITTLE FALLS, N.Y.

PRICE LIST.	Retail Prices.	PRICES TO THE TRADE. Single Pack'ge	per doz.	½ gross.	P. gross
CHR. HANSEN'S JUNKET TABLETS FOR HOUSEHOLD USE.					
Far superior to any "Liquid Rennet" in the market for "Junket" or "Curds and Whey."					
Vial of 12 Tablets	$0.15	.....	$1.20	.....	$12.00
CHR. HANSEN'S ANTI-DYSPEPSIA TABLETS.					
A new Rennet Preparation just put upon the market. If any discomfort is felt after a meal, take one or two tablets. Relief instantaneous.					
Small Bottle	0.25	.....	1.75	10.00	18.90
Large Bottle	0.50	.....	3.50	20.00	37.80
CHR. HANSEN'S RENNET TABLETS FOR CHEESE MAKING.					
1 can 100 No. 1 Tablets, (postage 12 cents extra)	4.40	3.50	.....	.....	.....
1 can 200 No. 2 Tablets, (postage 6 cents extra)	2.20	1.75	.....	.....	.....
1 box 50 No. 2 Tablets	0.90	0.72	8.00	.....	.....
1 Small Sample 24 No. 2 Tablets	0.50	0.40	4.50	.....	.....
CHR. HANSEN'S DANISH CHEESE COLOR.					
4-ounce bottle (by mail, postage prepaid, 40c.)	0.25	.....	1.75	.....	.....
CHR. HANSEN'S DANISH BUTTER COLOR.					
4-ounce bottle (by mail, postage prepaid, 40c.)	0.25	.....	1.75	.....	.....
9-ounce bottle	0.50	.....	3.50	.....	..... } 5% dis.
20-ounce bottle	1.00	.....	7.00	.....	.....
1 gal. jacketed can	2.50	2.30	.....	.....	.....

PRICE LIST

OF

THE ERA PUBLICATIONS

FOR THE DRUG TRADE.

D. O. HAYNES & CO., Publishers.

106 Fulton Street, NEW YORK.

THE PHARMACEUTICAL ERA (Weekly)	$2 00 per Year.
THE ERA DRUGGISTS' DIRECTORY	5.00 per Copy.
THE ERA FORMULARY	5.00 per Copy.
THE ERA DOSE BOOK	.50 per Copy.
THE ERA KEY TO THE U. S. P.	.25 per Copy.
THE NEWER REMEDIES	.50 per Copy.
THE ERA POISON REGISTER	.60 per Copy.
SOUVENIR ENGRAVING of the NAT'L WHOLESALE DRUGGISTS' ASS'N	3.00 per Copy.
GROUP ENGRAVING of the OFFICERS of the AM. PHARMACEUTICAL ASS'N	2.00 per Copy.

ALL PRICES INCLUDE POSTAGE, WHICH IS PREPAID.

See advertisements in this issue.

N. K. BROWN & CO.'S PRICE LIST.

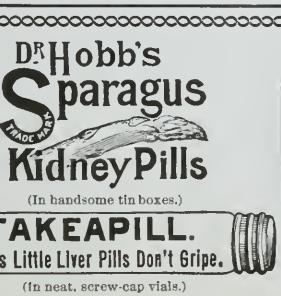
Brown's (N. K.) Ess. Jamaica Ginger, 2 oz.	Per Doz.,		$1.50
Brown's (N. K.) Ess. Jamaica Ginger, 4 oz.	"	"	3.00
Brown's Teething Cordial	"	"	1.50
Brown's Teething Cordial Trial Size	"	"	.60
Brown's Star Troches	"	"	.60
Brown's Star Tooth Powder	"	"	1.20
Brown's Little Mandrake Pills	"	"	1.00
Brown's Bronchials	"	"	1.25
Brown's Bronchial Elixir	"	"	1.25
Brown's Bronchial Elixir, Trial Size	"	"	.60
Brown's Fluid Extract Buchu	"	"	6.00
Brown's Iron and Quinine Bitters, 8 oz.	"	"	3.00
Brown's Iron and Quinine Bitters, 16 oz.	"	"	6.00

ON PURCHASES OF HALF GROSS LOTS OF EITHER, OR A GROSS ASSORTED, A DISCOUNT OF 5 PER CENT. IS GIVEN.

N. K. BROWN & CO.,

PROPRIETORS,

BURLINGTON, VT.



Well Advertised.

Two remedies that are selling well because well advertised.

Advertising matter furnished free on application to druggists who handle Dr. Hobb's Sparagus Kidney Pills and Little Liver Pills.

Jobber's Price to Retailers:

Dr. Hobb's Sparagus Kidney Pills	per doz.,	$4.00
Dr. Hobb's Little Liver Pills	"	1.50

HOBB'S MEDICINE CO., CHICAGO.

SOMATOSE BISCUITS.

A NEW FORM FOR A WELL KNOWN PREPARATION.

SOMATOSE, the food product manufactured by Friedr. Bayer & Co., Elberfeld, Germany, consisting of the albumoses and nutrient salts of meat in an easily soluble, odorless and tasteless powder, has won great favor with the medical profession on account of its superiority over meat as a nourishment, its easy digestion and assimilation, and its power of producing a rapid gain in flesh and strength. Its great value in this respect has made its exhibition in other forms extremely desirable, and its range of application is greatly extended by the

SOMATOSE BISCUIT,

which furnishes an agreeable, appetizing and nourishing food for invalids, nursing mothers and delicate children. It is also especially valuable when it is necessary to carry food in compact form on long distance bicycle rides, on hunting and fishing trips, railway journeys, etc. So convenient are Somatose Biscuits that a consumer recently styled them "Emergency Rations."

SOMATOSE BISCUITS contain 10 per cent Somatose, and are put up in tin packages, retailing at 60 cents per package. The price to the trade is $5.00 per dozen, net.

SOMATOSE BISCUITS can be obtained through the jobbing trade generally. Orders mailed to Schieffelin & Co., wholesale agents, New York, or the exclusive manufacturers, will be promptly executed.

Samples will be furnished upon application.

American Biscuit & Manufacturing Co.,

Exclusive Manufacturers,

West St., from Bethune to 12th St., NEW YORK.

LIBBY, McNEILL & LIBBY,

BEEF PACKERS

and

MANUFACTURERS OF SOLID AND FLUID

BEEF EXTRACTS.

UNION STOCK YARDS, - CHICAGO, ILL.

PRICE LIST.

LIBBY'S EXTRACT OF BEEF.

	PER DOZ.
2 oz. Jars, one dozen in box	$3 75
4 " " " " "	7 00
8 " " half " "	12 00
16 " " " " "	22 00

Two and six pound Tins, $1.75 per pound.

LIBBY'S FLUID BEEF.

	PER DOZ.
2 oz. Bottles, one dozen in box	$2 75
4 " " " " "	5 00
8 " " " " "	8 50
16 " " half " "	15 00

1 and 2 gal. Jugs. $1.10 per pound.

Sold in bulk, packed in two and six pound Tins, at reduced prices to chemists for manufacturing purposes.

SPECIAL DISCOUNTS TO THE TRADE.

We make as good Extracts as can be obtained ANYWHERE.

OLNEY & McDAID,

Wholesale and Manufacturing Chemists,

CLINTON, Iowa.

PRICE LIST.

	Retail.	Wholes. Doz.
O & M's Cherry Lung Balsam	$ .25	$1.50
O & M's " " "	.50	3.00
O & M's " " "	1.00	6.00
O & M's Hive Syrup, Honey and Tolu	.25	1.50
O & M's Smilax Sarsaparilla	1.00	7.00
O & M's Dr. Bliss' Bitters	.50	3.50
O & M's " " "	1.00	6.00
O & M's Santonine Worm Lozenges	.25	1.50
O & M's Green Mountain Salve	.15	.75
O & M's " " "	.25	1.25
O & M's Zulu Little Liver Pills	.25	1.25
O & M's Tough on Mice	.15	.75
O & M's " "	.25	1.25
PROF. DEAN'S S. and K. Combination, No. 2, (2 pounds)	.50	3.50
" " " " No. 3, (5 pounks)	1.00	7.00
" " Medicated Food, 3½ pounds	....	3.50
" " Spasmodic Colic Cure	1.00	7.00
" " Magnetic Spavin Cure	.50	3.50
" " " Liniment, 12 oz	1.00	6.00
" " " Chicken Powder	.25	1.50

LOTS of $25.00 (Assorted), 5 Per Cent. Discount.
" " 50.00 " 10 " "

PROF. DEAN'S King Cactus Oil, 8 oz	.50	3.50
" " " " " 20 oz	1.00	7.00
" " " " " 1½ oz	.15	1.20
" " " " " Bulk	10 gallons for	$25.00
" " " " " " One " "		3.00

A New Style Bottle

Has been adopted for Sloan's Carbolated Dentifrice, as shown herewith. In this is put up the old reliable

Sloan's Dentifrice.

This Powder will remove tartar without injury to the teeth. It is thoroughly antiseptic and entirely free from all injurious substances, unlike ordinary tooth powder, it being the result of years of experiment to attain perfection.

I will send 1 dozen, express charges prepaid, on receipt of $1.75, to any part of the United States to dealers who have not this powder in stock.

NOTE THE NEW STYLE BOTTLE.

Geo. W. Sloan,

INDIANAPOLIS, IND.

A COMPLETE LIST

OF

OUR MANUFACTURES

is a list of nearly everything which the druggist requires in the way of pharmaceuticals or specialties, demanded by either the public or the medical profession. We publish catalogues, pamphlets, booklets, etc., describing the following lines, which we will be pleased to mail upon application.

PHARMACEUTICALS.

FLUID EXTRACTS,
ELIXIRS, SYRUPS,
WINES, TINCTURES,
SOLID AND POWDERED EXTRACTS,
SUPPOSITORIES, CERATES,
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> "All parties dealing in these goods make themselves liable for profits and damages, and in every instance which I have prosecuted I have obtained a decree. I shall promptly prosecute in every case, in which I obtain proof, both buyers and sellers who are occupied in this illegal business."

Parties have disregarded this warning and have suffered in consequence.

A decision may be found on this point in the Federal Reporter, Vol. 50, fol. 73, case of Dickerson v. Matheson et al., U. S. Circuit Court, S. D. New York, April 18, 1892. We quote from the syllabus:

"Patents for Inventions—Sale with Restrictions—Infringement."

> "The owner of patents granted in Europe and the United States, who sells the patented article in Europe with a prohibition against importation into the United States, may treat as an infringer one who sells that article in this country."

We are sole agents for the sale of Phenacetine and Sulfonal, and, of course, we are interested in their legitimate sale being defended. But it is far from our desire that any dealers in drugs shall get into court by dealing in an illegitimate article, either through ignorance or misrepresentation. We have, therefore, been impelled to make this publication.

The full circular of Mr. E. N. Dickerson will be found opposite.

Schieffelin & Co.

Important Notice

TO DEALERS IN

PHENACETINE, SULFONAL and ARISTOL.

COWEN, DICKERSON & BROWN,
Attorneys and Counselors at Law,

253 BROADWAY,
NEW YORK, February 20th, 1895.

GENTLEMEN:

I desire once more to call the attention of the trade to the fact that I am the owner of Letters Patent of the United States for

PHENACETINE,

Under date of March 26, 1889, No. 400,086.

SULFONAL,

Under date of October 30, 1888, No. 391,875.

ARISTOL,

Under date of February 24, 1891, No. 446,875.

The above named goods are also protected by United States Trade-marks.

I have granted a license to sell under these patents to only one party, W. H. Schieffelin & Co., of No. 170 William Street, New York. These goods so sold are in one-ounce cartons only, and bear upon them the name of "W. H. Schieffelin & Co.," consequently the only goods which can be sold or used in the United States bear upon them the name of "W. H. Schieffelin & Co."

The sale or use of any of these goods in the United States other than those which are sold under my license is illegal, and an infringement of the Letters Patent above-named.

It is, of course, of no consequence whatever that these goods may have paid duties to the United States Government through their Custom Houses. A patent is as much infringed by the sale of an article duly imported through the Custom House, as by its manufacture in the United States.

During the past few months I have been made aware from time to time of dealers having been supplied with lots of these articles which have been either smuggled or imported into the United States from Canada or elsewhere.

All parties dealing in these goods make themselves liable for profits and damages, and in every instance which I have prosecuted I have obtained a decree. I shall promptly prosecute in every case, in which I obtain proof, both buyers and sellers who are occupied in this illegal business.

Purchasers of goods which are smuggled are liable to criminal prosecution by the United States Government, as well as prosecution by me for infringement of the patent.

Suits have been commenced against the following named parties for illegally supplying the trade in the United States:

W. B. Pettingill, of New England.
L. N. Caron, of Detroit, Michigan.
W. Sylvester, of Port Huron, Michigan.
Allport, of Fulton, New York.
John Blocki Drug Co., of Chicago, Illinois.

My object in sending out this circular is to warn all parties against dealing in any illicit goods, and is to save them from the mortification and expense to which they are liable as a consequence of handling them.

Yours truly,

E. N. DICKERSON.

SOMATOSE

A Scientific Food, Tonic and Restorative.

A nutriment in powder form, concentrated and digestible, containing the nourishing elements of meat. Recommended in all wasting Diseases, Pulmonary Consumption, Anæmia, Chlorosis, Chronic Affections of the Stomach, also for feeble children and convalescents.

Contains in small bulk a large amount of available nutritive material.
Is easily digestible, and does not overtax or irritate the stomach and intestinal canal.
Is readily assimilated, and rapidly produces a gain in flesh and strength.
Is palatable, well relished, and stimulates the appetite.
Is odorless and practically tasteless.
Is less expensive than other food products, when the small dose and high nutritive value is considered.

In 2 oz. tins,	per doz.,	$8.25
In ¼ lb. tins,	per lb.,	5.25
In ½ lb. or 1 lb. tins,	per lb.,	5.00

Somatose, manufactured by the ***Farbenfabriken vorm. Friedr. Bayer & Co.***, is supplied in Powder, and for convenience of administration we also offer

Somatose-Chocolate,
Somatose-Cocoa,
Somatose-Biscuits,

each preparation containing 10 per cent. of Somatose Powder.

SOMATOSE-CHOCOLATE, prepared by Runkel Bros., of New York, containing 10 per cent. Somatose, is an agreeable preparation suitable for eating and drinking, combining the nourishing properties of Somatose with the stimulating and invigorating effects of chocolate.

In quarter pound cakes (each cake divided into four tablets), per lb., 85 cents.

SOMATOSE-COCOA, prepared by Runkel Bros., of New York, containing 10 per cent. Somatose, furnishes a delicious, nourishing and grateful beverage, which will be found of great value in chronic affections of the stomach, dyspepsia, in wasting diseases, such as phthisis, in anæmia or impoverishment of blood. It is also a nourishing and strengthening drink for nursing mothers, and an excellent substitute for tea and coffee.

In half pound tins, . . . per lb., 90 cents.

SOMATOSE-BISCUITS, prepared by the American Biscuit and Manufacturing Co., of New York, containing 10 per cent. Somatose, are palatable and nourishing, and a valuable addition to the diet in the above mentioned conditions.

In half pound boxes, . . . per doz., $5.00.

Schieffelin & Co., New York,

Sole Agents for the United States.

Sachet Powders

(*Schieffelin's*)

Violet—Heliotrope—White Rose.

In ¼-lb. Glass Stoppered Bottles,	. . .	per lb., $3.00
In Screw-Top Bottles,	. . . . .	per doz., 1.75

Compressed Tablets:

Chlorate of Potash
Soda Mint
Muriate of Ammonia

In Screw-Top Bottles, to carry in pocket, per doz., $0.75

SPECIAL PRICES FOR GROSS LOTS AND IN BULK, WITH BUYER'S NAME ON LABEL.

LARD, HIGGINS' DEHYDRATED and BENZOATED

Schieffelin & Co., Proprietors and Manufacturers.

Higgins' Dehydrated Lard	(put up in 5 lb. cans)	. .	per lb., .25
Higgins' Benzoated Lard,	(" " 5 lb. ")	. .	" .25
Higgins' Dehydrated Mutton Suet,	(" " 5 lb. ")	. .	" .20
Higgins' Benzoated Mutton Suet,	(" " 5 lb. ")	. .	" .20
Higgins' Oxide Zinc Ointment,	(" " 1 lb. ")	. .	" .60
Higgins' Oxide Zinc Ointment,	(" " 5 lb. ")	. .	" .50

HIGGINS' DEHYDRATED LARD is made by a new process from leaf lard as obtained from the animal. It is of great value as a basis for ointments, cerates, etc.

HIGGINS' OXIDE OF ZINC OINTMENT [Benzoated] contains the active principles in a proportion which makes it an excellent remedy in ophthalmia, cutaneous eruptions, sore nipples and other cases of excoriation and ulceration, and at the same time possessing the best keeping qualities and a fine smooth appearance.

PHARMACEUTICAL PRODUCTS

OF THE

FARBENFABRIKEN vorm. FRIEDR. BAYER & CO.

ELBERFELD, GERMANY.

Schieffelin & Co., New York,

Sole Agents and Sole Licensees for the United States.

ANTINONNIN — Disinfectant and Parasiticide.

In half-pound cans, ... per lb. $1 00
In one pound cans, ... " 85

ARISTOL — Antiseptic-Cicatrisant.

In ounce cartons, ... per oz. $1 80
In lots 25 ounces, ... " 1 65

EUROPHEN — Complete Iodoform Substitute.

In ounce cartons, ... per oz. $1 80
In lots 25 ounces, ... " 1 65

LOSOPHAN — Parasiticide, Dermatic Stimulant.

In ounce cartons, ... per oz. $1 80
In lots 25 ounces, ... " 1 65

LYCETOL-Bayer — Antilithic, Uric Acid Solvent.

In ounce cartons, ... per oz. $4 25
In lots 10 ounces, ... " 3 80

PHENACETINE-Bayer — Antipyretic, Analgesic and Sedative.

In ounce cartons, ... per oz. $1 00
In lots 25 ounces, ... " 95
In lots 100 " ..... " 90

PIPERAZINE-Bayer — Antilithic, Uric Acid Solvent.

In one-half ounce and one ounce vials, ... per oz. $4 25
In lots of 10 ounces, ... " 3 80

SALICYLIC ACID-Bayer

Salicylic acid as furnished by the Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, combines purity, whiteness and uniformity of quality. Put up in quarter, half and one pound cartons, also in ounces. Orders and correspondence solicited.

SALOPHEN — Antirheumatic, Antiseptic and Antipyretic.

In ounce cartons, ... per oz. $1 00
In lots 25 ounces, ... " 95

SOMATOSE — A Scientific Food, Tonic and Restorative.

A nutriment in powder form, concentrated and digestible, containing the nourishing elements of meat. Recommended in all Wasting Diseases, Pulmonary Consumption, Anæmia, Chlorosis, Chronic Affections of the Stomach, also for Feeble Children and Convalescents.

In 2 ounce tins, ... per doz. $8 25
In ¼ pound tins, ... per lb., 5 25
In ½ pound or 1 pound tins, ... " 5 00

SULFONAL-Bayer — Hypnotic, Neurotic and Nerve Sedative.

In ounce cartons, ... per oz. $1 35
In lots 25 ounces, ... " 1 25
In lots 100 " ..... " 1 20

TRIONAL — Hypnotic and Sedative.

In ounce cartons, ... per oz. $1 50
In lots 25 ounces, ... " 1 40

Schieffelin & Co., New York,

Sole Agents and Sole Licensees for the United States.

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GROUP PORTRAIT.

A. PH. A. OFFICERS.

We have just issued, and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the present.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address, The Pharmaceutical Era, New York.

DIPHTHERIA ANTITOXIN.

The new method of treating diphtheria is now entering the second year of its employment, and a review of its use becomes strikingly appropriate. The medical journals still teem with isolated reports of cases and individual experiences, and the new medication seems to be so generally adopted by the medical profession that about the only occurrences which revive attention on the part of the public are those in which the remedy is supposed to operate unfavorably. These happen occasionally and undoubtedly attain a prominence which they otherwise would not were the remedy not a new one, with more or less adverse criticism charged against it. It is quite probable that such failures are made more apparent simply because the use of the remedy is extending, and that any criticism which may be made on the basis of such reports would lose its force were a ratio established between the failures and successes. In a recent issue of the Johns Hopkins Hospital Bulletin, Dr. William H. Welsh, pathologist to the hospital, presented all the available statistics upon the subjects, and in drawing conclusions from these he says:

"Antitoxin is most strikingly beneficial in progressive fibrinous diphtheria, and especially in the prevention and cure of laryngeal diphtheria. In septic diphtheria the serum treatment is of little avail.

"The essential harmlessness of the serum has been demonstrated by over 100,000 injections, and if future investigations should show that, through some idiosyncrasy on the part of the patient, death is ever attributable to the injection of serum, this would probably account for about as much as the rare deaths from the use of ether or chloroform.

"The principal conclusion which I would draw from this paper is that our study of the result of the treatment of over 7,000 cases of diphtheria by antitoxin demonstrates beyond all reasonable doubt that anti-diphtheric serum is a specific curative agent for diphtheria, surpassing in its efficacy all other known methods of treatment for this disease. It is the duty of the physicians to use it.

"The later reports show in general a decided improvement in the results of the treatment over the earlier ones, and there is every reason to believe that the records of the second year's employment of the new treatment will make a much more favorable showing than those of the first year."

THE TIME TO ADVERTISE.

It is only the daring business man who has the courage to advertise when times are hardening and sales decreasing, yet many of these say it pays. A majority of the people who do business, however, are not of the courageous kind. This is no reflection upon their business sagacity, as there are circumstances which call for the exercise of discretion. Many of those who are enthusiastically in favor of advertising as a separate entity or theoretically, cannot in justice to themselves and those depending upon them attempt an outlay for such purposes when receipts are falling off, and the best exercise of judgment cannot determine when this tendency will take a turn for the better. They have seen hard times brought about by sentiment or certain intangible things which are nearly like it, and they rightly argue that sentiment or theory cannot be trusted in such material affairs.

There are periods, however, when those who have to take in their advertising sail to weather adverse conditions can see an opportunity for reviving their latent faith in the benefits of advertising. That time is the present. There is no reason for pondering over this statement with a view of detecting interested motives for its utterance. The fact is too patent. There has been a great continence in buying, and this enforced restraint has simply whetted the buying appetite. Money has been taking a Rip Van Winkle sleep and is just awakening. People are beginning to look about them for things which they have wanted but deferred buying on account of the hard times.

This is the opportunity for the person who has anything to sell and desires to make the fact known. Of course, the continuous advertiser is expected to reap a great portion of the benefit of returning prosperity, because people have been reading about him even if they could not buy, but the other class, which has not kept its name in prominence for good and sufficient reasons, will find a buying notion quite prevalent which will repay immediate cultivation. It is more profitable to reach out for trade at the beginning of prosperous times than it is to wait until such a condition becomes established and the bestowal of patronage is settled along certain lines. The field is now remarkably clear, especially for the beginner or the person who has been forgotten because his name has been out of print.

THE ALCOHOL PROBLEM.

This problem has always existed, but that egotism which gives to affairs of the present an importance which overshadows all things past, and assumes an intelligence better capable of grasping difficult questions, leads us to conclude that the matter is just now taking on an extra degree of intensity. This conclusion comes from the gathering of many loose straws which are numerous enough to indicate that the wind is blowing in a certain direction. Outside of a political party which has for its purpose the suppression of all liquor traffic, there are many influences at work. In fact, there are things now happening in eight of the leading States of the Union which are keeping politicians of both parties awake o'nights in their efforts to equally please constituents with widely differing views. In most of these States drug stores are the buffer or the neutral ground, as the case may be, between the factions, and any deviation of the druggist from his legal duties in the matter places him in an exceedingly uncomfortable position.

In most States the drug store is properly favored in the sale of alcoholic products, and this leniency has caused many to engage in the drug business simply as a means for covering an illegitimate traffic. It is with the greatest satisfaction therefore that we note the efforts of the Massachusetts Board of Pharmacy to purge the profession of those who attempt to bring it into disgrace and odium. An abstract from the last report of this board was presented in our issue of Oct. 10, and the presentation of existing conditions in that State is as interesting as the action of the board is commendable.

But there are other factors in the situation which are worthy of notice as indicating a tendency toward a solution of the alcohol problem by means which will enlist the support of all, regardless of prejudice and political affiliations. This is the educational method, a method of which we hear so much and which is offered as a sort of universal panacea for all social ills. We might dismiss this as mere talk if there were not some evidences of its workings at hand.

When prominent Russian newspapers devote considerable space to deploring the effects of vodki, beside which the product of Kentucky is as soothing syrup to the ailing infant, there is reason to suspect that the alcohol problem has reached a point of high intensity. When such men as Pierret, of Lyons, and Lancereaux, of Paris, feel compelled to warn the French against absinthe, and present elaborate studies of the effect of moderate quantities of alcohol upon the system, this suspicion becomes very nearly a certainty. When the Journal of the American Medical Association devotes nearly one-half its space, as it did Sept. 28, to the presentation of papers on the alcohol problem, read at the last meeting of the American Medical Association, there is evidence of its importance right at home. In commenting editorially upon a quite perceptible revolution in public sentiment concerning the indiscriminate use of alcohol as a medicine and as a beverage, the Journal presents a resumé of the great work now being done by medical men the world over, through their scientific investigation of the effect of alcohol upon the human body, and it predicts that the rapidly growing societies, the Association for the Study and Cure of Inebriety and the Medical Temperance Association, will increase in popularity and become the centers for the scientific study of the question, and both lead and direct public opinion.

It is a question, however, whether a campaign of education will eventually prick through to the inner consciousness of the gustatory egotist who takes delight in referring to "bottles" in a sense far from "druggy," who can pronounce the inscriptions upon certain foreign labels with a facility only equalled by that of an accomplished waiter, and who pauses frequently for the applause which he thinks is due to his superior alimentary capacity. But there is some hope for him when science steps in and drives off the emotional reformers who have retarded progress by their reckless handling of facts.

At any rate, the pharmacist will welcome an enlightened public opinion upon a matter which is to him now a continual source of worry and anxiety.

COUNTER PRESCRIBING.

Here are some of the reasons which a physician, writing to a medical contemporary, considers explain in some degree the existence of counter-prescribing and the attitude of doctor and druggist each toward the other. He says: "The physician, during his college course, must needs master so many branches other than materia medica and chemistry, the only two which he has in common with the pharmacist, that he is very apt to slight these, feeling that a correct diagnosis will be much more essential than the knowledge of the dose of some drug which he may never use. The pharmacist, per contra, whose business at college is presumably to fit himself to supply scientifically the varied wants of many physicians, is constantly impressed with the necessity of familiarizing himself with the natural history, dosage, therapeutical uses and incompatibilities of all drugs contained in the Pharmacopœia. As a result of this condition of affairs, when the two meet professionally the pharmacist gets to sound only the shallowest depths of the physician's lore, while the physician, on the other hand, beholds the pharmacist at his very best. There is engendered in the mind of the latter as a result of this feeling the idea that it isn't much of an undertaking to prescribe for the sick and afflicted, and physicians have more or less ministered to this idea by consulting with their pharmacist often in prescribing, and in failing to take any positive or aggressive position against the practice of which their pharmaceutical brethren are guilty. One of the radical remedial measures that we would suggest, then, would be a general time of therapeutical refreshing on the part of physicians, or at least let each make it a rule of practice to never prescribe or call for a remedy with which he is not thoroughly conversant. This last will not only fill the pharmacist's breast with greater reverence for his lore, but will likewise work beneficially to his patients. Let each one stand ready to render an account for the faith which he may have in any remedy to meet certain indications. On the other hand, let the pharmacist awaken to the fact that his training has not in the least qualified him for intelligent examination or rational diagnosis which must precede logical deductions as to treatment, and that he assumes a most grave responsibility in furnishing medicines thus carelessly, for while it may not do positive harm in every case, it yet delays the time of rational treatment even until it is mayhap forever too late."

Is there not something of truth and good sense in these remarks, and shall we quarrel with them?

SOME QUININE STORIES.

It is quite apparent that the somewhat romantic interest which English-speaking countries have always manifested in quinine has shown a decline coincident with the decline in its price. The upward and downward fluctuations of cents and half cents have become monotonous to both dealers and users, and reminiscences bearing upon the history, discovery and uses of the drug have lost piquancy through frequent repetition. This condition of affairs, however, does not exist in several other countries which might be mentioned. In Madagascar the French regard it as of first importance, ranking even higher than gunpowder, lead and guns, for without it these are rendered useless in the campaign against the natives. In Cuba the same degree of regard is shown for quinine, and the unacclimated Spanish troops are consuming $50,000 worth monthly. In Italy the pharmacists are greatly exercised over a proposition of the government to furnish the drug to certain agents of the Finance Department, who are to sell it at cost to the public, or about 2 cents per gram. In British India the drug produced by the government factories is now sold at cost by postmasters throughout the Empire. This position of quinine as a munition of war, and central object around which new theories of political economy are made to revolve, sinks our flurries in bark sales and penny fluctuations in the sulphate into insignificance.

HYPNOACETIN.—Acetophenoacetylparamidophenol ether, having the formula, $CH_3CO.NH.C_6H_4OCH_2.COC_6H_5$, and appearing as brilliant pearly leaflets, melting, with decomposition, at 160°C. It is soluble in alcohol and acetic ether. It has considerable hypnotic power and is given in doses of from 20 to 25 cgm., by hypodermic injection, uniting the properties of acetophenon (hypnon) with those of amidophenol.

PRACTICAL HINTS.

——Buyers, as a rule, think very little about sellers and will rarely move much out of their way to make a purchase at their friend's, provided they can get the article they want equally cheap and good in the immediate neighborhood where they may chance to be.

——A correspondent in an exchange recommends pasting labels 2½ to 4 inches square on the back of shop bottles. Three principal columns—for weights, prices and synonyms—are ruled vertically on the labels, while underneath, dosage and properties of the respective drugs and preparations are noted. He thinks this plan a great convenience in retailing and dispensing.

——Glass stoppers which refuse to come out, or whose handles have become broken off, may sometimes be removed from the bottles by causing the neck of the bottle to expand under the influence of heat, which may be applied by pouring a stream of hot water over it, or by the "see-sawing" motion of a stout cord around it. If the handle of the stopper is broken off, it is a good plan to wrap the bottle in a cloth to prevent accident in case of bursting.

——Said a Brooklyn druggist the other day: "I always make it a point to patiently listen to a traveling salesman representing a legitimate business house. Of course, it takes some of my time, but I know that I gain by so doing. It keeps me posted on prices of goods with which I am already acquainted, and, besides, the traveling man gives me information about new commodities. I never turn a reputable salesman down without a hearing. As a disseminator of information he is entitled to some attention. Peddlers and fakirs are told to pass on."

——A dry goods merchant says the most satisfactory way to clean windows is to select a dull day, or at least a time to do the work when the sun is not shining on the window, or it will be dry streaked no matter how much it is rubbed. Take a painter's brush and dust the window, inside and out, washing all the woodwork before touching the glass. The glass should be washed simply with ammonia diluted with warm water. Do not use soap; use a small cloth with a pointed stick to get the dust out of the corners. Wipe dry with a soft piece of cotton cloth. Do not use linen, as it makes the glass linty when dry. Polish with tissue or an old newspaper.

The Retail Druggist.

"As a rule, he receives but slight remuneration for the time he devotes to his business and for the money which he has invested. His hours are long and his transactions are small. It it noted that but few retail druggists have acquired wealth in the pursuit of their avocation. Their faces are conspicuous by their absence at summer resorts, and their wives and daughters are not noted for wearing costly apparel. They are a hard-working, painstaking, conscientious class, who should be better paid for the services they render the community in which they live. They are compelled to keep on their shelves and in their drawers costly chemicals and various pharmaceutical articles that are called for but once in a great while, but when the occasion arises for use of these articles they are at hand to furnish them. The general public has a very erroneous idea as to the profits of the drug business. They fail to take into account the years of preparatory study necessary, the years of practical experience, the long hours of service, the accumulation of dead stock, and the limited volume of business. The public should not desire cheap drug stores any more than cheap doctors, and if they were wise, with an eye solely to their best interests, they would take their patronage to such pharmacies as make prices that will enable them to employ competent assistants, and handle only the best and purest drugs." (F. A. Faxon in W. Drug Record.)

Decline of the Trade-Mark.

"The use of trade marks is declining," thinks the American Silk Journal, as quoted by Literary Digest. "They are not always advantageous. With established trade-marks certain goods are identified with certain prices. Suppose a certain brand is sold for $3 a yard. When, owing to an advance in raw materials, wages, or some other item, an advance in price is necessary, such step is found far more difficult than if the trade-mark were not identified. Ordinarily the customer will try other goods. Another objection: Suppose a dealer sees a sample in the window of a rival marked with the brand of a manufacturer from whom he bought and which is not in his stock. He will immediately conclude that the salesman did not show him the full line of the manufacturer. A buyer seeing the trade-mark may carry a sample from one dealer to another, requesting him to get a piece of the same goods, consequently, when the salesman comes to that place again he may find it difficult to sell any of the dealers. Jobbers frequently have their own labels and brands; if so, they take off those of the manufacturer to substitute their own. If the jobber has no trade-marks of his own, he has little interest in maintaining the trade-mark of the manufacturer. He sells the goods on their merits and uses his own name as a trade-mark. Trade-marks in the way of guarantees on selvages have usually proved anything but successful, owing to dishonest customers who attempt to make the manufacturer stand their own blunders, trusting by their talkative enmity to compel dealers to recommend allowances or replacement."

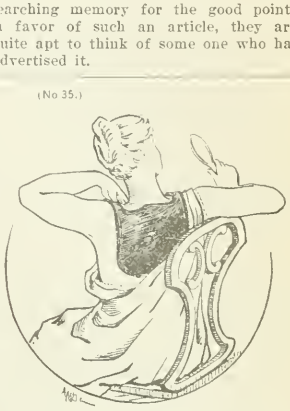
Goetze Bros., Lockland, O.—The news and information your journal gives under the headings of Practical Hints and Advertising for Retail Druggists, if read and followed by the reader, are worth many times the subscription price. Keep it up.

Flovilla Drug Co., Flovilla, Ga.—We cannot praise the Era too highly. It is certainly a great journal, and you are doing a good work for the pharmacists of the country. Accept our thanks for the work you are doing for the small druggist in the fight for alcohol rebates.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

There are lots of people halting between two opinions. There is a question in their minds about purchasing a chest protector. When they had that severe cold last winter they fully made up their minds that if Providence spared them they would be better prepared for the next pneumonia season. But they have forgotten all about that resolution, and the druggist ought to give them a hint of their duty in the matter. The hint may not be immediately effective after reading, but the first attack of winter's prevailing disease will set many minds to thinking of chest protectors. While searching memory for the good points in favor of such an article, they are quite apt to think of some one who has advertised it.

(No 35.)



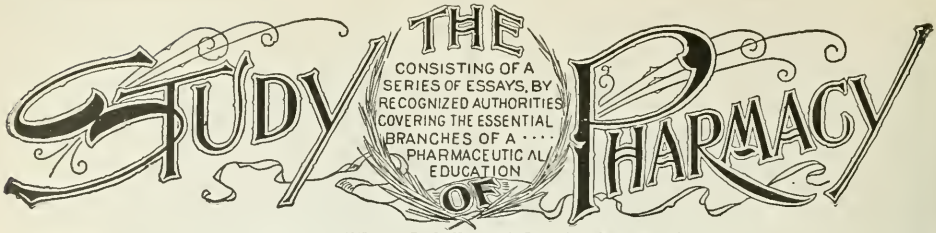
If it is a question of a chest protector or cough and cold remedies, choose the former every time. The latter may be effective – but there's the inconvenience. The chest protector prevents coughs and colds. It's a sort of insurance policy, and the rate isn't high — not with the handsome chamois and felt-lined protectors, which we are selling at $..... $.....

We are willing to ruin our cough medicine trade by selling everybody a chest protector.

KNIGHT & DAY, DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

AMINOL.—An aqueous solution of a gas which lays claim to extraordinary power as a "disinfectant and deodorizer." The gas is said to be obtained through the action of lime on an amine which is found in the hawthorne, pear tree, and in the decomposition products of nitrogenous animal or vegetable matter. The odor is said to be anything but agreeable, as one of our Belgian confreres (Ferdinand Ranwaz, of the Anales de Pharmacie,) declares that it recalls that of cancerous detritus.—(Nat. Dr.).



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[*Continued from page 454, October 10.*]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXIV. BOTANY.

[*Continued.*]

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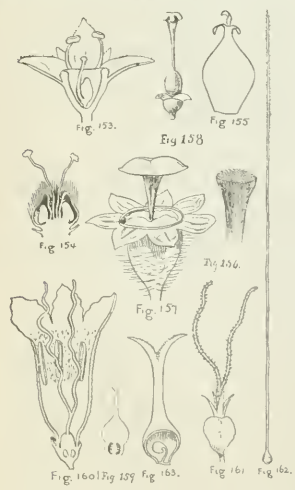
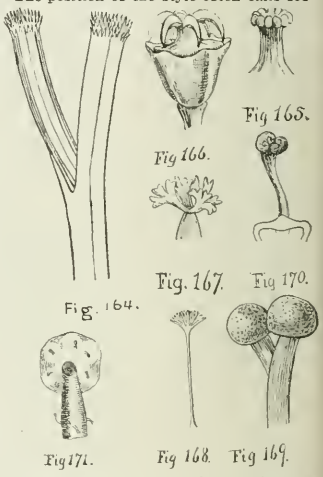
THE GYNAECIUM.

It has been shown that the gynaecium, except in those rare cases in which a central appendage of the torus is projected upward, occupies the centre or summit of the flower; that it consists of one or more carpels or carpophylls which may be all coherent into a single pistil, the Syncarpous, Gamocarpous or Compound Pistil (Fig. 155), or may each form a separate pistil, the Apocarpous, Monocarpellary or Simple Pistil, and that ordinarily the carpels alternate with the stamens of the adjacent circle. The parts of the pistil have been defined and it has been shown that of these the stipe or theca-



phore is rarely present, and that the style is very frequently absent, resulting in the Sessile Stigma. The different forms of adhesion and its effects, as well as those of suppression and metamorphosis, have also been explained. Some additional facts of a general nature must be considered before taking up the details of this subject. The student should from the outset resist the temptation to seek the characters of the gynaecium in the mature or immature fruit, because of its more convenient size. While many of the characters of the gynaecium are permanent, there are many others which entirely disappear after the fertilization of the ovules, and others which only then make their appearance. The other parts of the flower should be completely stripped off, this operation being performed under close and continuous scrutiny, with the idea of detecting any characteristics of relationship between them and the gynaecium. The latter should then be carefully examined *in situ*. An implement should be passed down between the carpels to determine what degree of cohesion, if any, exists between them, for this will occasionally be found at the very base only, and also to determine if there be any adhesion to a central prolongation of the torus. The details of attachment to the torus must also be determined and their arrangement considered. When numerous, the pistils are apt to assume the spiral arrangement which has already been noticed in referring to position of floral parts. When solitary, the carpel assumes a position to one side of the axis, thus demonstrating its isolation by the suppression of the complementary parts of the circle. A lack of uniformity, as indicating abortion of one or more carpels, must be looked for. When all are uniformly aborted, in the case of flowers which are hermaphrodite but imperfect, this fact will sometimes escape detection unless both forms of flower are examined. The color, texture and surface of the carpels call for minute examination in all cases, though there are no peculiarities of a general nature differing from those of the other organs. As in the case of the petals, so in that of the carpels, the general form is determined by that of the foliage leaves; but the form is less closely preserved and the homology is far less apparent here than there, owing to the far more profound modifications which are rendered necessary by the peculiar functions of the carpels, a consideration which will further on be seen to apply with special force to the fruit condition.

The position of the style often calls for



scrutiny. It does not always rise, as would be expected, from the summit of the ovary. One process by which deviation results is illustrated by Fig. 150, which represents the deeply lobed ovary of borage, the single style rising from the fissure in the centre. If, now, all but one of the parts of such an ovary were to become aborted, the style would be seen rising more or less laterally (Figs. 151 and 152), or even basally (Fig. 153), from a monocarpellary ovary. Even though the styles remain separate in such a divided ovary, yet their insertion is necessarily carried toward the base (Fig. 154).

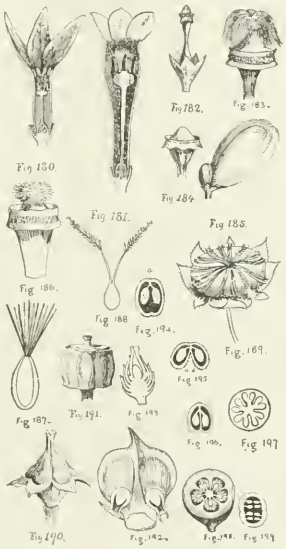
The same descriptive terms already applied to the filament apply equally to the style and its branches. Owing to the frequency with which styles are coherent, ribbed, channelled or angled forms are common. Fig. 155 illustrates the conical style of Piper, Fig. 156 an obconical one; Fig. 157, one obconico-prismatic; Fig. 158, a clavate form; Fig. 159, one with a bulbous base; the style branches in Fig. 160 are filiform; in Fig. 161 they are filiform and plumose; in Fig. 162, capillary, and in Fig. 163, subulate.

The position and form of the stigma are of very great importance in classification. It has already been shown that

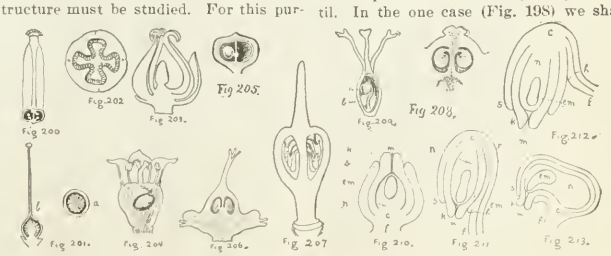
while the stigma is commonly located at or near the apex it may extend either entire or divided into two lines for a greater

or less distance down the ventral margin of the style, becoming Linear (Fig. 164). If several united styles are separate at the summit, or upper portions, their stigmas are commonly borne upon their inner faces, as in this case, and are frequently, by the cohesion of the former in the young condition, secluded from the access of pollen until a certain time (Figs. 164 and 236). Between the condition of complete separation and complete cohesion of several stigmas there are all degrees of division and of lobing of the divisions (Figs. 165 to 168). A stigma which is strictly terminal and more or less spherical, thus resembling a head, is Capitate (Fig. 169). A capitate stigma is often Truncate (Fig. 170). If flattened and attached at the centre it is Peltate (Figs. 157 and 171), and this may be horizontal or oblique, as in the latter. The peltate stigma may have its margin reflexed, making it umbrella-shaped (Fig. 172), or upturned, making it cup-shaped, or Cupulate (Fig. 173), and either of these forms may be lobed (Figs. 174 and 175). Several oblique laminar forms are shown in Figs. 176 to 179, b, in the latter, displaying the manner in which it enfolds the stamen. The stigmas sometimes form a ring at or below the apex, the Annular form, various modifications of which, unlobed and lobed, are shown in Figs. 180 to 184. Such forms prevail in the order Apocynaceae and are of great value in classification. A stigma (or other organ) with a brush-like plume or appendage is called Penicillate (Fig. 187). A Plumose stigma is shown in Fig. 188. Such prevail among the grasses.

The number of carpels in a compound pistil is indicated by the use of the appropriate numeral followed by the suffix "carpellary," thus Dicarpellary, Tricarpellary. The determination of the number of carpels is of the utmost necessity, but is usually a difficult task for the beginner, especially if not previously trained in the art of plant dissection. The indications may be divided into external and internal. The latter must be apprehended from the study of internal structure explained below. The external indications are as follows:—The number of pistils when these are monocarpellary or simple (Figs. 22 and 23); for complete chorisis of a carpel (except apparently in fruit), producing a duplication, never exists. If cohesion is partial, even though so nearly complete as to leave a separation represented by a mere lobing at apex (Fig. 189) or dorsum (Figs. 190 and 191), the determination is scarcely more difficult. It is true that the latter condition is often complicated by grooving or pseudo-lobing pertaining to the backs of the individual carpels, but such lobes are usually characteristically different from those separating the carpels. While the above remarks have been applied especially to the ovary, they may be applied with equal force to the styles and stigmas. If the exterior of the ovary bear no indications of the number of carpels, we may count the styles, or the divisions or apical or dorsal lobes of a style-column, and if all those be wanting, then the corresponding characters of the stigmas or stigma. It must be noted, however, that complete or partial chorisis



of style or stigma is not at all rare, and care must be taken to avoid falling into error. In such case the number of lobes of each is apt to equal the number of styles or stigmas. In the case of failure of all these indications to appear, the internal structure must be studied. For this purpose both longitudinal and transverse sections must be made. The former should be so directed as to lay open the inside of a carpel, and of the latter there should be three, through the lower, middle and upper portions respectively. In most cases a good lens will be sufficient to present the characters, but when insufficient, recourse must be had to the stage and low power of a compound microscope.

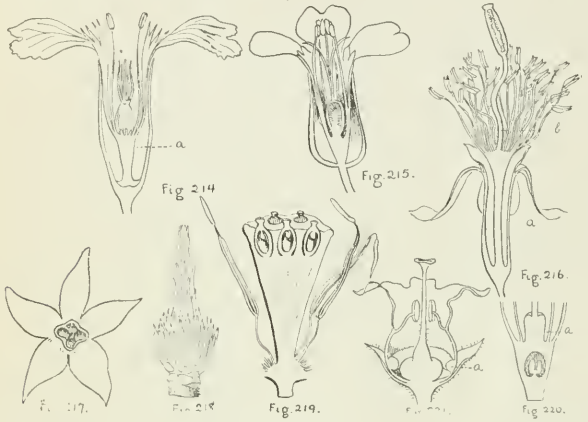


Although appendages to the pistil during the flower-stage are less frequent and less varied than in the case of the androecium, yet none of the forms which we have there observed are here excluded.

Two distinct types of the carpel respectively characterize the Gymnosperms and the Angiosperms, both of which classes contribute important medicinal plants. The essential character of the former is illustrated in Fig. 192. This consists in its not being shaped into an enclosure for containing the ovules. In this instance there is no progress toward such a condition, the carpel remaining more or less flat and bearing the ovules upon its surface. In the progressive forms there is a cavity formed, but it is never completely enclosed. A higher development of it is found in the Taxus or Yew (Fig. 193). The pseudo-cavity of the gymnospermous carpel is never divided.

There are two modes of the enclosure of the cavity of the monocarpellary angiospermous ovary. In the first (Fig. 194) the margins of the carpel meet one another, and then, by more or less of an involution, form the placenta (a), with its two rows of ovules (b and c). By the other mode (Figs. 195 and 196) the margins turn in and meet the midrib, forming two cavities, each containing half of the placenta with its one row of ovules. The posterior portions of the carpels thus brought into juxtaposition (a and b) may unite (Fig. 196) or remain distinct (Fig. 195). In other cases where a similar condition exists, it has resulted from the outgrowth from the midrib, across a cavity of the first form, of a false wall or dissepiment, as in the flax (Fig. 197). The placenta and ovules are then found upon the ventral side. It is to be remembered that these are then false cells, each two being indicative of one carpel. With rare exceptions the distinction is to be made by observing the separation of the two rows of ovules. If we imagine two, three or more carpels, constructed in any of these ways, standing face to face, and cohering in this position, we have a perfect idea of the simplest forms of the syncarpous pistil. In the one case (Fig. 198) we shall have as many walls and cells as there are carpels; in the other, falsely twice as many of each, but the number of rows of ovules

should be the same in either case. In the mustard and its relatives the false wall connects the two ventral instead of the dorsal sutures. While the lower portions of the carpels are acting thus to form the ovary it must not be forgotten that the upper portions are also uniting to form the styles and stigmas, or stigmas alone, as the case may be. Should the edges remain everted along more or less of the



style, they may fail to produce an epidermal covering and become stigmatic, giving us a marginal style. Should they be involute like the ovarian portions, the stigma will be confined to the apex of the style. In the syncarpous form there will merely be a multiplication of these effects.

Quite a different group of appearances will result from the higher or more complex form of carpel union, by which the proximate margins of two adjacent carpels meet and unite (Fig. 199) instead of two belonging to the same carpel. The result of this form must be a single cavity or a one-celled ovary, unless, as in the Mustard (Fig. 200) one or more false septa may divide it. Here, as before, however, it is observed that the ventral portions of the carpels are directed toward the centre of the flower, the dorsal facing outward. This law is invariable, no matter what the number of the carpels or the form of union.

It will be observed that in all cases in which the margins of the same carpel unite with one another, the placentae will be formed at the centre or axis of the flower. Such placentae are therefore called Axile or Axillary (Figs. 198 and 201). Where the margins of different carpels unite (Fig. 199) the placentae must be formed upon the walls or parietes, and are therefore called Parietal. Such placentae may by an extensive involution of the margins be carried very nearly, or quite, to the axis (Fig. 286), but unless cohesion actually occurs at that point they are still parietal and the ovary is one-celled. Some further modifications of the placenta, either in itself or resulting from modifications in the dissepiments, must be carefully considered. If such a pistil as that represented in Fig. 198 shall develop a condition in which the dissepiments are wanting the placentae will be left unsupported in the axis (Fig. 201), and will then be known collectively as a Free Central Placenta. By progressive abortion of the upper portion this placenta may become reduced to a trace at the base. Upon the other hand, such a placenta may become enlarged and fleshy. Similar changes may occur in the parietal placenta. It may become reduced to a mere point preserved at the apex, base or intermediate portion. In the watermelon it becomes enormously enlarged, filling the entire cavity with a fleshy mass (edible). In the Obolaria (Fig. 202) it is laterally expanded to form a more or less complete false lining to the ovarian cavity. In this position it may remain free or become coherent, so that the entire face of the ovary may appear to be ovuliferous. In other cases it actually is the entire inner face of the carpel, which becomes the placenta. By a subsequent obliteration of a portion of such an expanded placenta the remaining portion may be seen to assume an abnormal position, being occasionally confined to the midrib itself.

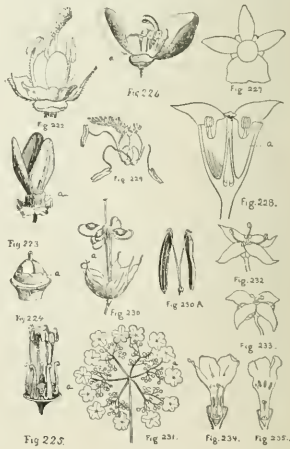
As has already been pointed out, the number of ovules is extremely variable and the proportion of them which become fertilized is little less so.

The position of the ovules is to a great extent determined by the nature of the placenta, as has already been explained. It calls for a number of distinctive terms. The two rows of ovules produced by the two carpellary margins do not always appear distinct, but may be reduced, before or after fertilization, to one. A vertical row of ovules is called a series, and ovules are thus defined as being One-serialled, Two-serialled (Fig. 194), etc. When there are many series, so that the number is not readily made out, we simply say that they are Many-serialled (Fig. 202). Ovules placed side by side (Fig. 194), are called Collateral. Sometimes no definite series can be made out, owing to the crowding of many ovules into a small space, as in Obolaria (Fig. 202). They are then said to be Crowded. Collateral ovules, and, indeed, any ovules standing together and deviating from a straight line, have a tendency to turn their foramina away from one another.

As to the directions, in relation to the ovary, which ovules assume, they are Erect (Fig. 203) when standing erect from the base; Suspended (Fig. 204) when occupying an exactly opposite position; Horizontal (Fig. 205) when taking a direction at right angles to the axis of the ovary; Ascending (Fig. 206) when directed obliquely upward from some point intermediate between base and apex, and Pendulous (Fig. 207) when directed obliquely downward from such a point. When starting as an ascending ovule and afterward drooping (Fig. 208) an ovule is Resupinate, or when as in Fig. 209, Recurved-pendulous.

An ovule may have its direction obscured by peculiarities of attachment. Thus, in Loxopterygium (Fig. 152), the real base becomes, by extreme obliquity, apparently lateral and causes an erect ovule to be apparently ascending. That of Anemone is suspended, but owing to the same condition apparently only pendulous. The terms erect and suspended are after all only relative, as we can never be sure that an ovule which appears in such position is really the uppermost or lowermost of its series. Very often others which would have been in reality the basal or apical have become aborted, as in the last case illustrated.

A merely recurved ovule is not to be mistaken for an anatropous ovule. The latter has the contiguous portion of the funicle adherent as a rhaphe, which comes away with the seed of maturity.



The recognized varieties of ovules are based upon the external structures, which will here be briefly considered. The details of their inner structure will be considered in our chapter on fertilization. The ovule consists of a Body (Fig. 209, a) and Funiculus or Stem (b). Named in the order of time in which they are devel-

oped the parts of the body are as follows: The Nucellus, or central portion (Figs. 210-213, n), containing the parts essential to reproduction, and two coats, the Primine or inner (k) and Secundine or outer (s). Certain parts of these, or points upon them, also have distinctive names. The more or less circular opening (m) left at the apex by the failure of the coats to completely inclose the nucellus is the Micropyle. The structurally opposite end of the body, or the point where nucellus, coats and apex of funiculus separate from one another (c), is the Chalaza. If the body become inverted upon its funiculus, either partly (Fig. 212) or wholly (Fig. 211), the portion of the funiculus against which it lies (r) will become adnate to it and is known as the Rhaphe (also spelled Raphe). The portion of the funiculus remaining free (f) is then specifically known as the funiculus. When hereafter in this work the last term is used it will be understood as applying to this free portion. It is thus seen that the rhaphe is limited at its distal end by the chalaza; but separation of this seed at maturity cannot take place at this point, owing to the adnation of the rhaphe, as it would do if no such adnation existed. Separation in such case must take place at the point where rhaphe and funiculus join; hence the Hilum, as such point of separation is called, may be variously situated, and need not coincide with the chalaza. In Fig. 210 it is at the chalaza, in Fig. 211

Fig. 236.

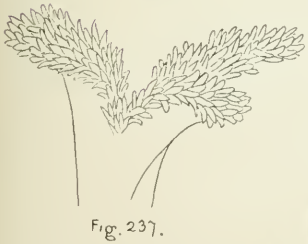


Fig. 237.

at the opposite end (h), while in Fig. 212 (h) it is about half way between. The parts here enumerated are not always conspicuous and may be easily overlooked by the beginner.

The nucellus is the essential part of the ovule, which in some cases consists of nothing else, and even this may be reduced to its lowest essential elements. An ovule without either coat is Naked or Achlamydeous; with only primine it is Monochlamydeous, and with both it is Dichlamydeous. An ovule without funiculus, and the same is true of any organ not borne upon a stem, is Sessile. The form of the funiculus, as well as its di-

Fig 239

a, pollen-grains; b, pollen-tubes grown to different lengths; c, pollen-tube fertilizing ovule.

Fig 238

i1 primine; i2, secundine; s, synergidae; o, oosphere; scn, nucleus of embryo-sac; e, embryo-sac, a, antipodal cells.

rection, always calls for inspection. It may be very short and broad (Fig. 210), or elongated and slender (Fig. 209), and the latter form may be either straight or variously curved. An ovule with a rhaphe is Anatropous when completely inverted (Fig. 211), the rhaphe running its entire length; Amphitropous when this condition is but partial (Fig. 212). When the body of the ovule is doubled (Fig. 213), its relation to the funiculus not considered, it is Campylotropous. An ovule which is none of these, being both straight and erect, is Atropous or Orthotropous (Fig. 210).

Before proceeding to the subject of pollination and fertilization, and the changes in the several parts of the flower consequent thereon, we must consider in detail the torus and its modifications.

THE TORUS.

The fundamental principles of anthology are based upon the nature of the torus as a modified branch. We have already considered the evidences of this fact depending upon its position and the relative positions of the parts developing upon it. We shall now consider some which depend upon its modifications. These are in part permanent and typical and in part exceptional and abnormal. Among the latter we note that in those frequent cases in which the parts of flowers revert to the leaf condition the torus often elongates, separating the floral series exactly as whorls or spirals of leaves are separated upon a branch. At other times it will be continued beyond the apex or centre of a flower in the form of a leafy branch. Occasionally one of the sepals will be found at its proper radial point, but distant from the rest of the calyx, a portion of the flower stem intervening. A similar condition, but affecting an entire series, normally characterizes certain species or groups of species. The elongation may affect any internode or internodes. When (Fig. 214 a) it is between calyx and corolla it is called an Anthophore. Sometimes, as in Viscaria (Fig. 215) the anthophore may be very slight, so as to escape detection until a longitudinal section reveals its presence. A similar elongated portion between corolla and androecium is a Gonophore (Fig. 216, a). One between androecium and gynoecium (Fig. 216, b) is a Gynophore. A thecaphore (Fig. 9) often resembles a gynophore and may be mistaken for it. The point of articulation and separation at maturity will determine whether the stalk is a portion of the ovary or of the torus. A slender extension of the torus upward among the carpels, which are attached to it, constitutes the Carpophore, as in Geranium (Fig. 230). The presence of a carpophore is almost characteristic of plants in the Umbelliferae (Fig. 230A). In the Boraginaceae it is frequently reduced to a pyramidal or conical form, or shortened and laterally expanded until it it is merely convex or even plane. To all such modifications the term Gynobase is applied. In this condition it may become hollowed out at the insertion of the carpels, as in borage (Fig. 217). In all forms of the gynobase it is important to note the point of attachment of the divisions of the ovary and the scars which the latter leave upon removal. The above considerations refer to elongations of internodes of the torus. The condition of adnation of floral parts may, upon the other hand, be looked upon as one in which the normally very short internodes of the torus are still further shortened, so as to bring the

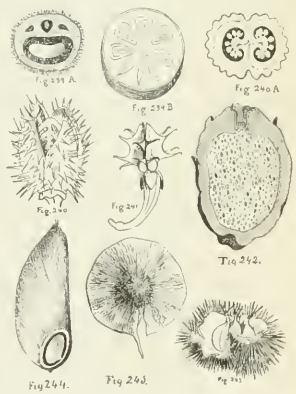


Fig 239 A. Fig 239 B. Fig 240 A. Fig 240. Fig 241. Fig 242. Fig 244. Fig 243. Fig 245.

parts into most intimate connection. Instead of undergoing a mere elongation of its internodes the torus may be laterally expanded at any or all points, with or without elongation also, and in innumerable forms. An expansion or appendage of this kind, although the term may properly be regarded as including all forms of enlargement or expansion of the torus, is called a Disk. The simplest form is perhaps that seen in the blackberry (Fig. 363, although the most of the enlargement here seen, as in the next, is the accrescence of fructification), that of a hemisphere with the pistils arranged upon its surface. The disk of the strawberry

(Fig. 262) is similar, but the pistils are partly immersed. In the rose, a related plant (Fig. 46), the form is modified by the elevation of the margins instead of the centre, so that a cup-shaped disk is formed, the pistils attached over its inner surface. In the cherry (Fig. 44), also related, and the apple the disk is thin and lines the calyx tube, the one (in the former) or few (in the latter) pistils being centrally placed, and in the former remaining free from the disk. In the magnolia (Fig. 218) the torus is vertically much elongated and at the same time much thickened, the pistils adnate along its surface. In the Nelumbo the torus (Fig. 219) is enlarged into a top-shaped or Turbinate body, with the pistils imbedded in the flat upper surface. Instead of thus occupying a hypogynous position the disk may be projected between any two of the circles, and it may be wholly or partly adnate to either (Fig. 228a), or both of them or it may be entirely free. When adnate to both it is plain that it becomes responsible for the existing adnation between the latter. It may then exist only at the base (Fig. 228), or it may entirely fill up the interspace between the parts and even become epigynous, so that the ovary is immersed in it or buried underneath it (Fig. 220a). The adnate disk may be shorter or longer than the circle to which it is adnate. The simplest manifestation of the disk is that of a mere swelling or ring (Fig. 221) at the summit of the torus; its greatest that in which it becomes an elongated cup or tube (Fig. 222). Either form may be entire or more or less divided, from that with a mere sinuately lobed margin (Fig. 223) through the toothed and lobed (Fig. 224) to that consisting of entirely separate divisions (Fig. 225). It may be regular, as in the above illustrations, or very irregular (Fig. 226), and cohesion may exist between some of its divisions while the others are free (Fig. 227). The lower portion may be adherent while the upper, lobed or entire, will be free (Fig. 228). It may be itself appendaged, and it may or may not be glandular in nature. Finally, we note that the disk may be double, its two circles occupying different internodes of the torus. The texture of the disk is commonly thicker than that of the other parts, but it may be laminar. It is therefore sometimes easy to mistake a disk for a corolla, aborted stamen circle or crown. In all its peculiarities above described, and in the number, size and form of its divisions and appendages, the disk is characteristic and of the greatest value in classification, either generic, as in the Gesneriaceae, or specific, as in Eschscholtzia.

POLLINATION.

We have seen that the essential female element of reproduction in the flower is produced in the nucellus of the ovary, the male within the pollen-tube. We have also seen that these two elements are produced separately, and in most cases remotely, from one another, and that some means must exist for bringing them together in order that fertilization may be effected. In those plants (Gymnosperms, Figs. 192 and 193) in which no stigma exists, this is accomplished by bringing the pollen into immediate contact with the ovule, which is exposed to external contact. In those in which a stigma exists it is accomplished by the deposit and fixation of the pollen thereupon. To either of these processes the term Pollination is applied. The two elements may proceed from the same flower, in which case the term Self-Pollination or Close-Pollination is applied, or they may proceed from different flowers, in which case the term Cross-Pollination is applied. It will be noted further that there are degrees of cross-pollination, according to whether the elements proceed from flowers upon the same or upon different plants. When the flowers are perfect it is at least possible in most cases for them to be either close or cross pollinated. In nearly all cases the reproductive function is strengthened through cross-pollination, which explains the fact that nearly all flowers are constructed so as to facilitate cross-pollination, while most of them are so constructed as to incommode, and very many to prevent, close-pollination. In a few cases the flower is constructed so as to prevent cross-pollination. The methods of effecting pollination may be divided into the ordinary and the exceptional. The latter must be considered individually. The former are two—namely, through the agency of the wind and through that of insects (or occasionally other animals). Flowers adapted to the former method are called Anemophilous; those adapted to the latter are called Entomophilous. Occasionally the flower is so formed that the movement of the water during rains, or in streams, effects pollination. The activity of the wind being beyond the control of the flower, the adaptation of the structure of an anemophilous flower is limited to securing the benefits of such action when it comes into play. This consists chiefly in (1) a Gregarious Habit—the growing together in great numbers of individuals of one kind, as in the case of grasses and of most of the forest trees of temperate latitudes; (2) a very abundant pollen (3), which is loosely fixed (Fig. 229, one method), light and easily removed and transported, and (4) the disposition of the ovule of gymnosperms, and the form and disposition of the stigma and connected parts of angiosperms, so as to catch the pollen. All these provisions may be readily seen to affect the process in the case of Pinus palustris, for example.

In entomophilous flowers such provisions must be preceded by others of a different nature, calculated to attract and excite the action of the forces to be utilized by the former. It is the possession of both of these classes of provisions which constitutes one of the most important distinctions between flowering plants and the flowerless, in which latter the male element is almost invariably provided with the power of independent locomotion, by which it can reach the female. Provisions for attracting external agents are found chiefly in the form, coloration and size of the flower or of one or more of its parts, the production of fragrant and nutritive secretions and the exercise of these influences at the most opportune times. The form of the flower is efficient when it resembles a form attractive to an insect the visit of which is desirable, or when it is one well calculated to display effectively the coloration; and it is not impossible that certain forms, like certain colors, are attractive *per se*. The forms of nectar-bearing plants are, moreover, in most cases, such as to facilitate the collection of the food by the visiting insect, or, when otherwise, to effect special objects to be considered further on. Coloration also may be attractive through its simulation of an insect or merely by its serving to make known to the insect the presence or position of the flower concerned—as a white, light-colored or lustrous flower, in attracting insects which fly only when there is little light. Flowers are frequently modified in size so as to effect these results, and this modification is often secured at the expense of their own sexual functions. Fig. 231 illustrates a cluster of Viburnum flowers, the marginal being light-colored and large, and admirably adapted to attract insects, but destitute of perfect reproduction parts. The odors of flowers similarly, while frequently offensive to the human sense, are supposed to be attractive in most cases to the insects whose visits favor their pollination. They are due to the evaporation of volatile oils. The glands by which these are excreted and in which they are stored may be distributed through the tissues of all or certain of the floral parts, or their presence may be restricted to the special appendages described below. The nutritive substances other than pollen to be consumed by the visiting insect, known as Nectars, are produced by certain special glands and are stored in or upon contiguous receptacles called Nectaries. The presence of these nectaries is commonly responsible for the outgrowth of the appendages to which they are often attached (Figs. 52 and 53). At other times a part of the flower not conspicuously modified produces and holds the nectar.

The influences here described are in almost all cases exerted at certain times which are especially favorable for securing the desired results. In speaking of the perigone it has been shown that flowers vary greatly as to their duration. It may be further stated that those which perish quickly mature and expand at the particular time of day when pollination is most likely to occur. Those which last for several days enjoy a daily resting period and another period of greatest activity, the details of which vary in different species or classes. Commonly the perigone becomes more or less folded or closed, its form and coloration less conspicuous, the exhalation of odors entirely suspended or greatly restricted and access to the nectar prevented altogether. At the same time that its functions are thus inactive its position is such as to afford

it protection of various kinds from dangers which are especially imminent during the hours in which it rests. This condition of inactivity or rest is commonly spoken of as the sleep of the flower. It occurs at such a period of the day as finds the agencies specially adapted to pollination in its case themselves enjoying their rest. As these again become active, the flower "awakens" and all the conditions above noted are reversed, or at least such of them as affect the flower in question. Flowers in which this active period occurs during the day, whether they endure for but one day or longer are called Diurnal; those in which it occurs at night are called Nocturnal. Besides the regular daily resting period, a great many flowers, by virtue of special sensitiveness, possess the power of assuming such a condition on special occasions when the conditions call for it.

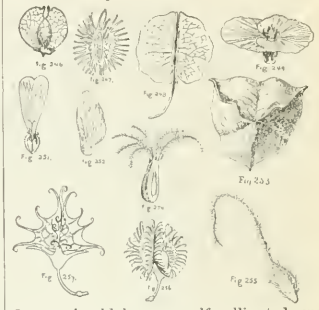
Humming-birds, as well as insects, are active participators in the operations above recorded. Their operations in promoting cross-pollination in the Cinchona group have been largely responsible for some of the most far-reaching economic conditions and results in the history of the drug trade. In exceptional instances still other animals take part in this work.

It may be remarked in passing that these characters, like some of those which follow, are not restricted to the flower itself. Very frequently other portions of the plant adjacent to the flower will be expanded, brightly colored and developed into special forms, while the odor of some flowers, due to the presence of glandular tissues, is shared by the foliage and other herbaceous portions, as in the lavender. Well formed, large glands are present in the axils of the primary veins of the leaves of some species of Cinchona, although the precise function which they perform is by no means clearly established.

The special contrivances for utilizing insect-visits in effecting pollination are far more elaborate and varied than those for inducing them, which we have already considered, and our consideration of them cannot be extended beyond what is necessary to indicate their general nature and classification, and to serve as a key in understanding the complicated modifications which we have observed the typical flower to undergo. Usually the effects extend in two directions; (a) toward excluding the pollen from access to the stigma of its own flower, and (b) toward securing its access to that of another. One of the most frequent methods of securing the former result is the maturing of the androecium and gynaecium at different times. This method is called Dichogamy. By it the ovules of a flower are already fertilized before the mature pollen of that flower escapes from its thecae (Proterogyny), or else the pollen is matured and utilized before the stigmas of that flower are prepared for its reception (Proterandry, Figs. 232 and 233). Dichogamy is very common among perfect anemophilous flowers, where self-pollination would otherwise commonly result, and it may be assumed to have been the first step toward the uni-sexual state, so common among flowers of that class. Careful notice should be taken of the fact that in dichogamy the retarded state observed in androecium or gynaecium is but temporary, and that the finally developed forms of both the proterandrous and proterogynous flowers are practically the same.

A far more profound modification is that in which there is a permanent change in the androecium (Fig. 234) of one flower and a similar change in the gynaecium (Fig. 235) of another, by which a similar result is obtained to that proceeding from dichogamy. Such a provision constitutes Dimorphism. By a modification of it a third form of flower, intermediate between the other two, is produced, constituting Trimorphism. As will be seen by a consideration of the following typical examples of each, dimorphism is more intimately connected with the transferring of the pollen than is dichogamy, though the latter is rarely without some special provision for thus supplementing the effect which it produces in excluding the pollen from the stigma of its own flower.

Fig. 236 illustrates a flower of Vernonia. Its anthers are closely syngenesious and introrsely dehiscent. Its style is two-cleft, the stigmas existing upon the inner faces of the branches. It is obvious that until these branches separate pollination cannot take place. Before such separation occurs the tip of the style is, by elongation, slowly forced up through the tube of the anthers. The latter, with the contained pollen, are mature, and the pollen is, by the stiff hairs upon the backs of the style branches, torn out from its receptacles and exposed to such agencies of transportation as may be prepared to act upon it. Cases are even known in which the tearing out of the pollen in this way is effected by a spasmodic shortening of the stamens upon the instant of contact by a visiting insect, the pollen being by the same process at once discharged upon the body of the latter. After the removal of the pollen, or after the death of such grains as fail to be removed, the style branches separate in readiness to receive the pollen brought from some other flower. This method, or some modification of it, is very common among the Compositae, and illustrates how the study of pollination serves to explain many modifications of flower-structure otherwise inexplicable, and why the possession of the latter is regarded by the biologist as indicating a higher stage of development. The explanation of the case of dimorphism exhibited in Figs. 234 and 235 is as follows:—An insect visiting flower No. 1 and thrusting his proboscis deeply into the corolla tube in search of nectar brings his body into contact with the stamens, and pollen is deposited upon it. The next flower visited may be one of the same kind or one with the long style. If the latter, then the portion of the body which is now covered with the pollen is brought into contact with the stigma, upon which the pollen is deposited. At the same time a different part of the body is being laden with pollen from the short stamens of flower No. 2, to be deposited upon the short pistil of still another flower, similar to No. 1. If perchance two flowers of the same form are visited in succession the result is that an additional deposit of pollen is secured, or at most a portion of the pollen already being carried is left upon the stamens of the visited flower. In conclusion it may be said that even if, by some failure in the provisions here described, the



flower should become self-pollinated, we have excellent reasons for believing that pollen from a different flower which might be deposited at the same time would find an advantage accorded to it by which it would be enabled to first reach and fertilize the ovules.

The assuming of a form convenient for the visiting insect, to which reference has been made, is very frequently interfered with for the purpose of forcing the insect into such a position as shall favor or compel the removal of the pollen, a labor which is by no means agreeable to it and which it not rarely seeks to avoid, as in the case of the bee, which cuts a hole at the base of some corollas.

In spite of the possibility of thus effecting a rough classification of some of the methods of securing cross-pollination, it is yet true that the great majority of instances are not subject to classification and must be denominated special, or else that they combine some special arrangements with such general methods as have been described.

Flowers which are self-fertilized before expansion are Cleistogamous. Occasionally fertilization takes place without the removal of the pollen from the anther.

The pollen thus transferred to the stigma must be fixed there in order that fertilization may follow pollination. This process is effected by contrivances little less elaborate, although more minute, than those which have been described. These contrivances relate in part to peculiarities of the pollen which will be found described in the part relating to histology. As regards the stigma, fixation is effected most generally by means of the viscid secretion to which reference has been made. Appendages in the form of hairs, scales, or papillae (Fig. 237) are very common. In some cases the divisions of the stigma are sensitive and close elastically upon the pollen as soon as it is deposited. With the fixation of the pollen upon the stigma pollination is completed and fertilization begins.

(To be Continued.)

(Written for the Era.)

THE FAMOUS HOLLIS POISONING CASE.

Being a Detailed Account of the Tragedy and of Druggist Ayer's Connection with it.

By HOWARD FIELDING.

Synopsis.

[The facts in this case, as stated in the preceding number of the Era, may be summarized as follows: A Harlem druggist named Mallory, having married a fortune, had retired from the active management of his store and had put one of his former assistants, Dr. Willis Ayer, in charge. Dr. L. M. Stanley, a friend of the young druggist, came into the store one evening and informed Ayer of the death of Stephen Hollis, a wealthy and eccentric old man, well known in the neighborhood. Dr. Barker, who with Dr. Stanley had been present at Hollis's death, followed Stanley to the store and the two had a conversation, a part of which was overheard by Ayer. Barker asserted that Hollis had died of poison; Stanley insisted that he had succumbed to a form of paralysis. Edward Hollis, nephew and heir of the deceased, chanced to overhear Barker's charge. He exhibited strong emotion, which was observed by Ayer and attributed to guilt and fear.]

(II.)

THE TRANSPOSITION.

Whether Edward Hollis was guilty or innocent, he certainly took the wisest course possible in this emergency. He knew that Ayer's eye had been on him, and that, therefore, it was useless to deny that he had heard what Barker had said.

What would an innocent man do under such circumstances? He would demand the facts.

And that is what Hollis did. He straightened himself up, as one does after a staggering blow and walked quickly to where Barker stood.

"I heard what you just said," he said. "Is there any proof? Did you know while he was dying that poison had been used?"

Stanley, who was viewing this scene apparently without satisfaction, smiled grimly at the last question.

"I had my opinion," rejoined Barker coldly, "but I was overruled."

He glanced at Stanley, who immediately became serious, and stepped forward.

"Mr. Hollis," he said, "Dr. Barker thinks that your uncle died of poison, and——"

"Murdered!" exclaimed Hollis.

"That does not follow," said Dr. Stanley. "Poison may be administered by accident as well as by design. But in this case I see no reason to suspect it. I believe most firmly that death was due to natural causes."

"I cannot conscientiously—" began Barker.

"Confound your conscience," said Stanley; "here's something that will appeal to your common sense. You don't want to stir up a scandal unless you have to, I suppose. Then this is the thing to do. Leave the report of the death to me. Mr. Hollis, on the part of the relatives of the dead man, will express a willingness to permit a post-mortem examination in the interests of science. You and I will be present and we will have any assistance that you wish. If traces of poison are found we shall know what to do. If they are not found the body will be committed to the earth, and the secret of our controversy will be buried with it."

"I agree to that," said Dr. Barker, after a brief pause.

"It is the best course, undoubtedly," said Hollis.

A few words more were exchanged and then Hollis left the store.

"Some precaution should be taken regarding the body," said Barker.

"See Hollis about it," rejoined Stanley. "You will have no difficulty in making any arrangements that are necessary. He doesn't want to steal it."

"I have made no accusations against any one," said Barker warmly. "I am only trying to do my duty."

Stanley was about to make a retort, but he checked himself and only said "Good night!" as Barker walked away.

Ayer meanwhile had been in the outer store. It was his intention to pretend that he had heard nothing. When Hollis had passed out he had spoken to the druggist about the broken case, saying that the heat in the telephone room had made him dizzy, and he had fallen.

"Besides," he continued, "I was naturally startled by what Dr. Barker said. "You heard——"

"I heard nothing," Ayer said, interrupting. "I am deaf in one ear, and that particular ear is always on the side of my head which is turned toward other people's business."

"I think you are right," said Hollis. "Is your boy similarly afflicted?"

He pointed toward the soda fountain.

"He was too far away," replied the druggist. I am sure that he heard nothing. There was no one else in the store. Good night, Mr. Hollis."

The pale young man said good night, and walked out into the darkness. He stepped slowly and carefully, as if he were old, and his shoulders drooped.

"There's a heavy load on that fellow," murmured Ayer; "and I'm afraid I know what it is."

Presently Barker passed out, as has already been told, and then Stanley called sharply to the druggist.

"Of course you heard Barker," the physician said in a low tone, as Ayer joined him behind the partition.

"Yes."

"What do you think of it?"

"I think he's discovered something that he isn't giving out."

"Precisely. I'd like to know what it is. And I'm going to find out. Can I have your boy a few minutes?"

"Certainly."

The doctor scribbled a note. Then he tore it up.

"You tell him," he said to Ayer, "to go to Hollis's house and see if Nellie Martin can come around here for a few minutes. She's a chambermaid in the house and has assisted Mrs. Hollis in taking care of the old man. I want to find out what Barker did after I left the house."

Ayer dispatched the boy.

"What's the situation over there?" he asked of Stanley when the boy had gone. "In the first place, how does the son of Hollis's sister happen to be named Hollis?"

"She married a cousin. She and her son came in for the bulk of the old man's fortune. The boy is said to be pretty rapid. He's drawn on his uncle's purse whenever he could, and was on the verge of being disinherited again—for about the tenth time, I should say. So you see there's ground for suspicion. But that doesn't cut any ice. I attended the man, and I know what he died of. As for Barker's talk about morphine and belladonna, it's all nonsense. There wasn't a sign of the presence of either."

"How about the eyes—the contraction followed by expansion of the pupil?"

"It was very slight," said Stanley. "Most of it was in Barker's eyes, not in the patient's."

The boy returned presently and reported that Nellie Martin would come, and that he had carried out his errand secretly according to instructions.

Nellie appeared in good time. She was considerably alarmed by the mystery of the affair, and especially when she saw Dr. Stanley, for then she knew that the death of Mr. Hollis was at the bottom of it.

Stanley spoke kindly to her and the girl became much easier in her mind. It was evident that she had learned to look up to the physician during his attendance upon her employer and that she had confidence enough in him to speak freely and truthfully.

"What happened after I left the house this afternoon, Nellie?" asked the doctor.

"Dr. Barker asked me a lot of questions, sir," said the girl, coming to the point with unexpected promptitude.

"What about?"

"About Mrs. Hollis and Mr. Edward. He told me not to tell, but I'll tell you."

"What were the questions?"

"He asked whether either of them had given Mr. Hollis medicine or food on that day, and I said that Mrs. Hollis always gave him his medicine, and that Mr. Edward had been in the room when Mr. Hollis had his luncheon. Then he wanted to know whether I took care of Mr. Edward's room, and I said yes. Had I ever seen any bottles there. Sure, I had—whiskey bottles very often, and beer bottles once in a while. Then he laughed and said he didn't mean that kind of bottles, but little ones. And I remembered to have seen a little red bottle with a picture of a person's skull on it. It was in Mr. Edward's handkerchief case, which was in a drawer of his dressing table. 'What was in the bottle?' says the doctor, and I told him something white and powdery. 'Would I go and see if it was still there?' I didn't want to, but he told me I must. And so I went and got it, and the doctor

took some of the white stuff out of it and sent me back with the bottle. Then he told me again not to tell, and I haven't up to this very minute."

"Don't ever do it again," said Dr. Stanley, repressing a smile. "It's all right telling us, but don't tell anybody else. And particularly you mustn't tell Dr. Barker that we asked these questions. Now, what more happened?"

"Nothing more, except that Dr. Barker tried to find out what Mr. Hollis had had for lunch, and whether the dishes had been washed, and I said, of course, they had at that time of day. So he went away and I didn't see him afterwards, though this evening he called at the house to see if you were there."

Dr. Stanley gave the girl a dollar and sent her home.

"You see," he said to Ayer, "our theory is right. This fellow is a sort of medical detective such as you read about in all the magazines nowadays. He's trying to get a name for himself, and if he isn't careful he'll do it in a way that won't please him."

He said good night, and soon after Dr. Ayer closed the store and went home.

It was a little later than usual when he came down the next day, for he had assisted at autopsies, trials and executions in the course of his dreams and was naturally weary when he woke.

The first person he saw on entering the store was Stanley. He had a newspaper in his hand.

"Read that," he said.

It was an article on the death of Stephen Hollis and it was more than suggestive.

The death was treated as one involving medical problems, but between the lines could plainly be read the hint of poisoning.

"Inspired by Barker, I suppose," said Ayer. "What's his game?"

"I don't understand it at all. However, there's a word I want to say to you about it."

"In just a moment," said Ayer, stepping forward to meet a gentleman who had entered the store. It was Dr. Gordon, the oculist.

"Have you got that stuff for me?" he asked.

"Yes; I've had it since Monday," replied Ayer.

"Sure it hasn't spoiled?"

"Oh, yes; it's all right. Eserine in that form is much more permanent than it gets the credit of being."

"Will you get it for me now?"

"Certainly. Did you bring the vial you spoke of?"

"By jove, I forgot that. What have you got it in?"

"One of the regular stock bottles."

"Well, that will do till I get to my office."

Ayer walked toward the rear of the store. A cabinet-maker was at work upon the case that Hollis had broken on the previous evening and the man with his tools and materials was in the druggist's way. Ayer, however, was able to reach over the obstruction and open his poison case, which was just around the end of the partition.

It was arranged alphabetically and he knew just where to put his hand upon the bottle containing the eserine solution. His position was such that he could not see far enough into the case to read the label, but he could note the place where the bottle stood.

He drew it out and handed it to Dr. Gordon, who at that moment distracted his attention by a question. Otherwise Ayer would certainly have noted that he had the wrong bottle.

But, as it happened, it was Dr. Gordon who discovered that the label was Liq. Strych. For the benefit of any reader who may lack a technical knowledge of drugs it may be explained that the words denote a solution of strychnine.

(To be Continued.)

PRACTICAL NOTES ON PHARMACY.

A. E. Hiss, Ph. G., Chicago, Ill.

TAR OINTMENT.—The formula of the Pharmacopœia of 1890 is not satisfactory, the particles of the tar being visible in the finished ointment. When made with suet as directed by the Pharmacopœia of 1880, solution of tar seems to occur, and hence the product so made presents an entirely uniform appearance. The formula of the older Pharmacopœia should therefore be substituted for that of our present standard.

SYRUP OF GLYCYRRHIZIN.—A syrup containing glycyrrhizin instead of extract of licorice will possess the sweet, agreeable taste of ordinary syrups of licorice, and be devoid of their mawkish, peculiarly disagreeable after-taste. Such a syrup can be made successfully by means of the following formula:

Ammoniated glycyrrhizin	3 drams
Glycerin	1 fl. ounce
Water..	8 fl. ounces
Sugar 12	avoir. ounces

Heat the water to boiling, or nearly to boiling, add the glycyrrhizin gradually and with constant stirring to avoid "lumping;" when all is added and all is dissolved, discontinue the heat, add the glycerin and percolate this liquid through the sugar, adding finally enough simple syrup to make 16 fl. ounces. All depends of course upon the glycyrrhizin, and a satisfactory article must be employed.

SYRUP of IRON CHLORIDE.—A handsome and pleasant-tasting syrup containing ferric chloride can be prepared by means of this formula:

Solution of iron chloride, U. S. P. 1	fl. ounce
Distilled water..2	fl. ounces
Sodium citrate..17¼	avoir. ounces

Mix the whole and dissolve by aid of a gentle heat; percolate this solution through 4 av. ounces sugar, pouring the percolate back into the percolator if necessary to dissolve all the sugar. To the syrup thus obtained add enough simple syrup to make 16 fl. ounces. This syrup is one-fourth the strength of the tincture of iron chloride, and the ordinary dose is therefore one-half to one teaspoonful. Unlike tincture of iron chloride, it is exceedingly pleasant in taste, does not corrode or blacken the teeth, does not interfere with digestion, does not constipate, and is very acceptable to children. The writer is well aware that there is a syrup of iron chloride upon the market; the above formula is not intended to make a syrup to imitate the commercial article.

SYRUP OF IPECAC.—I would recommend to those who use commercial fluid extracts, that they make syrup of ipecac according to this method: Mix one fluid ounce of fluid extract of ipecac with eight fluid ounces distilled water, let stand for twenty-four hours, filter, to the filtrate add six and one-half av. ounces sugar. Dissolve by agitation, strain, and to the product add three and one-half fluid ounces of glycerin. The ordinary fluid extracts of ipecac contain a good deal of resinous matter, which will precipitate in the finished syrup, if that be prepared by mixing the fluid extract directly with simple syrup. The object of the glycerin is to act as a preservative. By using this formula, the pharmacist is always certain of dispensing a transparent and unfermented syrup. The only objection to the formula is the fact that the syrup is comparatively thin. The formula of the Pharmacopœia of 1890 is somewhat similar to the one given above. It contains acetic acid and has less glycerin. I do not think that the former is necessary.

SYRUP OF SQUILL.—This I prepare also by the use of glycerin. Seven and one-half fluid ounces of vinegar of squill should be heated to boiling in a glass or porcelain vessel, and filtered when cool enough. Add through filter enough distilled water to make eight fluid ounces. Dissolve eight av. ounces of sugar in this filtrate by agitation; strain, add enough glycerin to make sixteen fluid ounces. The product keeps perfectly.

RASPBERRY SYRUP also keeps perfectly when a portion of the sugar is replaced by glycerin.

SYRUP OF HYPOPHOSPHITES.—The formula of the present Pharmacopœia is defective in that an insufficient amount of sugar is directed to be used, and as a consequence the syrup soon ferments. The 500 grams of sugar in the formula may very properly be increased to 800 or 858 grams.

ELIXIR OF PEPSIN.—The formula I give will be found to furnish a preparation much handsomer in appearance and more pleasant to the taste than the formula of the National Formulary. In fact, I cannot prevail upon myself to dispense the N. F. article with its bitter elixir of taraxacum. My formula is as follows: "Pure" pepsin (any brand), 128 grains; c. p. hydrochloric acid, ½ fluid dram; powdered cudbear, ½ dram; simple elixir, enough to make 16 fluid ounces. Agitate occasionally for twenty-four hours, then filter. Instead of the powdered cudbear, 4 fluid drams of N. F. tincture may be used, and then the preparation may be filtered in the course of an hour or two. The product has a handsome red tint and a very pleasant taste.

ESSENCE OF PEPSIN.—The following makes quite a satisfactory product: Pepsin (pure), 128 grains; dilute muriatic acid, 5 drops; simple elixir, 3 fluid ounces; glycerin, 1 fluid ounce; water, 16 fluid ounces; angelica wine, 6 fluid ounces. Dissolve by agitation and filter through purified talcum.

COMPOUND TINCTURE OF VIBURNUM.—This formula makes a very satisfactory preparation:

Cramp bark	2 ounces
Cassia bark	1 ounce
Scullcap..	½ ounce
Wild yam	½ ounce
Cloves..	¼ ounce

Grind together to fine powder and percolate with a menstruum consisting of alcohol, 2 parts; water, 1 part, and glycerin, 1 part; first moistening, packing and macerating in the usual way. The product should measure 16 fluid ounces.

SIAM BENZOIN.

The gum benjamin tree is large and tall, and has a heart similar to that of the "teng rang" (a species of Shorea), and "phayom" (a kind of mahogany). In its general character and in the form of its leaves it resembles the "takieu" tree (a forest tree of hard wood used for making dugout boats). The gum benjamin tree is propagated from the original fruit. This, when fallen and lying upon the ground, takes root and sprouts after the fashion of the "phayom" and "gang" trees. As regards the trunk of the gum benjamin tree, there is no one who uses it. Gum benjamin trees are usually found on elevated ground, and do not like the plains country. They grow in isolated patches like the forests of "teng rang" and teak. A forest patch of gum benjamin usually contains from fifty to sixty trees and upward, and the tree is found generally in large numbers along the high hills in the extensive forest region of Slua Phan, Tangslok, and the borders of Müang Theng, in the province of Luang Prabang. It is rarely met with in other countries, except those outside the provinces immediately contiguous to Siam. The Siamese Thai, Annamites and Tongsoos, who have settled in the above mentioned provinces, have worked out and traded in the gum benjamin from an early period for successive generations, and these are scattered among the neighboring people, as well as being frequently found in Siam also. The season for working the gum benjamin is from the eighth or ninth months (July and August) to the tenth and twelfth months (September and November), when the season ends. Thenceforward is the period during which the gum benjamin is bought and sold.

The gum benjamin is worked after the following methods. So many trees are notched so as to form a girdle around the stem. An interval of three months is allowed to elapse between the period of notching and that of picking the gum benjamin dammar, which wells out of the trunk and collects in the notches. By means of a sharpened stick or the point of a knife this is picked out, bark and all, and gathered at once in baskets. It is then sorted and divided into different classes, according to choice. Picking cannot commence before the interval of three months has elapsed, as the dammar that has trickled out into the notches would not have had time to harden. It would still be soft and sticky, and if picked at the time would become dirty, owing to the bark coming off with it; nor would it be of such value either, as, being sticky, it would cling to other things, and the full benefit would not be derived, such as would be the case if it were properly dry. For this reason the gum benjamin must be left for three months after the notching, in order that all the gum possible may well out, and it may become dry and hard. Among the people above mentioned the picking and sale of gum benjamin is generally considered as one way way of obtaining a livelihood, for the gum has a value, and is reckoned as a marketable commodity.

And even if the people have no other occupation but selling gum benjamin, that by itself is sufficient as a means of livelihood. The period during which the gum benjamin is sold is not necessarily confined to the eighth or ninth months. The reason for selecting that season is because the people of those parts have many other things to do; for instance, they have to plough the fields and reap their rice harvest. In the eighth and ninth months their work on the paddy fields is finished, and they can therefore turn their attention to gum benjamin. For this reason there is a special season. Their paddy fields are their first care, and then the gum benjamin trade. Those who have no business with ploughing paddy fields and planting rice can, if they wish, work continuously at gum benjamin at all seasons, and during every month of the year. The gum benjamin trade requires no very great outlay of capital. All the implements required are one large axe, a rice basket, and an open woven basket. If a person wishes to work alone without servants to assist him, he can do so; for in the first stages there is nothing much that requires to be lifted or carried. The only labor necessary would be when the gum benjamin is being picked and placed in baskets, and has to be carried to the temporary or permanent home of the picker. The profits gained on any one particular occasion or another can hardly be gauged accurately. Those who work out much sell at a large profit; those who work out little sell at smaller profit. One catty (133⅓ lb), and upward would be considered a large output. Picked gum benjamin is sorted into three classes. The best class, and that which fetches a high price, is called "slua," and is that which is sold in large lumps, and is not dirtied by the presence of bark. The second class is that left over from the first class, and is in somewhat smaller lumps that the latter, and has some, but not much, bark attached to it. This is inferior in quality to Class I., and is half the value. That is to say, if Class I. is sold at 75 ticals, Class II. would sell at 37½ ticals. The third class is that left over from Class II. This class has bark attached to it, is soiled with dust and dirt, and is in fine, small pieces. It is called "mnn," and is half the value of Class II. The price of gum benjamin, as sold in the jungle districts where the gum is worked is as follows: Class I., one Chinese catty (66⅔ lb), 100, or about 75 ticals. Class II., half the price of Class I. Class III. Half the price of Class II. The price in Bankok is: Class I. One Chinese catty, 260 ticals, as it has always been.

The gum benjamin trees that grow in the jungle districts referred to are not the subject of disputed ownership by one person more than another. Any one who wishes to work gum benjamin has merely to go into the jungle, search for and notch as many trees as he pleases, like people, for example, who go into the jungle to cut posts for their houses. Nor is there any tax or other emolument accruing to the country from either the trunk of the gum of the gum benjamin tree; nor is the gum benjamin trade one in the prosecution of which much thieving or fighting arises; whether it is because there are many people together at a time, or because, being in the jungle where there are fierce tigers, one man cannot steal along alone by himself, but is obliged to travel with parties, and so robbery and theft are rendered impossible, is uncertain. This gum is sweet scented, and is much used in mixing either with medicines or scents of various kinds. For whichever of these purposes it is sold, it always fetches a high price, like other valuable commodities, and for that reason gum benjamin is an article of commerce which merchants have bought and sold from time immemorial to the present day.—Kew Bulletin (Ph. Jr.).

PHARMACY.

APOLYSINE. — Monophenethydin, a substance approaching phenacetin very closely in its chemical composition, etc. It appears as a yellowish white crystalline powder, soluble in 50 parts of cold water and 25 parts of hot, glycerin, concentrated nitric and sulphuric acids, etc. In its physiological action, etc., is resembles phenacetin very closely, lowering the temperature, allaying pain, and is said to be free from the unpleasant after effects of that substance (phenacetin). It appears to be absolutely nontoxic, no injurious effects being noted when given to rabbits and other warm-blooded animals by hypodermic injections of 3.50 gm. of a 1 per cent. solution to each kgm. of weight. (Nat. Dr.)

SACCHARIN CONTROVERSIES.—A bitter quarrel is going on between the firms of Fahlberg, List & Co. and Dr. F. von Heyden Nachfolger, and literature of a very polemical character is being freely circulated. (Br. & Col. Dr.). Fahlberg, List & Co. deny that the saccharin sold under the registered name of "Crystallose" by the rival firm is 100 per cent. saccharin, melting at 224°. The

best they send out, say Fahlberg & Co., is not over 94.5 per cent., melting at 210°—217°, and is merely crystalline soda saccharin, which was long ago introduced by themselves. Whereas their own pure saccharin, they urge, contains over 97 per cent. of the pure sweetening body. There appears to be little hesitation in giving the lie direct, and such a quarrel is much to be regretted between rival manufacturers.

ESTIMATING THE AMOUNT OF AN ODOR.—At a recent meeting of the Paris Society of Public Medicine and Professional Hygiene, M. Gérardin read a paper, says Ch. & Dr., on the subject of "How to Ascertain the Amount of Odorous Substances in a Given Place." His method consisted in extracting the animal or vegetable emanations from the atmosphere from which the odors arise, condensing them in a small volume, and afterward testing the amount of the organic matter dissolved. This process seems to have been suggested to M. Gérardin by the works of the ninth and tenth century Arabian chemists, on the preparation of perfumed water by means of a still. He finds that by adding a small quantity of vapor to the atmosphere without pressure, an odor can be removed from the air and aromatized condensed water obtained, on the theory that perfumed water vapor carries an odor with it on condensing.

POTASSIUM CHROMATE AS A MILK PRESERVATIVE.—M. G. Denigès says that he has had several cases brought to his notice of potassium chromate being used as a milk preservative. It seems that 1.0 gram of bichromate will preserve milk for twenty-four hours, 0.25 gram for twelve to fifteen days, while 4 grams will produce the same result for about four months, but its use should on no account be allowed, as it produces serious intestinal troubles. In one of the cases referred to the preservative was entirely composed of the neutral chromate, while in another one part of the neutral salt was mixed with two of the bichromate. The adulteration—for it can only be regarded as such—is readily detected by adding 1 c. c. of 2 per cent. solution of silver nitrate to the same quantity of the sample and shaking, when a reddish yellow tint is produced, according to the amount of chromate present. By means of a blank test and diluting the milk with an equal volume of water, 0.02 gram per litre can readily be detected. (Bull. de la Société de Pharm. de Bordeaux, Ph. Jr.)

DIASTASE IN LEAVES.—In a paper before the British Association by Prof. Reynolds Green, F. R. S., on "The Diurnal Variation in the Amount of Diastase in Foliage Leaves," the author stated that diastase is the first visible product of the assimilation of carbo-hydrates in plants, and the amount present in a plant varies according to the time of day, there being less in the evening than in the morning. (Ch. & Dr.) Therefore, it has been suggested that the diastase is used up in the transformation of the starch, but this theory is opposed to the view that enzymes do not diminish in quantity. Another suggestion is that sunlight may exert an influence on diastase. Professor Green has experimented both on solutions of diastase and on actual leaves. In the former case he found that 75 per cent. of the diastase was destroyed when exposed to the electric arclight or to sunlight, but the amount of destruction in the living leaf is not so great as in the solutions. Therefore, he concluded that the proteids in the cell exert a strong protective influence. In the leaf diastase is in a continual state of formation and destruction, according to the kind, quality and intensity of the light to which it is subjected.

CALIFORNIA WINES.—The Boston Med. and Surg. Journal publishes a report upon various articles of domestic use, by Dr. Bennett F. Davenport. With regard to the wines produced in California, he says, samples of the 194 brands of California wines represented at the Chicago Columbian Exposition were afterward analyzed in the laboratory of the United States Department of Agriculture at Washington by Dr. W. H. Krug. The wines were from all the important districts in the State and included all the various types grown. These were judged as to their quality by the standards adopted in Germany, upon the report of the imperial commission, although these might not be absolutely fair to wines grown under different climatic and soil conditions. In only a few samples, says the author, was any sediment noticeable, most of the wines, both white and red, presenting a fine appearance, showing that they had been well matured before being bottled. Only three samples exceeded the German limit for potassium sulphate, thus showing that plastering had not been excessively used. When it is remembered, he says, that it is the sweet wines of southern Europe which are the ones preferred for medicinal use, and that it is these same wines which are the ones most extensively plastered, the advantage of the sweet wines of California for such use, as none of them were found to exceed the German limit, can be appreciated. Many of the wines had, however, been excessively sulphured in the fumigation of the casks for the prevention of oxidation and of the growth of mycoderma in the wine; thirty-three out of the eighty-seven wines examined in regard to this particular had been excessively treated. This custom of fumigating wine casks with sulphur has been in general practice among wine producers for centuries, and nothing better, when properly used, has yet been discovered. In only four of the wines was any salicylic acid found. On the whole, says Dr. Davenport, it was evident that the California dry wines were fully equal to the European wines, and the red wines were in every respect superior to the young French clarets. The sweet wines are to be unconditionally preferred to those of Europe containing the same amount of alcohol and extract, as not being plastered. This superiority is already being appreciated in Europe, and it is only a question of time when an extensive foreign market will be open to one of the most promising American home products.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(L. D. C.) See rules at the head of this department.

Information Wanted.

(T. & R.) Formula for Dr. Agnew's eye water.

(S. C.) Who makes "antitherma"?

Syrup of Dover's Powder.

(U. E. C.) See formula No. 371, page 132, National Formulary.

Is Calcium Carbide Patented?

(C. O. I.) Yes. See editorial in June 27, 1895, Era, where this question is discussed.

Ownership of the Prescription File.

(A. A. J.) A very full discussion of this subject is given in the Era of Feb. 28, 1895, page 271.

Perfume for Quince Seed Lotion.

(H. S. T.) Add a sufficient quantity of some good cologne. A mixture of oil of bitter almond and oil of rose geranium is also often used in lotions of this character. You can easily determine the quantity necessary, by a few experiments.

Journals for Midwives.

(Alexandre.) We know of no journal wholly devoted to this department of medicine. Journals which make a specialty of obstetrics and gynæcology are the following, published in this city: American Journal of Obstetrics, $5 per year; Archives of Gynæcology and Obstetrics and Pædiatrics, $2; Journal of Gynæcology and Obstetrics, $3. The American Gynæcological Journal, $2 per year, is published in Toledo, O., and Annals of Gynæcology and Pædiatry ($2) in Philadelphia.

Modeling Wax.

(S. A. E.) (1) Melt 20 ounces best white wax and while it is cooling mix with 1 ounce flake white.

2.) Best yellow wax..... 50 parts
Venice turpentine ..... 7 parts
Lard .....3¼ parts
Bole elutriated ..... 36 parts
Mix and knead thoroughly.

(3) It is made of white wax, melted and mixed with lard to make it workable. In working it, the tools used, the board or stone, are moistened with water to prevent its adhering; it may be colored to any desirable tint with a dry color.

(4) Melt over a moderate fire 100 parts yellow wax, and add 13 parts Venetian turpentine, 6½ parts lard, 72½ parts elutriated bole. Mix thoroughly, pour the mixture gradually into a vessel containing water and knead it several times with the hands. The wax must be melted at a temperature sufficiently low not to create bubbles. Add Indian red, if desired, for color.

Dry Yeast.

(T. P. A. K.) You did not succeed in making a satisfactory dry yeast because you did not follow directions. A high degree of heat destroys the activity of yeast, and this is what occurred when you evaporated it to dryness in an oven. Evaporation, after all of the water that can be removed has been gotten rid of by pressure, is best conducted in a vacuum apparatus and at a low temperature. Beer yeast is also prepared in powder, or cakes, by mixing it with flour of cornmeal, and drying.

Questions Asked by the Georgia Board of Pharmacy.

(Aloes.) Questions asked by the Georgia Board of Pharmacy were published in the Jan. 1, 1892, Era, page 91. The questions asked by this board at its last examination have not been published. Why do you not address your query to the secretary, H. R. Slack, La Grange? He will doubtless furnish you with an outline illustrating the character and scope of the work required in the examination of candidates in that State. Incidentally, you might ask him about drug clerks' wages and prospects.

Genus Commiphora.

(J. A. L.) The best known representative of this genus is myrrh. Bdellium, a gum resin obtained from Commiphora mukul, Hooker, and from Commiphora Africana, is another representative. The former variety is indigenous to East India, and the latter to West Africa. In odor and taste it resembles myrrh, and is used for the same purposes. The genus Commiphora belongs to the Burseraceæ, a natural order, distinguished as tropical trees and shrubs abounding in resinous and oily secretions. Olibanum and elemi belong to this order.

Quinine Sulphate and Aromatic Sulphuric Acid.

(W. W. R.) The reason you did not get a permanent and clear solution when you mixed 30 grains of quinine sulphate with 2 drams of aromatic sulphuric acid, is because the former is not completely soluble in the latter. By the addition of sulphuric acid to quinine sulphate, quinine bisulphate is formed. This salt requires, according to the Pharmacopœia, 32 parts of alcohol to dissolve it, an amount which the quantity of aromatic sulphuric acid prescribed does not possess. Heated to boiling the quinine quickly dissolves in the acid, but it is thrown down again upon allowing the mixture to cool.

Sulphuric Acid, Soap, Oils and Salts.

(Other Pharmacist.) The following prescription is an incompatible one:

Cider vinegar .....3 gallons
Potassium nitrate,
Ammonium muriate,
Opodeldoc,
Oil of turpentine,
Oil of origanum,
Sulphuric acid, of each.4 ounces

First, you cannot mix oils and aqueous solutions (in this case vinegar) and obtain a uniform preparation without the intervention of some emulsifying agent. Oils and water are immiscible. Second, sulphuric acid is incompatible with all of the other ingredients except the vinegar. It decomposes potassium nitrate and ammonium muriate, with the formation of potassium and ammonium sulphates and the liberation of nitric and hydrochloric acids, which in turn, form various oxidation products with the oils. A clear and non-separable mixture cannot be made.

Chocolate Chewing Gum.

(S. A. E.) The following formula contains chocolate and may answer your purpose:

Venice turpentine	200 parts
Common turpentine	150 parts
Yellow wax	100 parts
Tolu balsam	20 parts
Peru balsam	10 parts
Melt together and add, in fine powder:	
Cinnamon	60 parts
Chocolate	100 parts
Red sandalwood	20 parts
Myrrh	10 parts
Galangal	10 parts
Ginger	10 parts
Cardamom	5 parts

Mix, and roll out, when sufficiently cool, into sticks or any other desirable form.

Annuities.

(J. L.) Wishes to invest his savings in an annuity which will yield him a yearly income for the remainder of his life, and desires information regarding the safety and security of such a method.

As a rule an annuity issued by a reliable "old line" insurance company is considered as safe an investment as can be made. This, of course, depends to a certain extent upon the honesty of the officials of such companies, but there are many of these of unquestioned integrity, and the law very wisely provides the greatest possible safeguards in such matters. An honestly conducted life insurance company cannot fail, while, on the other hand, many honestly conducted banks do fail. We would advise that you address any of the following companies, which are considered perfectly safe, for information regarding their annuities: Manhattan Life Insurance Co., Mutual Life Insurance Co., New York Life Insurance Co., Equitable Life Assurance Society, United States Life Insurance Co., Washington Life Insurance Co., all of New York City.

Domestic" Ammonia for Cleaning Purposes.

(J. D. V.) One of the following may answer your purpose:

Best soft or green soap.	1 ounce
Borax	2 drams
Eau de cologne	½ ounce
Stronger water of ammonia	5½ ounces
Water enough to make	12 ounces

Rub up soap and borax with water until dissolved, strain and add the other ingredients. The perfume should be varied to suit the price.

Here is a formula which yields a similar and cloudy preparation. If a cheap odor is desired, it may be perfumed with oil of mirbane:

Potassium carbonate	1 part
Sodium borate	1 part
Green soap	1½ parts
Stronger water of ammonia	4 parts
Distilled water	8 parts

Heat the water and dissolve in it the soap and postassium carbonate; then add the borax, and, when cold, the stronger water of ammonia.

A so-called "household" ammonia is made after a patented process, and the manufacturer claims trade-mark protection on the use of the name.

Spirit Thymol Compound.

(C. A. K.) We cannot give you the formula for the proprietary preparation. The following formulas have been given for "antiseptic" solutions, one of which may answer your purpose:

1.) Boric acid	2 drams
Benzoic acid	2 drams
Dissolve in water	64 ounces
Fluid extract wild indigo	4 drams
Menthol	2 drams
Oil eucalyptus	3 drams
Oil wintergreen	½ dram
Dissolve in alcohol	64 ounces

Mix the two solutions and filter through magnesium carbonate.

2.) Oil eucalyptus	10 grains
Oil wintergreen	10 grains
Menthol	10 grains
Thymol	10 grains
Boric acid	½ ounce
Alcohol	4½ fl. ounces
Water, sufficient to make	16 ounces
3.) Benzoic acid	64 grains
Boracic acid	128 grains
Thymol	30 grains
Menthol	30 grains
Borax	30 grains
Oil eucalyptus	4 drops
Oil wintergreen	4 drops
Oil horsemint	5 drops
Alcohol	4 ounces
Water, enough to make	1 pint

Solubility of Cocoanut Oil in Alcohol.

(W. N. F.) A number of reference works have been consulted, and they all agree with the statement made in the United States Dispensatory, that cocoanut oil is soluble in alcohol, though the extent of solubility is not given. Upon this subject Thorpe's Dictionary of Applied Chemistry says: "The drying oils are more soluble that the non-drying, and oils containing the glycerides of lower fatty acids, e. g., butter fat, cocoanut oil, etc., are exceptionally soluble in alcohol."

Cocoanut oil becomes rancid very quickly from the large amount of mucilage it contains, and it is said to be occasionally adulterated with certain animal fats (Gadd). It is readily soluble in ether and benzene. We suggest you get a sample of known purity and try your experiment again with alcohol of official strength.

A cocoanut hair oil is made as follows:

Cocoanut oil	½ pint
Castor oil	½ pint
Alcohol	6 pints
Slippery elm bark	1 ounce
Water	4 ounces
Oil bergamot	1 ounce
Oil lemon	½ ounce
Oil pimento	¼ ounce
Oil bitter almond	1 dram

The cocoanut and castor oils are mixed and the alcohol added to them at a slight heat. The elm bark in coarse powder is soaked in the water and strained and the liquid mixed by agitation with the alcohol and oils. Filter, perfume and color with a little tincture of gamboge.

Cream Soda Water.

(S. A. E.) Here are two formulas:

1.) Gum acacia .....2½ pounds
Crushed sugar .....7½ pounds
Tincture quillaja ....10 fl. ounces
Benzoic acid .....1½ drams
Hot water ..... 5 pints

Dissolve the finely sifted gum in the hot water; strain, then dissolve the sugar in the clear solution with the aid of a gentle heat, and add lastly the tincture of quillaja, or soap bark, and benzoic acid.

(2) Into a 10-gallon fountain pour the following ingredients in the order named, agitating well after each addition:

Cool water ..... 1 gallon
Gelatin solution ..... 1 gallon
Syrup ..... 1 gallon
Soap bark extract.....10 ounces
Caramel solution ..... 1 ounce
Extract of vanilla..... 1 ounce

Add 4 more gallons of cool water and charge with carbonic acid gas until the pressure remains at 160 pounds.

The fountain is then ready to be attached and drawn by itself the same as carbonated water. It is not intended that the fountain should be filled to its capacity. A little of this "cream" should be added to the syrup before or after the carbonated water is drawn, as may be desired.

The gelatin solution is made by dissolving 3 ounces of first quality gelatin in 1 gallon of hot water and straining through muslin. The solution must, of course, be made only as wanted for use.

The soap bark extract is made by percolating 16 ounces of the powdered bark with diluted alcohol until 4 pints of tincture are obtained.

The caramel solution can be made by putting one pound of nice brown sugar in a tin pan on a slow fire and constantly stirring until it has lost its sweetness and changed to a bright brown color. Care should be used not to burn it. When ready add water cautiously to make one pint of solution.

Gold and Silver Soldering.

(B. & H.) Hard silver soldering is used for soldering silverware and fine articles of brass, copper, steel and iron. It consists of silver with a large addition of copper and zinc. Following are some formulas for hard silver soldering, taken from the Techno-Chemical Receipt Book:

1.) Fine silver .....19 parts
Copper ..... 1 part
Brass .....10 parts
Zinc ..... 5 parts
2.) Silver .....66.3 parts
Copper .....25.7 parts
Zinc .....11 parts
3.) Silver .....50 parts
Copper .....33.4 parts
Zinc .....16.6 parts

A softer solder for soldering articles having parts already soldered, and therefore requiring a very fusible solder, the following is recommended:

Silver ..... 3.5 parts
Zinc .....1 part
Copper .....2.6 parts

Another formula requires silver, 10.5 parts; zinc, 3 parts; copper, 4.5 parts.

Hard gold solders for soldering goldware, and sometimes fine articles of steel, are generally divided into:

(1) Easily liquefiable solder for articles of less than 14-carat gold. Fourteen-carat gold 10 parts, fine silver 5, zinc 1. This solder serves for yellow gold, which it resembles in color, and also for finer goldware which is not to be colored.

(2) Refractory solder for articles of 14-carat gold and over, especially when they are to be colored. Fine gold 16 parts, fine silver 9, copper 8.

(3) Solder for articles of 20-carat gold which are to be enameled, and by reason of the heat to which they are exposed during the process require a very refractory solder: (a) Fine gold 37 parts, fine silver 9. (b) Eighteen-carat gold 16 parts, fine silver 3, copper 1.

Very refractory solders for articles to be enameled:

1.) Copper .....25 parts
Silver ..... 7 parts
Gold .....68 parts
2.) Copper ..... 0.1 part
Silver ..... 3 parts
Gold .....16 parts

Other hard gold solders for articles of gold of 14-carat and over are composed of:

1.) Copper .....24.2 parts
Silver .....27.3 parts
Gold .....48.5 parts
2.) Copper .....33.4 parts
Silver .....16.6 parts
Gold .....50 parts
3.) Copper .....27.2 parts
Silver .....31.8 parts
Gold .....40.9 parts
4.) Copper .....33.3 parts
Silver .....37.5 parts
Gold .....29.2 parts

Cough Syrup.

(R. A. G.) The following are typical formulas:

Syrup Wild Cherry, Horehound and Tolu.

Syrup of tolu.....4 ounces
Syrup of wild cherry....2 ounces
Fluid extract of horehound .....1 ounce

Mix them. Dose, a teaspoonful.

Tar Horehound Cough Syrup.

Horehound .....2 drams
Irish moss .....1½ ounces
Ammonium chloride ..1½ ounces
Boiling water .....4 pints

Let stand for 12 hours, strain and add:

Oil tar .....2 drams
Dissolved in chloroform ½ ounce
Fluid extract senna...2 ounces
Syrup squills, compound .....1 pint

Syrup of Tar and Wild Cherry.

Tar ..... 6 parts
Wild cherry in No. 20 powder .....12 parts
Sugar .....60 parts
Glycerin .....10 parts
Boiling water .....60 parts
Cold water, a sufficient quantity.

Upon the tar contained in a suitable vessel pour 12 parts of cold water and stir the mixture frequently during 24 hours; then pour off the water and throw it away. Pour the boiling water upon the residue and stir briskly for 15 minutes, then set aside for 36 hours, stirring occasionally. Decant the clean solution and with it thoroughly moisten the wild cherry. Macerate for 24 hours in a closed vessel, then pack it firmly in a cylindrical glass percolator, and gradually pour upon it first the solution of tar and then water until 30 parts of percolate are obtained. Dissolve the sugar in percolate by agitation without heat, add the glycerin and strain.

Syrup White Pine Compound.

White pine bark in coarse powder ... 4 tr. ounces
Wild cherry bark in coarse powder ... 4 tr. ounces
Spikenard .....256 grains
Balm Gilead buds..192 grains
Blood root .....192 grains
Sassafras bark ....128 grains
Morphine sulphate . 12 grains
Chloroform .....256 grains
Alcohol ..... 8 fl. ounces
Water ..... 6 fl. ounces
Glycerin ..... 2 fl. ounces
Syrup ..... 3 pints

Reduce the drugs to No. 30 powder and macerate with the mixture of alcohol and water. When thoroughly moistened allow percolation to proceed and collect the first 14 ounces, which set aside. Continue the percolation until marc is exhausted. Evaporate the final percolate to 2 ounces and mix with the reserved portion. Filter, add the chloroform and morphine and sufficient syrup to bring the total bulk up to 4 pints.

Pharmacy in Brazil.

(New Subscriber.) Brazil is not to be reckoned among the new countries in which the pharmacist can readily attain to independence. The law provides that any person who wishes to open or carry on a pharmacy must first pass the examination prescribed by the Government, and this law is stringently maintained in respect to foreigners.

The Pharm. Ztg. published an article on this subject several years ago from which we abstract part of the following:

There exists in Brazil three faculties for pharmacists, at Rio Janeiro, Ouro Preto and Bahia. The time of study extends over three years, divided as follows: First year—Physics, inorganic chemistry, mineralogy and zoology. Second year—Botany and inorganic chemistry. Third year—Practical pharmacy, therapeutics and toxicology. The student is at liberty to present himself for examination in any of these subjects as he may please, and after passing in it once he is not required to take it up again in a subsequent examination. The professors are required to supply the candidates fourteen days before the day of examination, with a list of the questions that they intend putting to them. The pharmacist who has been trained and examined in other countries is excluded from these favors; for him there is prescribed a so-called "free examination,"

in which he has to submit himself to examination by the professors in every subject. Until about eight or nine years ago these examinations were conducted in the French language, but now only Portuguese is allowed. The examination lasts about a month, but at least two months are required for that and the preliminaries. The examination is not a very severe one, but some of the questions are more closely associated with the practice of medicine than that of pharmacy. After passing, the successful caudidate is at liberty to commence business in any part of Brazil, but he is not permitted to own more than one pharmacy. As to competition, the number of pharmacists in a district is usually relatively large, but, on the other hand, the consumption of medicine, as a consequence of climatic conditions, is very ccusiderable.

There is no native pharmacopœia, though several attempts have been made to prepare one. Laws have, however, been made from time to time which prescribe what medicines are to be kept by pharmacists. Aside from the Spanish, Portuguese and French Pharmacopœias and Dorvault's "L'Officine" (though this is becoming antiquated), Chernoviz's "Formulario, ou Guia Medica," and Lauggaard's "Novo Formulario Medico e Pharmaceutico" (Rio de Janeiro) are in general use. It is required that all prescriptions be written in Portuguese, and an assistant would stand a very poor chance of obtaining an engagement in a native pharmacy if he were not familiar with that language.

Liquor Ferro-Mangani Peptonati.

(F. L. E.) The following is Dieterich's formula:

Citric acid ..... 10 parts
Dissolved in
Distilled water ..... 50 parts
and neutralize with
Solution of ammonia,
q. s., or about..... 20 parts
(Liquoris ammonii caustici, P. G.)
On the other hand, take
Iron peptonate ..... 24 parts
and bring it into solution by careful boiling with
Distilled water .....150 parts
Add to the hot liquid the ammonium citrate solution, then a solution of
Manganese chloride .. 3.7 parts
(crys. and purified) ($MnCl_2 + 4H_2O$)
Distilled water ..... 10 parts
Then add the following mixture:
Distilled water .....500 parts
Cognac .....100 parts
Aromatic tincture, P.
G..... 1.5 parts
Tincture Ceylon cinnamon ..... 0.75 parts
Tincture vanilla ..... 0.75 parts
Acetic ether ..... 2 drops
Finally, bring the whole up to 1,000 parts by weight with distilled water.

It is important that in making this preparation the foregoing proportions be strictly adhered to. If, for instance, the iron peptonate be dissolved in a larger quantity of water there is produced, upon the addition of either the ammonium citrate, or the manganese chloride solution, a precipitate which is only redissolved by further heating. The liquor so obtained is described as being of a dark red color, somewhat turbid looking in reflected light, but clear in transmitted light. It contains 0.6 per cent. of iron and 0.1 per cent of manganese.

Dieterich also gives the following formulas for the administration of manganese alone or combined with iron:

Liquor Ferro-Mangani Saccharati.

(1) (Containing 0.2 per cent Fe and 0.1 per cent. Mn.)

Iron, saccharated (10 per cent.).. ..... 20 parts
Manganese, saccharated (10 per cent.).. 10 parts
Distilled water .....390 parts
Simple syrup .....240 parts
Spirit cognac .....340 parts

(2) (Containing 0.6 per cent. Fe and 0.1 per cent. Mn.)

Iron, saccharated .... 60 parts
Manganese, saccharated .... 10 parts
Distilled water .....410 parts
Simple syrup .....180 parts
Spirit cognac .....340 parts

Either of the above formulas may be flavored with

Tincture orange peel.. 3 parts
Aromatic tincture, P. G.... ..... 0.75 part
Tincture Ceylon cinmon .... 0.75 part
Tincture vanilla ..... 0.75 part
Acetic ether ..... 2 drops

A solution of the saccharated oxides of iron and manganese is prepared by Gerhard (Apoth. Ztg.). He recommends the following formulas as yielding preferable, palatable and but slightly alkaline preparations:

(1) Syrup of saccharated oxide of manganese, containing 2 per cent. of manganese and 5 per cent. of sugar. Dissolve 10 parts of potassium permanganate in 500 parts of distilled water, and add, for solution, 60 parts of powdered sugar (or 100 of simple syrup). Set aside for several hours, until a brown gelatinous precipitate has formed; then heat the liquid several times to ebullition, and filter-off the manganese hydroxide. Wash this by once pouring distilled water over it, and express the precipitate a little, until it weighs about 80 parts. Mix this with 87 parts of powdered sugar and 3 to 4 parts of soda solution (sp. gr. 1.160), and heat over an open fire or on the water-bath until a clear syrup is obtained, and then add distilled water until the whole amounts to 174 parts.

(2) Syrup of saccharated oxide of iron, containing 2 per cent. of iron and 50 per cent. of sugar: Precipitate 30 parts of solution of ferric chlorated (Ph. G. with sodium carbonate (as in the preparation of saccharated oxide of iron of the Ph. G.); wash the precipitate, and triturate it with 75 parts of powdered sugar and 4 parts of soda solution (sp. gr. 1.160); heat the mixture over an open fire or on the water-bath until a clear solution results, which is either boiled down or admixed with distilled water—as the case may require—until it weighs 150 parts. Neither of these syrups should have more than a barely appreciable alkaline taste or reaction; and this will be the case, it is maintained, if not more than the above prescribed quantity of soda solution is used. Should it, however, be otherwise, owing to more soda solution having been used, the alkalinity should be overcome, not by the addition of an acid, but with the aid of powdered potassium-bitartrate, which is to be admixed with the syrup and the mixture then set aside, under repeated stirring, until the alkaline taste has disappeared. The excess of cream of tartar is allowed to settle, and the syrup is then carefully decanted. A palatable syrup may thus be obtained, it is stated.

(3) Solution of the saccharated oxides of iron and manganese, containing 0.6 per cent. of iron and 0.1 per cent. of manganese: Take

Syr. sacch. oxide iron (as above).... ....300 parts
Syr. sacchar. oxide manganese (as above)..... 50 parts
Distilled water .....470 parts
Cognac ....100 parts
Alcohol (90 per cent.)... 75 parts
Tinct. orange peel..... 3 parts
Aromatic tincture ..... 1 part
Tincture cinnamon ..... 1 part
Tincture vanilla ..... 1 part
Acetic ether (to each kilo).... .... 5 drops

This solution is said to be clear, of a beautiful brown color and a very agreeable taste, and quite stable.

KUROMOJI OIL.—Essential oil of kuromoji appears to be slowly acquiring some degree of popularity among manufacturing perfumers. Several lots of it have recently passed through the Liverpool market and gone into consumption. (Ch. & Dr.) Some of the buyers having noticed that one parcel of oil frequently differs in odor from another, asked the importers for an explanation of this circumstance. Inquiries were therefore set on foot, and have elicited the fact that kuromoji oil is not produced on a large scale by essential oil distillers, but by small farmers in Japan, each of whom distils the yield of the shrub growing on his own estate. These small stocks are then bought up by dealers in various centers and mixed together, almost precluding the possibility of getting exact uniformity in aroma. The oil is obtained from the young shoots and leaves of the Liuderica sericea, Blume (Natural Order Lauraceæ), a shrub which grows wild in the mountain districts of Japan, attaining a height of from 4 feet to 6 feet. The old wood of the shrub is much used for making toothpicks. Kuromoji oil, which was introduced into Europe in 1889 by Schimmel & Co., has been repeatedly mentioned in that firm's reports. According to Dr. F. B. Power (catalogue of non-official essential oils), the oil has a specific gravity of 0.892, and an optical rotation of —0° 4′. It contains dextrogyrate limonene, dipentene, terpineol and lævogyre carvol, possesses a pleasant, aromatic, balsamic odor, and is of value in perfumery, especially for soap making. S. & Co. however, state that the oil is prepared from the wood of the plant.

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THE DRUGGIST.

A PATHETIC SCENE IN A BROOKLYN PHARMACY SUGGESTS A FEW REMARKS.

Druggists are perhaps in closer touch with the people of their neighborhood than any other class of business men. They are often repositories of secrets which might disrupt families or break up friendships of years' standing. They cash checks for regular customers, take care of bundles for the women folks, give the children candy when the little penniless ones look longingly at the confectionery case, deliver messages from the 'phone, know how Mrs. S. and old Mr. X. are fixed financially, because Mr. S. and and Mrs. X. have told family affairs confidingly while examining this or that article; furnish stamps when Mrs. B. has left her purse at home, and never remind her when she asks the same favor again in spite of her forgetting the debt; loan money to Mrs. Z. when Mr. Z. has gone off without supplying funds, and have even been known to "look out for baby in the carriage a minute" when the mother wanted to go to another store.

Then the drug store is a convenient place for the men to drop in with friends to talk. Neighborhood gossip is heard as the women treat each other to soda, and linger ten minutes over a glass of orange phosphate. If anybody is taken ill suddenly, who is notified and sends for the doctor but the useful druggist? An accident near by turns the drug store into a hospital for the time being. Sometimes these accidents are fatal ones, and many an unfortunate has breathed his last on the floor of a drug store with the druggist's coat under his head.

But no druggist ever had to witness a more pathetic scene than that last Friday in a Brooklyn drug store. There have been over 120 persons killed by the Brooklyn trolley, and it is safe to say that in 50 of these cases a druggist had something to do, either to open his doors for the reception of the injured one or to bring something to help keep life in the maimed man, woman or child. But on the day mentioned a nine-year-old boy on his way to school was run over by a trolley car on Smith street, near Wyckoff. The little fellow was taken to a near-by drug store, and Druggist Johnson gladly did all he could for him. His little legs were hanging by shreds from just below the knee. In his hands the boy held a bunch of flowers. Even the pain did not make him forget them. As if the whole terrible accident was only a dream, the boy held up to Mr. Johnson the bunch of flowers. "Don't stop me," he said. "Mamma will scold if I'm late for school. I am going to take these to my teacher."

The ambulance came, and the poor boy was taken to the hospital, where he died in a few hours.

It is scenes like this, happening not rarely, but all too frequently, that the druggist forms a figure in. Nobody confides in the butcher, the baker or the grocer. Everybody regards the druggist as a friend rather than a man who has something to sell. Let an old-time druggist pass off the scene and the whole neighborhood misses him. The coming of a new druggist in the dead man's place is a matter of public interest, and the question asked is, "Will he be as nice as Mr. Blank was?"

And yet most druggists will tell you that no other class of merchants have to cut their prices more, because "Mr. S. sells it 2 cents lower."

Mr. Dohme on European Pharmacy.

Baltimore, Oct. 12.—Mr. Chas. Dohme, of the firm of Sharp & Dohme has recently returned from a six months' tour in Europe, and he talks interestingly about the drug trade abroad. It was the first time that he had crossed the ocean since his boyhood, but so pleased was he with his experiences that he declares it shall not be the last outing of the kind. The trip was primarily undertaken for recreation and relaxation, and that Mr. Dohme found both is quite evident from his appearance. But he was not so busy sightseeing that he did not post himself by occular inspection and personal interviews on pharmacy in the old world as compared to American drug stores. He visited nearly every country on the continent, England and Scotland, going as far as Edinburgh northward and to Italy southward. He found much to interest him, and has much to say about the pleasant easy-going existence of the European druggist, but in the summing up he concedes to the American knight of the pestle superior energy and enterprise.

"The conditions under which the business is conducted here and in Europe," said Mr. Dohme, "vary considerably. On this side of the Atlantic competition is unlimited, on the other side restricted by legal provisions under which the number of drug stores in any one place is regulated according to the number inhabitants. This arrangement has its undoubted advantages. The existence of the druggist so protected against competition is secure from the start. He is not obliged to hold out special inducements. Custom comes to him. But the inevitable result has been to check enterprise. The continental stores sometimes have little resemblance to our pharmacies. They are all well kept, but there is an absence of display, of ingenuity in the production of those things which will attract the eye. In this respect the English apothecaries are very much like those across the channel. Only the French establishments form, to a modest degree, an exception, carrying lines of cosmetics, fancy articles, etc., and making some attempt at show.

"Frequently the stores are in out-of-the-way places, and do not at all resemble our pharmacies. Usually they have attached dwelling apartments and sometimes they are surrounded by a garden. An American, unaccustomed as he is to such willful obscuration, may not suspect the presence of a drug store at all. Yet these establishments do an amount of business which would make a fairly prosperous American envious. From 100 to 150 prescriptions a day are by no means unusual. In Zurich, Switzerland, I found such a dispensary of physic modestly screened behind flower beds. It gave employment to nearly a dozen clerks, and all of them were kept busy, too.

"Still, notwithstanding these evidences of prosperity, the proprietors say that things are not as they used to be. Profits have been reduced and the volume of trade has been diminished. Some of the causes at work here have operated there with similar results, and to them are added others which have grown out of the general conditions. The effects of concentrated medication are being felt there as well as here, but perhaps not to so pronounced a degree. Then there are places conducted by persons known as druggists. They are not permitted to put up prescriptions or to sell poisons, but they carry stocks of common remedies, proprietary preparations and household drugs, and cut into the business of the apothecaries by underselling and in other ways. A third cause of depression is to be found in one phase of European industrial development. The owner of a factory engages a physician by the year to treat all the employees taken sick or injured. Likewise, he contracts with some pharmacist for the annual supply of medicines. Of course, such contracts always imply a considerable rebate. In these various ways are the profits of the apothecary diminished.

"I did not visit any wholesale establishments, but from the statements made by the retailers times are improving, and dullness seems to be giving way to greater activity."

——Among the matters to come up before the next General Assembly of Maryland is a local bill to restrict the sale of intoxicating liquors by druggists in the districts of Dorchester County, in which the Local Option law is in force.

——The School of Medicine of Boston University is to have a new laboratory building this year.

Cooperative Company Does Not Materialize.

Detroit, Oct. 11.—The plan for forming a co-operative drug company here, whereby druggists would make their own patent medicines, seems to have died an early death. Three or four weeks ago an enthusiastic meeting was held and the subject pretty thoroughly discussed. A committee was appointed to investigate the matter still further and to arrange for a visit from the manager of a similar company at Hamilton, Ontario. It was announced that a meeting would be held the following week, to which all druggists would be invited, and at which time it was hoped the Hamiltonian would be present. So far as can be learned, nothing has been done since. The gentlemen of the committee have had no meeting, and one of them told the Era reporter this morning that he didn't know he was on such a committee—had forgotten it if he ever did know it. Just why the enthusiasm should be followed by such marked indifference is hard to tell, but it has been suggested that it all lies in a failure to agree on a manager for the business. It is said that at least two of the prime movers in the scheme feel that they are especially equipped for the place, and have their plans all laid to run it to suit themselves. These plans look to be somewhat one-sided to the gentlemen who are supposed to buy stock in the plant, and who feel that they should have something to say about the way their money is to be used. It is a case of "too many cooks will spoil the broth," and the result will probably be that the preparations will be procured of the original proprietors in the "same old way" that now prevails.

The St. Louis Substitution Agitation.

St. Louis, Oct. 11.—Dr. Turnbull's effort to stir up a row over the substitution question is falling rather flat. Physicians and druggists generally are inclined to pay little attention to it, and when pressed for an opinion usually remark in a confidential style that it is their impression that Dr. Turnbull is simply seeking a little cheap notoriety in the interest of his newspaper.

Prof. James M. Good, whose drug store is at Jefferson avenue and Olive street, in discussing the matter, said: "I am not criticising Dr. Turnbull, but it does seem to me that he is becoming unduly alarmed over something more imaginary than real. Of course there is substitution to some extent, but nothing that would warrant anybody getting alarmed. A druggist may substitute one preparation for another which is identical but made by a different firm, but so far as tampering with a prescription is concerned I don't believe much of that is being done." Asked what he thought would be the best way of wiping out substitution if it existed, Professor Good replied, "Make all druggists honest." He followed this up with the remark that he was content to leave that job to the ministers.

Dr. Sol. C. Martin, in discussing the matter, said: " It is my opinion that this substitution agitation will have its good effects. The practice of medicine is becoming so advanced that the time is not far distant when, in my mind, the physician will again put up his own medicines in a modified form. The practice of substituting cheap medicines for those prescribed is becoming more and more common among the druggists. I don't simply hear it, but I know it. I could cite two cases in particular where it has been practiced on me. A doctor is never certain when he makes out a prescription that his patient will get the right medicine. A substitution may be as good as that called for in the prescription, and again it may not. An honest druggist is a great help to the physician, and we want all of them that we can get. Realizing that the result is inevitable, many drug houses are now getting out pure drugs in the form of tablets. These tablets are soluble, occupy small space and if kept in a cabinet in the doctor's office they are as good as a drug store. The beauty of the tablet system is that the doctor has little weighing to do, as each tablet has its own weight. That is another difficulty about the drug store prescription system. Many druggists make no pretense of weighing the ingredients of a prescription. I am heartily in favor of Dr. Turnbull's crusade and hope he will win, although I fear it will be a difficult matter to drive all the substituters out. Substitution can be carried on very easily without detection, and even when a druggist is caught he simply defies the physician to do his worst."

Dr. Ilstrup and His Bitters.

St. Paul, Minn., Oct. 11.—Dr. Francis Ilstrup, a member of the drug firm of Ilstrup & Anderson, of Osakis, Minn., has been hauled up before the State Medical Board, and that body passed upon his case at a meeting in this city a few days ago. This is how it came about: Dr. H. E. Cassel, of Osakis, a member of the Board of Health at that place, preferred charges of unprofessional conduct against Dr. Ilstrup. The chief specification was to the effect that the doctor, as a druggist, had been selling a certain brand of bitters which contained 36 per cent. of alcohol, the other ingredients consisting of unknown herbs, which seemed to have no effect whatever upon the human system. The probabilities are, however, that the concoction represented a fair brand of prohibition whisky. Osakis, be it understood, is a so-called prohibition town. The medical board would naturally have nothing to do with a violation of the liquor law, but it could take up the case on the ground that the nostrum dispensed by Dr. Ilstrup would not cure the ills it was advertised to free humanity of. Drs. Ilstrup and Cassel were present at the hearing, having with them a large number of witnesses. The board heard what testimony there was to offer and then dismissed the case on the ground of insufficient evidence and the fact that it had not been brought in proper shape. The prosecution had not gathered the evidence and presented it in a manner acceptable to the board. The percentage of alcohol in the preparation sold by Dr. Ilstrup had been ascertained by a test made by the State Dairy Department, but the medical board had been unable to determine the character of the other ingredients. Dr. Cassel had made some experiments on his own account, by which he claimed to have learned that these ingredients had no effect upon the system, good, bad or indifferent. In Western "prohibition" towns, as no doubt in the Eastern also, the druggist is the only one who has a "cinch" in the liquor-selling business. He can sell "the ardent" under the name of "pop," "bitters," "lemon juice," etc., and the law cannot or will not molest him, while the secret saloon, called in these latitudes "blind pig," "boot leg" or "speak easy," is liable any day to be raided and its proprietor fined or imprisoned, or both. These remarks are not, of course, directed at Dr. Ilstrup especially. They have application to the general situation in every Western town where prohibition has been attempted.

The Grand Rapids War.

Grand Rapids, Mich., Oct. 12.—Cutrate matters here are at a standstill, although there is a bad feeling about them. The druggists got together and agreed on a uniform cut price for about thirty of the leading preparations. All are sticking right to these prices, although in some cases they are actually below the cost price of the articles. The Hazeltine & Perkins Drug Co., the only wholesale drug company in the city, were threatened with a boycott by a combination of the leading druggists, unless Paul V. Finch, the originator of the cutting, should be denied goods by the company. The wholesalers agreed to this, and served notice on Mr. Finch that he could have no more goods. It would seem that one of the newspapers of the city has had much to do with keeping the bad blood boiling over the matter. This paper, although its advertising columns have been regularly patronized by the leading druggists, has seen fit to take the part of the cutters and of the department stores, and has helped to keep up the fight by much free advertising of the same. It is alleged that some of the preparations sold by the department stores as well-known remedies are not what the clerks sell them for at all, but are substitute products evidently put up for use by the firms, and do not even bear the labels or wrappers of the remedies.

"A Complete Shaving Set for 25 Cents."

Boston, Oct. 11.—A "fraud order" has been issued by the Post Office Department at Washington against J. W. Adams, who is alleged to have been conducting schemes to defraud in various cities in the United States, especially in the East, and the inspectors connected with the Boston force are anxious to learn of his whereabouts at the present time. It is the opinion of the inspectors that he is in the neighborhood of Chicago, doing business under the name of Browne Chemical Co., and that it is

only a question of a few days when he will be apprehended, as the Chicago inspectors are now at work on the case. If that man is the man named Adams the Boston inspectors will probably ask that he be sent East for trial.

His scheme is to advertise in the papers to the effect that for 25 cents he would forward a complete shaving set. He received considerable mail and was doing a flourishing business at Bridgeport about a month ago, when the inspectors went to work on the case. On receipt of the amount of the money he would send a piece of stone with instructions to rub it on the face until the whiskers disappeared. Post Office Inspector O'Brien, who investigated the case, went to Bridgeport for the purpose of arresting the man, but he left town before the inspector's arrival. It was learned that he sold out the business to some person in Jersey City, but before the inspector could reach that place the mysterious "company" again disappeared.

(Evidently the same persons whose operations were chronicled here last summer.—Ed.)

A Plucky Drug Clerk Gets Into Trouble.

Boston, Oct. 11.—An interesting case came up in court in the neighboring city of Malden yesterday, when a local "bruiser" was charged with assault upon Justin Bartlett, clerk at the drug store of Everett S. Dodge, 324 Broadway. It appeared by the evidence submitted that the fellow entered the drug store while intoxicated and made himself so offensive that he was ordered out. This angered him and he attacked the clerk. In a few moments he was ejected. A short time afterward he returned and expressed regret at what he had done, immediately following this, however, by assaulting Mr. Bartlett again. This time he fought hard, but was overcome. Bartlett was unable to appear in court the next day and the case has been continued.

The Capsule Trust Case.

Cincinnati, Oct. 12.—The case of Robert J. McCutcheon and others, representing the capsule trust, against the Merz Capsule Co., of Detroit, was argued today in the United States Circuit Court of Appeals. The court took the case under advisement and it is hardly probable that a decision will be announced for several weeks.

It will be remembered that McCutcheon, who is a resident of Indianapolis, organized the United States Capsule Co. some time ago and induced the Merz concern to join the combine. Shortly after the organization was consummated the Merz people withdrew from the United States Co., alleging that the formation of the combination was contrary to the anti-pooling laws of Michigan. It seems that Merz's withdrawal badly crippled the trust, as the primary object was the immediate advancement of the price of empty capsules, so McCutcheon sued the Merz company for an alleged breach of contract. Judge Severens, of the United States Courts, at Detroit, held that as the State enactments of Michigan prohibited the consolidation of business interests for the purpose of regulating productions or prices, and as the United States Capsule Co. was organized to control prices, it was an illegal corporation and therefore had no standing in court. He further decided that the Merz company was in no manner liable for damages for a claimed breach of contract. McCutcheon and his allies appealed from Judge Severens' judgment and the case came up for final hearing to-day.

Druggist-Doctors in the Quaker City.

Philadelphia, Oct. 10.—For a number of years past the druggists of this city have been receiving less business from the doctors than ever before, and instead of the troubles growing better they have become worse. Many of the large wholesale houses are putting up medicines so that a patient can become his own doctor, and besides this, the doctors are carrying, in many instances, cases of medicine with them, from which they prescribe. There is, however, a feeling with druggists that the only way they can better their business is to take the matter in their own hands, and the druggists that are to be, and those who are now students, are not only taking a course in pharmacy, but in many instances have matriculated in medical schools. It is their intention to combine both professions, and in this way they hope to build up a better trade. Many of the druggists in this city are full-fledged physicians, and they say that with giving advice free and supplying medicines their business shows considerable improvement. It is thought, however, that when the druggists take the matter up more fully, and the doctors see that they mean to look out for themselves, there will be an understanding between the two professions which will be of benefit to each.

Sales Method of Sugar Trust.

Philadelphia, Oct. 11.—The new scheme of the American Sugar Refining Co., which was put into effect on the 10th inst., in regard to creating a new system for the selling of its sugars, is being closely watched by the drug trade, as the plan is similar to that which is soon to be put in force by the N. W. D. A. The sugar is to be sold only to certain houses which are to be named as agents, and through them retailers will secure whatever they wish. The retailers, however, can buy from the Trust direct, but they will not get it any cheaper than from one of their agencies.

Article III. of the terms of sale states: "None of the sugar shall be sold by you (the agent), either directly or indirectly for less than our daily quotations, with freight added, from refining point to point of sale, nor on more liberal terms as to credit or cash discount."

So long as the foregoing is observed by the agent, and upon an affidavit to that effect, the sugar company will pay a commission of three-sixteenths of a cent per pound, and in addition thereto the agent will retain all profit which he has made, if any, over the advance made as provided. In cases of any failure to comply with the conditions no commission will be payable.

St. Louis Drug Trade.

St. Louis, Oct. 12.—The drug trade in St. Louis and vicinity for the past month or so has been fully up to what was expected, and very few retailers or wholesalers are complaining. The fall festivities which have been a feature of this city for so many years are now going on, and the city is crowded with visitors from every section of the country. This, of course, will have much to do with stimulating trade, and the sales at the end of the present month promise to eclipse anything in the past. Among the retailers quite a number of changes are going on, and two more stores changed hands within the past week. These were the Olympic drug store, at 11 South Broadway, which was sold by M. Tschnier to Otto Hartwig, proprietor of the store at Tenth and Market streets, and the Mount Pleasant pharmacy, which has been purchased by Louis Kauffmann, formerly a clerk at Herman Pockels', Jefferson and Gravois avenues.

Baltimore Trade.

Baltimore, Oct. 12.—All the drug houses in this city report a very gratifying increase in trade. The traveling men in their letters take a very hopefnl view of the situation and they are sending in more orders. The improvement is not confined to any particular article, but is general. The drugs which have shown a rapid advance, such as camphor, buchu, tartaric acid and citric acid, seem to have imparted life to everything else. There is manifest a disposition to stock up. Everywhere confidence in the future appears to prevail, and druggists are displaying increased confidence in the stability of values. A marked advance has been noted, particularly during the latter half of September, which continues during the present month. The retail trade, while not affected to such an extent by the recovery, have had less cause for dissatisfaction lately. Their business, too, has taken an upward turn, and many of them report much better receipts than for some time past. A peculiar phenomenon in the local trade is the advance or retrogression in certain localities. Just at present Canton has a kind of boom. Often two sections of the city, alike in the character of population and, as far as observable, in everything else, will yet exhibit the most surprising difference in the business of druggists. The conditions will vary, too, without any discernible cause, at least no one has yet been able to discover it.

—Wm. T. Moxon, proprietor of Moxon's Liniment, Mount Clemens, Mich., is going to the "Blue Grass" country to introduce his liniment among its famous horse breeders. A. P. Lincoln, formerly of South Lyon, will manage Mr. Moxon's business while he is away.

NEW YORK AND VICINITY.

——Henry Bohling, N. Y. C. P., '90, has left Perry's Sun pharmacy.

——H. E. Young, of Bay Shore, L. I., has sold his store to Otto C. Rappold, of Brooklyn, N. Y.

——Mr. Neal, of Spurlock, Neal & Co., of Nashville, Tenn., has been in the city for a few days on business.

——Emil J. Maring, N. Y. C. P., '91, has accepted a position with Gustavus Pfingsten, 14 Whitehall street.

——Isidore Shulkind has purchased the drug store of Dr. Mielke, corner of Ralph avenue and Macon street, Brooklyn.

——Paul Monlon, of the Delettrez Co., 41 Warren street, sailed last Friday for Europe. He expects to be gone about two months.

——Edward Murray, N. Y. C. P., '95, has resigned his position at J. A. Carpentier's pharmacy, 123d street and Eighth avenue.

——By the explosion of a boiler in the soda factory of Alexander J. Howell & Sons, Westchester, the engineer was killed and part of the building wrecked.

——Since returning from their wedding trip, Mr. and Mrs. Frederick Cassebeer have taken their residence at 240 West 70th street, near Mr. Cassebeer's pharmacy.

——The Bolton Drug Co. is among the firms that have donated medicines to the Red Cross Society of Brooklyn, which is treating the sick poor of that city free of charge.

——William J. Roberts, formerly with Daggett & Ramsdell, Thirty-fourth street and Third avenue, has taken a position with Fraser & Co., at 262 Fifth avenue.

——They say McKesson & Robbins' men do not eat a mid-day lunch now, but scurry off to a bowling alley to practice. Members of other teams will please take warning.

——The old witch hazel plant and distillery that has been operated in Essex, Conn., for many years by E. E. Dickinson & Co., has been removed to North Lyme, Conn.

——Frank Nelson Pond, N. Y. C. P., '94, recently at Wheeler's pharmacy, in Litchfield, Conn., has accepted a position with Albert Schurr, 443 Broad street, Newark, N. J.

——Ira Belfry, N. Y. C. P., '95, has just returned from his vacation, spent at his former home in Toronto. He was with S. A. Milan at Arverne-by-the-Sea, L. I., during the past summer.

——Frank H. Finley, of Providence, R. I., a senior student at the New York College of Pharmacy, has taken a position with Reuben R. Smith, Twenty-second street and Ninth avenue.

——John Kirkman, the latest victim of the Brooklyn trolley, was a soap manufacturer, living at 4 Fort Greene Place, Brooklyn. Although a young man, he was quite wealthy and did a thriving business.

——Theodore Doench, one of Philadelphia's pharmacists, was in town last week, and visited a number of friends in the trade. George T. Riefflin, of Sharp & Dohme, showed him some of the sights.

——Otto Stein, of the Stein-Vogeler Co., has been at the Holland House with Mrs. Stein. They have been enjoying a trip through Canada and the United States, and spent a few days here before their return home.

——Otto Hensel, a graduate of the New York College of Pharmacy, class of '95, has recently returned from an extended trip through Europe, and has accepted a position in the prescription department of Eimer & Amend.

——W. W. Maddock, formerly in the drug business in this city, where he had stores on Broadway and on St. Nicholas avenue, is now with Smedley's pharmacy, in Media, Pa., but expects shortly to go to Chester, Pa.

——The 250 acres of Bronx Park that will be devoted to a botanical garden has been accepted by the board of directors of the garden, who will also ask the Park Department to secure the $500,000 already appropriated by the city.

——Manager Bowen, of E. J. Hart & Co., of New Orleans, is still in this city. Mrs. Bowen was taken ill a few days ago, and the attack developed into a case of typhoid fever, from which it is hoped she will speedily recover.

——Judge George F. Roesch delivered that lecture postponed from last year, before the Alumni Association of the New York College of Pharmacy last Wednesday night. The lecture last week was well received by a fair-sized audience.

——The demand for quinine during the past two weeks has been very heavy. C. F. Boehringer & Soehne found their supply hardly more than equal to the call, and cabled for large shipments, so that they will be able to fill all orders promptly.

——C. N. Crittenton is one of the organizers of a colony for health and rest and for missionary work among mountain whites in Western North Carolina. A city is to be built on a tract of land twenty miles from Asheville, containing 20,000 acres of land.

——The troubles in the family of C. W. Meinecke, the Greenwich street dealer in druggists' supplies, have at last been settled, it is hoped, for all time. Mr. Meinecke has secured his divorce after a more or less sensational trial, in which his former wife threatened to shoot him.

——W. G. Ungerer, chemist for Colgate & Co., has resigned. He left last Monday evening for Hot Springs, N. C., where he will enjoy a good rest and recuperate from a slight indisposition. On his return to this city Mr. Ungerer will become a partner in his father's business.

——John Carnrick, of Reed & Carnrick, infants' food manufacturers at 428 West Broadway, lost $4,000 worth of silverware, bric-à-brac and clothing recently through the thefts of the caretaker of his Park avenue house. Some of the property will probably be recovered, and the thief has been arrested.

——James McNicol, an Albany druggist, was one of the delegates to the Christian Endeavor Convention in Brooklyn last week. On Thursday he started out from his sister's house, intending to return at night, but nothing more was heard from him. On Saturday the police were informed of the facts, and began a search for the missing man.

——H. M. Wasseff & Co., who have been located at 2161 Seventh avenue for several years, have been succeeded by Alfred S. Horn, formerly with Dr. Walter T. Scheele. Wasseff & Co. did a good business, but have a store at the corner of Jefferson and Madison streets, to which their attention will be devoted for the present. It is understood, however, that Mr. Wasseff is on the outlook for another store in a different section of the city.

——Manager James A. Sangston, of the New York office of the Low Art Tile Co., is now down South on his wedding tour. He was married on Thursday last at high noon to Miss Charlotte Louise Purdy, daughter of Charles Provost Purdy, at the home of the bride's parents, 45 West Thirty-fifth street. Mr. Sangston is a member of the Southern Society, and both he and his bride have been prominent in social circles on the west side.

——Among the indictments found by the Federal grand jury of the New York district, which has just completed its work, was one against Jeremiah M. Grady, charged with smuggling phenacetine. At the time of Grady's arrest some weeks ago it was claimed that he was in no way connected with the gang of phenacetine smugglers who have been working in the East for the last six months. His trial will not be held for some weeks.

——Perry's drug store in the World building presented an unusual sight a few nights ago. It is generally brilliantly lighted by electricity, but during that night the electricians in the building struck and all lights went out. Candles were hastily procured, and those who wanted soda drank by the light of rows of the old-time light-givers. It was an odd sight, but the drug clerks thought it extremely disagreeable. The electric lights were in service after about an hour's delay.

——Ludwig Wolfert, druggist at 64 Grand street, Williamsburgh, has been arrested for violating the law in not registering the sale of a poison. A young married woman purchased paris green at Wolfert's store. Her son was sent for the poison, and as he had often procured medicine and supplies for his mother at the store, the druggist thought the paris green was to be used about the house, so he did not register the sale. The woman used the poison to kill herself. Wolfert gave bail for further appearance.

——The Era reporter was shown this week some very handsome articles brought home as presents to friends by a drug trade man who spent several weeks in Europe. The recipients were drug trade men, too, and they highly prize the gifts, not only for friendship's sake, but because of the intrinsic value of the articles. One very fine beer mug from Carlsbad was the figure of an owl

bearing the word "Bibite." The possessor also received from another tourist a mug from the same place, so he is well provided in that line.

——Embert Woodcock, a clerk in Tower's drug store, at 336 Union street, Brooklyn, is looking for a man who swindled him out of $10. The game worked was an old-time one which has caught several Brooklyn druggists recently. The caller asked for two $5 bills in exchange for small coin. On the latter proving to be 25 cents short, the fellow took back the coin, handed the clerk an envelope supposed to contain the two bills and went away, saying he would get the other quarter. Woodcock later on opened the envelope and found it empty.

——Two of Schieffelin & Co.'s young men were married at the same hour last Tuesday. Strange to say, neither one knew that the other had set that day and time for the happy event, and it was only recently that they found out the coincidence. Charles Miller Mersereau, son of W. S. Mersereau, was married at the Dutch Reformed Church at Piermont-on-the-Hudson to Miss May Evelyn Buckhout at the same time that Harry Siebert Patterson became the husband of Clara Estelle Cory at 277 Vanderbilt avenue, Brooklyn. Both the gentlemen have received no end of congratulations.

——Manager Utard, of the New York importation office of Ed. Pinaud, has just received the first samples of a new line of triple extracts that are sure to command the attention of the trade. The extracts come in square bottles in pound and half-pound sizes, and are of a much higher grade than those previously placed on the market. The violet extracts have not yet arrived, but are expected soon. Violet, by the way, still retains its popularity in Paris as the perfume of the season. Mr. Utard shows also as his latest novelties the Roman extracts, which come in violet, orris, lily, lilac and heliotrope.

——Herbert M. Connell, the former clerk of J. F. Windolph, druggist on Flatbush avenue, Brooklyn, and Charles E. Louthood, his accomplice in the robbery of the pharmacy last August, have pleaded guilty to an attempt at grand larceny, and have been remanded for sentence. Connell allowed Louthood, his room mate, to enter the store at night, bind and beat him until the blood ran, and then walk off with $95 taken from the cash drawer. Connell was found bound and unconscious, and upon being revived told a harrowing tale of assault and robbery. The police quickly found out that the affair was a scheme of the two young men, who had been losing heavily at poker.

——The "shaving stone" man, whose scheme of raising money brought him in quite a sum until the Era gave druggists notice of the swindle, is again eagerly sought by the Post Office authorities. Some time ago the Washington officials threw matter addressed to the "shaving stone" man out of the mails, returning all letters which contained addresses to the sender. Then the "Wonder Stone Co.," located at 315 Madison avenue, began to receive an immense mail. The Post Office people found out that this concern was composed of one unknown man who claimed to shave a beard by friction, and who is probably the same party that sold shaving stones to Harlem druggists. All mail for the company is held at the post office.

A Fine Opportunity.

MAX J. BREITENBACH TO DISPOSE OF HIS MADISON AVENUE PHARMACY.

In the advertising pages of this week's Era will be found the announcement of Max J. Breitenbach, the druggist of Madison avenue and Fifty-seventh street, who desires to dispose of his store and takes a full page to say so. It is perhaps the first time that a retail druggist took that amount of space for such a purpose. Others have taken half pages, but Mr. Breitenbach doesn't believe in half-way business. In fact, his "ad" gives one a good idea of the sort of man he is.

Mr. Breitenbach is a hustling, up-to-date druggist who by hard and clever work has built up a fine business. As the pusher of Pepto-Mangan he is known all over the country and now he finds his outside business compels him to retire from the retail trade. The store which he offers for sale is equipped in the finest style. Everything about it is first class. If a model pharmacy were to be started, say local retailers, Mr. Breitenbach's could only be duplicated.

This move on the part of the Madison avenue druggist is not a sudden one. He sold his Bowery store about two and a half years ago and has been planning ever since for his speedy retirement from the retail business. The purchaser of his store will secure a handsome pharmacy and a high class patronage of generous proportions.

Bowling Begins Again.

THE DRUG TRADE TOURNAMENT OPENS WITH A RUSH—THE CHAMPIONS DEFEATED.

The sport of all sports to the drug trade man appears to be bowling, and the employés of our large city houses are going to get their fill of it this year. It is the third season of the Bowling Association and it opens with fifteen clubs in the tournament, a rather unwieldly number. Nobody but the members of the committee which arranged the schedule has any idea of the amount of work required in getting up the programme of games. In order to prevent the tournament from stringing out to the crack of doom it has been arranged that certain teams will play Friday nights and in some cases they play again the very next day.

One very pleasing feature of the tournament this year is the return of the McKesson & Robbins team to the organization. This team had hard work and hard luck the first season, but they propose this year to finish near the top of the heap. In connection with the return of this team to the competition it should be said that a story given currency by some mistaken person has no basis. There never was the slightest need of support for the team from the house, so the story that one of the heads had to be seen before the team could enter is all moonshine. The report probably got its start in the fact that people who wanted the McKesson & Robbins boys to enter had a conference with a gentleman whose name sounds much like that of one of the firm. It has only been a question of being able to get five men at the alleys every time, not a question of support or encouragement.

The first games in the tournament were bowled last Saturday. Colgate & Co. defeated Lanman & Kemp, 675 to 629; Bruen, Ritchey & Co. defeated Schieffelin & Co., 646 to 516; Parke, Davis & Co. defeated Lanman & Kemp, 759 to 599; Schieffelin & Co. defeated Powers & Weightman, 609 to 601; Colgate & Co. beat Parke, Davis & Co., 777 to 693, and Bruen, Ritchey & Co. beat Powers & Weightman, 683 to 557. The defeat of the champions of two years was, of course, the surprise of the afternoon.

The schedule of games to come is as follows:

Saturday, Oct. 19.—Alleys 1 and 2, Whitall, Tatum & Co. vs. Max Zeller, Lazell, Dailey & Co. vs. Max Zeller, Whitall, Tatum & Co. vs. Lazell, Dailey & Co.; alleys 3 and 4, Powers & Weightman vs. Seabury & Johnson, Parke, Davis & Co. vs. Seabury & Johnson, Powers & Weightman vs. Parke, Davis & Co.

Saturday, Oct. 26.—Alleys 1 and 2, Lazell, Dailey & Co. vs. Powers & Weightman, McKesson & Robbins vs. Powers & Weightman, McKesson & Robbins vs. Lazell, Dailey & Co.; alleys 3 and 4, Dodge & Olcott vs. Schieffelin & Co., Dodge & Olcott vs. Whitall, Tatum & Co., Schieffelin & Co. vs. Whitall, Tatum & Co.

The remainder of the schedule will be published next week.

"The Way of the Transgressor is Hard."

Boston, Oct. 11.—Nathan Clouthier, who was once a clerk at the drug store of W. E. Nichols & Co., Jamaica Plain, and who disappeared the same night that several hundred dollars disappeared from the safe, has been brought back from Chicago, and tells a sad story of the beautiful way in which the wicked men of the Windy City relieved him of all trouble in spending the money he had with him. His late employers fix the amount at $600, but Clouthier says $400. He goes on to say that after he had displayed a large roll of bills somebody was mean enough to sandbag him and take all he possessed—an act which everybody will admit was ungentlemanly, considering that the drug clerk was a stranger. Clouthier will soon be tried for robbing his employers.

——E. J. Henim, of St. Louis, has taken a position at his brother's store on South Broadway, to fill the vacancy caused by R. S. Vitt's attendance at the medical college.

——J. A. Weipert, of St. Louis, formerly with the A. A. Mellier Drug Co., and the Wolff & Wilson Drug Co., has purchased the drug store at Ninth and Olive streets, and has made quite a number of improvements.

——The last meeting of the Board of Directors of the Philadelphia Drug Exchange was held on Oct. 9 in their old building, as hereafter the exchange will be in its new quarters in the Bourse Building.

HERE AND THERE.

—Big Lake, Minn., is ambitious for a drug store.

—H. W. Bell, of Decatur, Ill., is visiting in Chicago.

—Druggist Adolph Kolb, of Columbus, O., has been granted a divorce from his wife.

—The new Bad Axe Drug Co. of Bad Axe., Mich., is managed by Mr. Young, formerly of Detroit.

—H. H. Rodenbaugh, druggist at Mancelona, Mich., was married recently to Miss Jeletta Swartzmiller, of Ithaca, Mich.

—Morrisson, Plummer & Co., Chicago, have sent Mr. A. Kloster with a line of sundries through Minnesota and the Dakotas.

—Dr. J. E. Handy's new drug store at Watrousville, Mich., is in charge of Mr. Dutton, formerly a Detroit drug clerk.

—J. S. Shinnim, of Buffalo, Minn., has returned from California with his wife, much benefited by the temporary climatic change.

—H. M. Dean, one of the pioneer druggists of Niles, Mich., accompanied by his wife, has been spending a few days in Chicago.

—There are unconscious humorists at North Tonawanda, N. Y., where a druggist has been nominated by the Democrats for coroner.

—H. J. Spring, formerly with Hines Bros., Saginaw, Mich., is the new proprietor of the old drug store of J. W. Steiner, Unionville, Mich.

—Druggist L. P. A. Dorion, Haverhill, Mass., was accidentally shot through the hand a few days ago while handling a revolver. Amputation may be necessary.

—C. J. Johnson, of the drug firm of Nelson & Johnson, Granite Falls, Minn., will take the full four years' course at the Chicago Medical College.

—M. A. Scheldrup, of Sauk Center, Minn., was in St. Paul last week, trading for another drug store. He usually has more than one to attend to.

—Geo. A. Graves, who opened a new store on Ellis avenue, near Oakwood, Chicago, will introduce a new feature. He will sell no patent medicines.

—On Oct. 8, at Wheaton, Ill., occurred the funeral of L. L. Hiatt, for many years a druggist at that place, and who lost his life several days ago while fishing

—Albert M. McCafferty, formerly with druggists John Byrne & Co., Columbus, O., late with Theo. B. Ellis, is now to be found with Richards & Richards, of the same city.

—Henry Heise, formerly of Woerhlin's drug store in South St. Louis, has resigned his position and taken one with Adam Roth, at Twenty-fifth and Olive streets, St. Louis.

—The Houston Drug Co., Houston, Texas, is a wholesale firm which has been in existence less than a year, but which, reports say, has built up a very satisfactory business.

—The Toledo Pharmaceutical Association, on Oct. 1, passed resolutions of regret and sympathy with reference to the death of Chas. H. Hohly, a prominent druggist of that city.

—Miss Alice Simmons, the daughter of Dr. C. F. Simmons, the patent-medicine man of St. Louis, was married on Oct. 9 to Mr. Emil Stroh, an employee of the St. Louis Republic.

—Mr. Searle, of the Searle & Hereth Co., Chicago, went to New York on business Oct. 2. Before returning he will visit the cities of Cleveland, Buffalo, Toledo and Philadelphia.

—Druggist J. E. Putnam, of Willows, Cal., was shot and killed Oct. 7 by W. A. Schern, editor of a local paper, as a result of a quarrel over a bill. Four shots were fired, three taking effect.

—At Milwaukee, Wis., druggist Theo. Bleyle has been fined $50 in a police court for selling liquor without a license, and the case of J. A. Stangl, charged with a similar offense, has been continued.

—A negro demanded alcohol in a drug store near Goshen, Ind. The clerk gave him a jug of kerosene; the customer drank heavily, then nearly killed the drug clerk. Another instance of "unjustifiable substitution."

—At Lima, O., the Pure Food Commission has sworn out affidavits charging a large number of druggists, grocers, dairymen, saloonists, etc., with selling adulterated articles. Many have pleaded guilty and been heavily fined.

—Mrs. Lucy B. Decker has a suit for damages against druggist John B. Lounsberry, Des Moines, Ia., charging the latter with selling liquor to her husband, causing him to become incapacitated for business. She asks $2,000 damages.

—At Tampa, Fla., on Oct. 10, the Parlor Pharmacy, owned by P. Arlund, was attached to satisfy a claim held by Mrs. E. C. Stephens for $100, and I. L. Jacobs was placed in charge. Arlund was also arrested charged with perjury, but was released on bail.

—Herman Foersterling, who has been managing the drug store of Bruno Batt at Ravenswood, Chicago, was married on Wednesday, Oct. 2, to Miss Hochbaum, of Ravenswood. Mr. and Mrs. Foersterling left that evening for an extended wedding trip in the South.

—Sam Bridges, formerly traveling agent for Lambert & Lowman, Detroit, lately with J. H. Hodges, Utica, has undertaken the management of La Lourde & Leclerc's drug store at Naubinway, Mich. H. J. Switzer succeeds Mr. Bridges as clerk for Hodges.

—At Washington, D. C., on Oct. 10, was held a meeting of the representatives of the wholesale drug trade of Maryland, District of Columbia, Virginia and the two Carolinas, to select a representative on the national committee for the administration of the new rebate plan.

—The Chicago Pure Food Exposition at Battery D is a success. The leading firms are represented and the display is especially attractive to a man with an appetite. The Second Regiment Band discourses music throughout the day and evening. The Exposition opened Oct. 1 and will close Oct. 19.

—The Hazeltine & Perkins Drug Co., of Grand Rapids, Mich., is apparently between the devil and the deep sea. At the request of the local druggists' association the firm refused to sell a cutter in that city, and now the Central Labor Union proposes to boycott the drug firm because of its boycott of the cutter.

—W. Regan, proprietor of a drug store at Conowingo, Del., has been convicted of selling liquor illegally. The judge said he would not humiliate him by sending him to the House of Correction, but he fined him $300 and costs. However, if the money is not forthcoming the humiliation would follow, and he would be sent to jail.

—The Warren drug store, Ithaca, N. Y., was ruined by fire Oct. 2. The flames started from the ignition of benzine which a clerk was pouring from one bottle into another, but just how is a mystery. The occupants of the store had a narrow escape, as the flames spread so rapidly, and the clerks had no time to remove their belongings. Loss about $4,000, partially insured.

—The following druggists from other parts are among those who have been in Chicago the past week buying their fall and holiday stock: H. A. Johnson, Two Rapids, Ia.; C. W. Fenn, Prophetstown, Ill.; Allen Bradley, Mason City, Ill.; G. H. Loesch, Fort Wayne, Ind., and Mr. Stiles, of the firm of Stiles & Reynolds, Sturgeon Bay, Wis.

—Chas. W. Lloyd has purchased an interest in the Anderson Cycle & Manufacturing Co., of Detroit. He has for some years been business manager of the Peninsular Printing Co. and editor of the Phonograph, a paper representing the interest of cyclers. He carries to his new position a full acquaintance with the needs of the cycle trade, which is an important branch of the business of the firm.

—Druggists in Holbrook, Mass., are becoming uneasy over the prospect of losing their liquor licenses; indeed, they have already been informed that revocation has actually been voted for, though this apparently is not accepted by them as a fact. They say that the selectmen have no right to take away the licenses unless they have proof of violation of the conditions, and there is a mutter of intent to contest the matter in court.

—A gentleman connected with one of the largest wholesale houses in Chicago related the following incident. A few days ago while sitting at his desk a gentleman came in and said he was about to start a drug store in a neighboring town. "Twenty years ago," he continued, "I bought a stock of goods in this house. Shortly after I sold my drug business and entered other pursuits. I have decided to re-enter the drug business, and from my recollection of the transaction we had twenty years ago I have concluded to buy my complete stock of your house." "And," said the narrator, "I was the man who sold him the goods twenty years ago, and I also sold him this last stock. This proves that honesty always pays."

ASSOCIATIONS, CLUBS, SOCIETIES.

New England Retail Druggists' Union.

Cambridge, Mass., Oct. 11, 1895.

To the Editor: We have got the union into a very strong position. I still find the same feeling towards our present work on the part of the retail druggists, and the same willingness that has been manifest in offering their co-operation. Since writing you last I have seen one of the largest cutters in New England—a department store—and have succeeded in getting him to see that it was for his advantage as well as for our gain for him to come into a schedule of prices. I received his agreement to join with the retailers in a schedule. To me this means a great deal in our favor, for if such stores as this can be brought into line with the retailer by persuasion it certainly ought to encourage us very much.

I do not think the list of cutters who will not come into a schedule of prices will be at any time much larger than it is at the present date, namely, two, and those two in Boston. But should there be others that we find in other sections of New England we shall consider their position equally detrimental to the retail trade.

We are about to start on a new plan of work, which is as follows: I shall arrange for meetings in different sections of New England at different times, supplying for each of these meetings different speakers who shall be prominent retail druggists of New England, who are enthusiastic over this present work and who can present the matter plainly to the druggists whom they shall address at these different meetings. I have received promises already from several prominent men, who have in the past given their time and addressed meetings in behalf of the retail trade, that they will participate and will be very glad to go to any section to address the druggists. It is my purpose to go ahead of these gentlemen and arrange for the meeting so as to assure them a good attendance in each place.

I have just returned from western Massachusetts and arranged for meetings in Worcester and Springfield, at which meetings, as an illustration, Mr. Henry Canning and Mr. G. W. Cobb, of Boston, and Mr. J. Allen Rice, of Milford, will speak.

We hope in this way to create a great amount of enthusiasm on the part of the retailer. It all lies now with the retail druggists. If they are determined to correct this evil it will be corrected, and the only thing that can make it a failure is, I consider, a lack of support from the retailer, and not because we have certain wholesalers and certain cutters and certain manufacturers who are working against us. These different men cannot hurt us in this present work; if we are united they will be obliged to come in with us. F. W. REEVES.

—The Torrey Botanical Club had another of its field excursions recently, visiting Van Cortlandt Park and vicinity.

American Chemical Society.

President Tyrer, of the Society of Chemical Industry, Chairman A. H. Mason, of the local section, with six fellow-members, attended the meeting of the Lehigh Valley section of the American Chemical Society last Thursday. They took a special car at Jersey City, and after joining the rest of the party went to the Bethlehem Steel Works, at South Bethlehem, Pa. There they were shown over all the departments, several gentlemen connected with the concern explaining all the various processes as they went from place to place. What specially interested the party was the laboratories of the works and the rapid methods of analyzing iron. The members were presented with pieces of nickel steel, such as are used to cover nuts used in bolting armor plate. To show how fast the work of analysis is done these pieces of steel bear on their polished surfaces the stamped record time, taken in analysis as follows: Carbon estimated in 12 minutes; magnesium in 10 minutes; phosphorus in 30 minutes; silicon in 30 minutes. The analysis of course was made of steel taken from the ingot from which these nut covers were made. The covers bear the name of each recipient and the date, and make very attractive paper weights. This steel, by the way, is part of the Russian contract.

The Bethlehem Co. entertained the visitors at an elaborate luncheon, presided over by Mr. Woodward, second vice-president of the company, and the arrangements for the visitors' comfort were attended to by Mr. Colby, of the company. After visiting the works the party went to Lafayette University, where the meeting of the society was held. Upon taking the special car at Easton for the return to New York the party found another luncheon already provided, to which it did justice. The meeting was voted a great success.

The Dinner to Messrs. Tyrer and Mond.

President Tyrer, of the Society of Chemical Industry, expects to visit Philadelphia, Boston, Buffalo, Toronto and Montreal within the next few weeks. Ludwig Mond has been spending several days in Syracuse. The arrangements for the dinner to these gentlemen are in the hands of the following committee, which is to hold a meeting this week: Chairman, J. H. Wainwright, S. W. Fairchild, John D. Wing, W. H. Nichols, W. J. Mathison, Thomas F. Main, Wm. McMurtrie, I. J. R. Murling and C. A. Doremus.

St. Louis Drug Clerks' Society.

St. Louis, Oct. 12.—It is a matter of some regret in pharmaceutical circles that the members of the St. Louis Drug Clerks' Society are not showing more interest in that organization this year. The society has attained a high position in the social and business world, but the lethargy exhibited by some of its members this year, if kept up, is likely to injure the society to a greater or lesser extent. No meeting has now been held since last spring, although the regular fall meeting should have been on Sept. 9. Only a few members were present at that time and the meeting had to be postponed for want of a quorum. A special meeting was then called for Sept. 25, but again only a few members put in an appearance. The next regular monthly meeting was to have been held yesterday, but the same state of affairs again existed. Several matters of importance are pending, such as the election of a new president to succeed Max Schneider, the late president, who lifted himself out of the office by becoming a proprietor. Secretary Rudolph S. Vitt is working like a beaver to get the boys again interested in the affairs of the society. Owing to his attendance at the Missouri Medical College it was his intention some time ago to resign the office of secretary, but in view of the non-interest taken by some of the members has decided to change his plans and will put his shoulder to the wheel in the interest of the society. It is hoped that at the next meeting of the society, which is booked for Nov. 14, the members will turn out in full force and show to the world that they are "still in the ring."

National Paint, Oil and Varnish Association.

The National Paint, Oil and Varnish Association began a three days' annual meeting at the Auditorium in Chicago on Tuesday, Oct. 8. First Vice-President Howard B. French, of Philadelphia, presided. The late President, G. H. Vrooman, of Chicago, was drowned while bathing in the swimming tank of the Chicago Athletic Club some weeks ago. The attendance was large, harmonious action was taken on various important matters and the convention as a whole was declared to be the most successful and enjoyable ever held. The entertainment features were on a large scale. There were delegates present representing the local clubs of New York, Philadelphia, St. Louis, Cleveland, Detroit, Cincinnati, New Orleans, Kansas City, Milwaukee, Omaha, Boston, Pittsburg, San Francisco and Chicago.

Tuesday morning's session was devoted to reports of officers, and the discussion of freight classifications. In the afternoon the members of the association were driven to Washington Park via Grand Boulevard, and entertained by the local club. Afterwards they visited the defunct Midway Plaisance and Field Museum. On Wednesday a trip was taken on the Metropolitan Elevated Railroad at the invitation of the officers of that line, and a buffet entertainment provided en route. The social feature of Thursday was a visit to Lincoln Park and the north side, and a ride on the Ferris Wheel. A banquet at the Auditorium Hotel Thursday evening ended the convention.

At Thursday's session, a resolution was introduced by the Philadelphia branch of the organization and passed, which provides that "the association shall use all means in its power to have Congress create a perpetual non-partisan tariff commission, whose duty it shall be to adjust the tariff from time to time, as the interests of the country

seem to demand, and we advocate the entire removal of this important business question from the domain of partisan politics and its relegation to the hands of practical business men."

A bill now pending in Congress whose author is Senator Pettigrew, was indorsed as meeting these views.

Officers for the ensuing years were elected as follows: President, Howard B. French, Philadelphia; first vice-president, William Sheridan, Detroit; second vice president, F. M. Sewall, Kansas City; secretary, D. Van Ness Person, Chicago; treasurer, William Agge, Boston, and auditor, W. T. Seaton, New Orleans.

The meeting then adjourned to meet next year in Philadelphia, Oct. 6, 7 and 8.

The Drug Jobbers' Sales Plan.

The following elections have been held to date in the several sections of committee representatives having in charge the new sales plan of the N. W. D. A.: For New England, Fred L. Carter, Boston, Mass.; New York and New Jersey, Charles Hubbard, Syracuse, N. Y.; Pennsylvania and Delaware, George A. Kelly, Pittsburg, Pa.; Georgia, Florida and South Carolina, M. A. Fall, Atlanta, Ga.; Ohio, Indiana and Kentucky, W. J. Walding, Toledo, O.; Tennessee, Mississippi, Alabama and Louisiana, D. D. Philips, Nashville, Tenn.; Illinois and Michigan, J. R. Owen, Chicago, Ill.; Nebraska, Iowa, Kansas and Missouri, Frank A. Faxon, Kansas City, Mo.; Idaho, Montana, Utah, Colorado, Wyoming and New Mexico, W. A. Hover, Denver.

The Northwest, Southwest, Pacific Coast and Maryland, Virginia, West Virginia and North Carolina sections are not yet heard from. The latter held a meeting on the 10th inst.

A circular letter has been sent to the representatives chosen, asking them to prepare a list of all jobbers who they think are entitled to come into the plan. This list will be presented to the various leading manufacturers, who, in turn, will add the names of those they wish to put on, and then a meeting of the full committee will be held either in Chicago or New York, and the list gone over. It is the intention to give all who claim to be jobbers a hearing either in person or in writing.

The Philadelphia Drug Co. is somewhat exercised over the appointment of this committee, as it is under the impression that steps will be taken to prevent it from securing goods at the jobbers' rates. Nothing, however, has been done in this matter, but action will be taken on houses of this kind at the meeting of the full committee.

——The Washington State Pharmaceutical Association met at Seattle Sept. 16 in sixth annual session. Officers elected for next year are: President, L. D. P. Collins, of Whatcom; first vice-president, Charles F. Krum, Spokane; second vice-president, David Beal, Vancouver; third vice-president, C. B. Mann, Olympia. Walter St. John, of Tacoma, the present secretary, was re-elected.

BOARDS OF PHARMACY.

——South Carolina Board of Pharmacy meets at Charleston Nov. 20 and 21.

——The Michigan State Board of Pharmacy will meet at Lansing, Nov. 6 and 7.

——The Oklahoma Board of Pharmacy met at Perry Oct. 1. Fred Beers, of Perry, and H. O. Hixon, of Guthrie, were successful on examination, and J. E. Meacham, of Kingfisher, and G. A. Hillibert, of Winnewood, were registered by exchange of certificates. Next meeting of the board will be held at Oklahoma City, the first Tuesday in January.

——The Wisconsin Board of Pharmacy met at Prairie Du Chien Oct. 10. The secretary reported his visits to Milwaukee, Jefferson and other places. But one case of violation of law was reported since the August meeting. H. L. Hurlbut, Reedsville, Ill., and R. F. Pepple, Rice Lake, Minn., were granted registration, they being licentiates by examination in other States. The attention of proprietors of general stores was called to the fact that it is unlawful for them to sell drugs and medicines and the board would cause the prosecution of all such illegal sales. Sixteen candidates presented themselves for examination. Of this number the following received licentiate, or first grade, certificates: C. P. Fowler, Chippewa Falls; C. E. Nelhaus, Fennimore; Y. Ellwell, New Lisbon; G. W. Horse, Mineral Point; Julius Cunradi, Milwaukee; L. D. Sumner, Madison; Joseph Brinn, Milwaukee; G. W. Ascott, Marshfield; G. W. Lorch, Madison. Assistants: F. J. Tomieweiz, Milwaukee; H. J. M. Staugla, La Crosse; H. A. Dimrich, Muscoda, four being rejected. The next meeting of the board for examination will be held at the Pfister Hotel, Milwaukee, Wednesday, Dec. 11.

Ohio Board Victorious.

Cincinnati, Oct. 14.—John Miller, proprietor of a Cumminsville pharmacy, and Robert Hotke, his clerk, who was arrested recently for compounding medicines without a State certificate, pleaded guilty to the charges filed against them and were fined $25 and $50 respectively in the Police Court last Tuesday.

It developed during the court proceedings that Miller is a butcher by occupation and acquired proprietorship of the drug store in liquidation of debt owed him by the previous owner. Miller said he was unfamiliar with the requirements of the pharmaceutical regulations and did not know that it was necessary to have a registered pharmacist in charge of the establishment. Hotke admitted to Judge Gregg that he had been compounding prescriptions for twelve years, but pleaded neglect in not applying for a State certificate. On account of Hotke's long experience in the drug business he was fined $50 and costs. Additional prosecutions of unregistered druggists are expected.

COLLEGES AND SCHOOLS OF PHARMACY.

The Opening of the Term at the Chicago College of Pharmacy.

Tuesday, Oct. 8, 1895, was a gala day in the annals of the Chicago College of Pharmacy. The assembly hall resounded with the yell of the class of '96, and with those other vociferous demonstrations peculiar to the college boy on parade. The professors, individually and collectively, were cheered to the echo, and exclamations such as "What's the matter with Hereth?" followed by a mighty roar, "He's all right!" resounded through the hall. Each member of the faculty received the same indorsement, heartily and resoundingly given. When Professor Good, president of the American Pharceutical Association, and head of the faculty of the St. Louis College of Pharmacy, came upon the platform accompanied by the members of the faculty of the Chicago college, he was given an ovation.

Professor Goodman opened in a brief and witty address, introducing Professor Good, who spoke as follows:

Prof. Good's Address.

Members of the Faculty, Ladies and Gentlemen:

When you approach a drug store you are likely to have your attention arrested by an appropriate sign, probably a large mortar projecting out over the sidewalk, and inside on the prescription case you will see, to quiet your doubts and apprehensions while you wait for your medicine, the words: "Prescriptions accurately compounded day and night."

If the business has not been too recently established, you are likely to see from your seat, conspicuously placed, the bust of well-known divinities who are supposed to preside over the destinies of druggists. Some of these characters are historical, others are mythological. Æsculapius was one of the latter; Paracelsus one of the former. The year 1893 was the four hundredth anniversary of the birth of Paracelsus. He was born Dec. 17, 1493, the year following the discovery of America by Columbus. He was christened Phillippus Aureolus Theophrastus Bombastus von Hohenheim, and he afterward grew to fit his name. Switzerland is supposed to have been his birthplace. His name, charlatan though he was, will probably always be associated with medicine and pharmacy. He introduced mercury and opium into general use, as remedies, and attached much importance to pharmaceutical chemistry. He was dogmatic, fantastic, bombastic. He burned the works of Galen, styled himself the monarch of medicine, and pretended to have discovered a compound capable of prolonging life indefinitely. Had he been a man of little less ability and a great deal more modesty, his services to mankind might still have been great and his name a more honored one. In our day such a character as Paracelsus would not be possible. (The species differs in degree, but not in kind.)

We ought to be thankful that we happened on the planet at the present period, but the remarkable progress made by science and invention, and in medicine and pharmacy in the last twenty years, makes us naturally desire to live on, that our eyes may behold the wonders yet to be developed.

In our minds Paracelsus (an assumed name, comparing himself to Celsus, a Platonic philosopher of the second cent-

ury), suffers in comparison with Bentley, Flückiger, Huxley and Pasteur, all so recently with us, science being international, but we are "heirs of all the ages," and what has been possible in our day was not possible in his. There are epochs in the lives of all, and you who are assembled here this afternoon, although in the morning of life fortunately, should realize that this is one in yours.

Many of the most noted men of the past, chemists and physicians, commenced as humble apothecaries; the stimulus for investigation and the desire for knowledge coming from the suggestions furnished by their work and their surroundings. The world was ready and waiting for the scientific facts which their industry and genius made known, and the knowledge which it was their privilege to add to the general fund.

This institution which invites you, and whose invitation was accepted by you, has been established after years of self-sacrificing labor and liberality on the part of its officers, faculty and friends. It is for you to make the most of your opportunities while here. An evidence of appreciation on the part of students goes far toward compensating a teacher, and he is likely to give you his best under these encouraging conditions.

Students in colleges of pharmacy are supposed to possess minds somewhat matured and more or less disciplined to study, yet at the outset they naturally expect some advice and hints as to how to proceed. You should not need to be told why you are here. You come with good resolves, no doubt. Some of you perhaps will need, later in the term, to be reminded of these resolutions.

There is not the slightest doubt about the facilities offered by the Chicago College of Pharmacy, nor of the thoroughness of the instruction, but what you will accomplish will depend largely upon yourselves. If you come here expecting the professors to adopt a force-pump system and fill you up so that you can go fresh from the junior class before a board of pharmacy, pass their examination, and be satisfied with their certificate, you adopt a very narrow and unappreciative view of pharmaceutical education. Your time at this college must be fully and industriously employed; you must get both practical and theoretical knowledge of pharmacy, if not simultaneously, then separately. Any one who has had a few years experience in a drug store with a good preceptor is in a condition to appreciate and profit by the instruction given here, and he would do well to give his entire time to study, lectures and laboratory work. The advantages which this institution offers, you should enjoy to the fullest extent. Your education will be your future capital: you will have that which cannot be destroyed, mortgaged or squandered, nor in any way lost except through disease or abuse which clouds the intellect.

To acquire an education in any department of knowledge requires patience and industry, as well as clearness of thought. Time is a necessary factor with the best of us, hence a three-term course before graduation is always to be recommended. If a student, because of a lack of drug-store experience, prefers to divide his time between the college and store duties, it seems to me it should be made an obligatory requirement. I think before the final course in a college of pharmacy is taken, every student should have had the chance to acquire that practical knowledge of the business which a good drug store affords.

There are drug stores, thousands of them, which are neither tobacco shops nor confectionaries, although the persistency with which some maintain that our apprentices have experience only in selling cigars and soda water, would indicate otherwise. Our final examinations should be such as will measure a man's ability safely and skillfully to conduct a drug store of the legitimate type; they should include certain questions which are suggested to that man alone who is acquainted with the daily duties and requirements of a well-appointed apothecary shop. If you did not expect to be called to the duties of such a position, I doubt if it would have entered your minds to spend time and money here preparing for it. The desire to know and the opportunity to apply knowledge go naturally together. Being here it is important that you should make the best of your time. If you have not correct habits of thought and study, seek to acquire them. They will come by practice under the guidance of your instructors. Study must be systematic. In the beginning isolated facts are of far less importance than general principles. By classification, association and repetition theories, principles and facts become fixed in the mind. In the lectures you should take such notes as are necessary to guide you in your review of the subjects in your text books, use them early, and fill out the framework of the lecture. Cultivate the habit of listening attentively; be alert. The subjects taught are large; often the instructors are obliged to condense many important facts into a short lecture; by reading and study you will add to these naked facts their proper belongings. In the full series of two courses of lectures and reviews there will be a vast amount of information given. It will be for you to make it your own. This is accomplished by study and review. By repetition or by oral examinations, by quiz-masters in which a subject is presented from a different point of view, facts and principles are fixed upon the mind. Study your subjects understandingly—memorizing without method and repeating parrot-like do not educate nor develop.

Fully to comprehend accepted, fundamental theories and their relations to the facts of experience is to acquire and apply knowledge. The art of pharmacy is mastered only when one is educated both technically and practically.

The hundreds of students who enter the colleges and schools of pharmacy this autumn, will, in two or three years, be distributed among the thousands of drug stores throughout the country. We must see to it that we make practical pharmacists out of them. Only a few of them will be called to do technical work, and it takes a longer course than is required by the average college of pharmacy to fit them for it.

During recent years increased emphasis has been placed upon laboratory work. It is in the laboratory that the phenomena of nature speak for themselves. We acquire knowledge through our senses, those of sight, touch, odor and taste, as well as through that of hearing. The most accurate and practical knowledge of any material thing must be had by this kind of exhaustive investigation. Facts and theories must be taught simultaneously. Definition and experiment must go together.

Mere mechanical effort may give satisfactory results; men, by practice, acquire dexterity; they may, in a sense, be determined skillful, but just in proportion to the amount of thought a man puts into his work are the results of his labor likely to be valuable. Laboratory work, then, can never lessen the value of theoretical teaching, didactic lectures, study and frequent oral examinations and reviews. "Facts stand both before and after theories. Facts lead to theories and theories in turn lead to other facts. Only the learned and experienced may make, apply, analyze and unmake theories." There is a limit to physical investigation and demonstration, but fortunately none to theory and speculation. Topsy did not know how she came here. "I spec' I growed," is about as far as Tyndall and Spenser have gone by way of definite answer. They can speculate on the subject—she could not; and that is the principal difference between them. "A donkey knows his master's crib but he does not know that he knows it." Laboratory work is calculated to inspire thought. In this it has great value. The pharmacist needs it for the further purpose of acquiring dexterity. You have probably heard of the young man, who, upon being asked if he could play the violin, said he did not know, he had never tried. The awkwardness of Tom Brown's nurse is well expressed by his saying that she had two left hands and no head.

It is remarked by many of late years that the changed condition of the drug business in our country has made the work of the colleges of pharmacy unnecessary. I will admit that it is somewhat depressing.

It is unfortunate that the expenses incident to our business cannot be met except by reaching out for promiscuous trade. The conditions have been different in the past, but we are not sighing for that—perhaps they will be different in the near future. We look to those who go out from the colleges of pharmacy to do their share in bringing about an improvement. The time will not come again when druggists in a tedious, laborious and sometimes wasteful way will do in their shops what can be much better done by machinery and more economically on a large scale in chemical and pharmaceutical laboratories; and this fact makes instruction in a college of pharmacy all the more necessary. Under the changed conditions the apothecary shops have ceased to be the schools which they once were. There is skill yet needed in our pharmacies; ignorance is inexcusable. The thousand and one products of these laboratories must be examined and criticised. It is the aim and object of the colleges of pharmacy to turn out young men capable of doing this. And neither is the still, the retort, the percolator, nor the evaporating pan in our individual pharmaceutical laboratories to be abandoned. They are to be kept bright, clean and in use. He who intelligently and skillfully handles them is the one who cares the least about the patent-medicine business, and in that educated state in which we hope the people will some day find themselves, we expect his influence to be recognized.

It is not unusual that pharmacy is made a stepping-stone to the practice of medicine. Of the desirability of graduates in pharmacy as students of medicine, the professors in the schools of medicine bear abundant testimony. Two conditions of admission to medical colleges, if in the future they can be made obligatory, will very much improve their graduates; they are a higher standard of preliminary education and a previously completed course in a college of pharmacy.

The profession of pharmacy is not without its honors, and we do not encourage that estimate of it which regards it merely as preliminary to something supposed to be more exalted. It is the handmaid of medicine; and to it and to chemistry, to which it is closely allied, medicine owes the discovery and preparation of practically all of the remedies employed in alleviating pain and combating disease. The world is indebted, beyond estimate, to such men as Priestly, Faraday, Davy, Lavoisier, Berzelius, Dalton, Scheele, Liebig, Hager, Redwood, Parrish, Proctor and Attfield. While the majority of these have passed from works to rewards, yet there are many living, admired and honored by the world, whom we claim for our own.

Encourage pharmacists to become physicians if you choose—there is in the act no reflection on pharmacy—and I am sure we need not be sensitive on the subject so long as every time we make a doctor out of a druggist we convert a competitor into a patron.

Those who complain of the overcrowding in our business are inclined, sometimes, to hold the colleges of pharmacy responsible. They do not stop to consider that not 10 per cent. of the druggists in the country are graduates in pharmacy. It is seldom that young men come to us before the choice is made. Generally they come for assistance after they begin to realize their needs, and the decision as to the occupation in life has been fully and finally rendered. If we are called upon to aid any one in making a decision, I deem it the duty of every professor in a college and of every druggist, clearly to show up the business in all its aspects—its drudgery, confinement and long hours. Druggists seldom work less than sixteen hours a day and never more than twenty-four. Also point out the fearful responsibility and small pecuniary reward.

Of recent years legislation has been rather unfriendly than otherwise to organized pharmacy as represented, either in colleges or State associations; yet if any good has ever come of such legislation, it has been brought about through the efforts of men who are active in other organizations.

It ill becomes us to complain if we be asked to allow an official stamp to be put upon our work. The best interests of pharmaceutical education are served by such supervision. The recognition of diplomas by boards of pharmacy encourages the establishing of schools mainly for the purpose of issuing them. These boards are composed for the most part of men having a bias for the practical side of pharmacy, and they are asked to enforce a law which requires that drugs shall be compounded and sold by persons who have proven their competency to do so.

The professors here will do their part, you must do yours. It is for you to see to it that the institution with which you are connected receives the commendations of these boards; see to it that its past record is maintained. My being with you this afternoon I count as a special privilege, an honor. There is no rivalry, only emulation between the St. Louis College of Pharmacy and this one. We are doing the same work on the same lines, and in the right direction, as we see it. We believe that

"Whate'er of good the past hath had,
Remains to make our own time glad."

But we are not wedded to the past; our advance in methods and the character of the teaching show that. For the colleges of pharmacy we would be optimistic, and we are eager to grasp the new and the better as they present themselves. A flippant young reporter once asked the Rev. Dr. George W. Briggs, of Plymouth, Mass., "Are you a radical or a conservative?" The Doctor smiled compassionately on the young man who had but two labels for everybody, and said, "Both." The Rev. Dr. Briggs, of New York, the radical Presbyterian, might appropriately make the same answer. One should not be disturbed by the charge of either radicalism or conservatism.

To have the courage of one's convictions and to stand firmly for what he conceives, with the best light given him, to be right is every one's duty. A radicalism which is sufficiently conservative to prevent its running after phantoms and vagaries is the kind to be safely encouraged.

After Professor Good's address the members of the faculty made brief speeches to the students, full of meat and well worthy a fuller report if space permitted. Mr. Ebert was now called to the platform and made a brief address, after which the audience was dismissed.

In the evening a supper was given in honor of Professor Good, at which many of the leading druggists and professors in the colleges of pharmacy were present.

Notes from Purdue.

Of the junior class Miss Delpha Oren is the sole representative of her sex.

The seniors are now grappling with the mysteries and difficulties of quantitative analysis.

J. H. Prather, last year a junior at the Louisville, Ky., College of Pharmacy, is taking the junior course here.

J. F. Reinhardt, who took junior work at the Illinois College of Pharmacy last year, has entered for senior work at Purdue.

The senior class, under the guidance of Professors Sturmer, Worden and Hook, enjoyed an afternoon of field botany last week.

The junior class in chemistry is divided into two sections, an arrangement which allows the more advanced students to take advanced work.

The senior class has elected these officers: President, D. Jordan; vice-president, H. A. Birk; treasurer, W. R. Bannon; secretary, John P. Fritz.

Practical work in the prescription department, under Professor Spitzer, is advancing nicely, and promises to be one of the best features of the course.

On a recent spin of thirty-five miles on their bicycles, Professor Hook and Seniors Freehafer and McKellips called on Druggist Jack Kneal, '94, at Brookston.

Professor Sturmer copies his lectures on a mimeograph and furnishes each student with a copy, thus affording more time for explanation and study of the lectures.

The Department of Pharmacy of Purdue University, Lafayette, Ind., began its twelfth annual session Sept. 25, with about seventy-five students in attendance; the junior class numbered about fifty.

Helen Gray, Ph. G., '95, was a guest of Inez Thompson, '96, a few days ago. Miss Gray made the school a pleasant call before leaving for Chicago, where she is to take a course in the study of medicine.

St. Louis College of Pharmacy Opening.

St. Louis, Oct. 8.—The St. Louis College of Pharmacy opened its thirtieth annual session last night under auspicious circumstances. It was a record breaker so far as the attendance was concerned and the classes this year will be larger than ever. The number of students admitted was over 200, which is unequaled in the history of the college. The exercises were opened by Judge Solomon Boehm, a member of the Board of Trustees and treasurer, and after a brief talk he introduced Prof. James M. Good, dean of the faculty and the newly elected president of the American Pharmaceutical Association. The latter made a very interesting talk to the boys and gave them some wholesome advice as to the best course to pursue in college and out of it. Mr. Good was followed by Otto A. Wall, professor of pharmacognosy and botany; Francis Hemm, professor of practical pharmacy; Gustavus Hinrichs, professor of chemistry, and H. M. Whelpley, professor of microscopy, each of whom gave the boys some pointers about the work in the particular departments over which they have supervision. Several members of the board, including Vice-President Thomas Layton and J. B. Hilby, also gave the students some friendly advice, and the evening was concluded with a "sociable." To-day the preliminary examinations were made and with few exceptions all the students were found to possess the required school education. The regular course of lectures begins tomorrow. During the summer months many costly improvements were made in the college building, which gives it a very attractive appearance and greatly facilitates the work.

On Oct. 4 the Committee of the Alumni Association of the Philadelphia College of Pharmacy formed a Zeta Phi Society. The meeting was presided over by Dr. A. W. Miller, of Aschenbach & Miller. The association was formed by the election of the following officers: President, Jonathan Ingham Watson, Lambertville, N. J.; vice-president, Warren Tyson, Morristown, Pa.; secretary, Miss Lnella Case, Delaware, O.; treasurer, Chris. Arthur Weida, Reading, Pa. The executive committee is as follows: Albert O. Spolts, William E. Weiss, Josiah Freeman, George Leonard Genz, and Charles Ross Place. The first social meeting of the Alumni Association this year will be held on Oct. 23. A paper is to be read by Dr. Joseph McFarland, demonstrator of pathological histology at the University of Pennsylvania. The subject will be "The Theory of Diphtheric Serum." At the same meeting Miss Frances E. Pierce, with two of her scholars, Miss Marguerite Rea and Miss Annie Parker, will give a number of recitations.

——The class of '96 of the Maryland College of Pharmacy has elected the following officers: President, Philip Andrew Kinser, of Georgia; vice-president, Edward Henry Bartlett, Jr., of Maryland; secretary, Lester C. Keerans, of North Carolina, and treasurer, Erich Schmidt, Jr., of Texas.

——The Alumni Association of the Maryland College of Pharmacy held its first regular meeting of the season at 8 P. M. Tuesday, Oct. 8, with good attendance. Reports of various committees and of delegates to the A. Ph. A. meeting at Denver were the principal matters of business.

——The second scientific lecture of the Alumni Association of the St. Louis College of Pharmacy will be given Tuesday evening, Oct. 15. The lecturer of the evening will be Dr. John C. Falk and the subject of his dissertation will be "Poison Emergencies."

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS
Issued October 8, 1895.

547,478—Edward E. Brown, Winsted, Conn—Cork puller.
547,552—Patrick J. Keegan, Albany, N. Y.—Revolving case for holding medicines.
547,611—Leonhard Lederer, Munich, Germany.—Making aromatic oxy-carbon acids.
547,625—Charles M. Cannon and J. H. Held, St. Paul, Minn.—Pessary.
547,710—John Cassard, assignor of two-thirds to Tough, Rutherford & Co., Baltimore, Md. Water purifier.
547,713—William H. Courtenay, Worcester, England.—Bottle holder.

TRADE-MARKS
Registered October 8, 1895.

27,132.—Blood Purifier. Arnold F. Gwinner, Miamisburg, O. The words "Red Tape."
27,133.—Salve. Enoch W. Wheaton, Bridgeton, N. J. The word "Pearl."
27,134.—Soap, Perfumery and Cosmetics. Charles R. Bailey, New York, N. Y. The word "Trilby."
27,135.—Wash for the Face, Mouth and Throat. August Kjöllerström, Chicago, Ill. The word "Mykro."
27,136.—Antiseptic Lotions and Dressings. The Electrozone Co., New York, N. Y. The word "Meditrina."
27,139.—Food for Infants and Invalids.—Frank E. Tenney, Littleton, Mass. The words "Staff of Life."
27,149.—Remedies for Diseases in Hogs.—James Garrett, Boone, Ia. The compound word "Hogg-Nogg."

E. B. Read & Sons, Baltimore, make a special effort each year on calendars, and the time to figure on such an artistic means for advertising is long in advance of the time when they are needed. They will be pleased to send samples, prices, etc., now.

J. B. Burr & Co., Hartford, Conn., are making an especially fine line of prescription blanks upon bond or linen paper. They furnish them upon short notice, and deliver free at the prices they quote. You should see these prices, also some samples of the blanks.

——It is a pleasant enough joke, and yet one that puts him in a very embarrassing position, that has been played on druggist Fred Dearlove, of Mayville, Mich. Some miscreant circulated the story that Fred had taken unto himself a wife, and his numerous friends began sending him wedding presents. Fred still remains single, but he has received gifts enough to go a long way toward keeping house, and they still keep coming.

——Prof James Lewis Howe, M. D., Ph. D., of Boston, has been awarded a gold medal by the Berlin Society for the Promotion of Industry. He was born at Newburyport, Mass., and was graduated from Amherst College in 1880. For some time he studied chemistry at Göttingen and Berlin, and upon his return he was appointed professor of chemistry at the Central University, Richmond, Ky. He was for a while scientist and lecturer to the Polytechnic Society of Kentucky, and professor of chemistry at the Washington and Lee University, Lexington, Ky., as well as general secretary of the American Society for the Advancement of Science.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ALABAMA.

Birmingham.—Adams Drug Co., removed to 1901 2d ave.

CALIFORNIA.

Arcata.—Tiley & Simmons, dissolved.
Oakland.—W. P. Redington, in hands of sheriff.
St. Helena.—S. C. Davison, sold out.
San Jose.—Perrin & Stephenson, slightly damaged by explosion; fully insured.
Santa Rosa.—Dr. McLain, sold to R. B. Reedy.
Willows.—J. E. Putnam, of Putnam & Walker, deceased.

COLORADO.

Greeley.—T. W. Wilson, 8th st., damaged by fire; insured.
Salida.—J. W. Bowne & Co., new store.

CONNECTICUT.

Danbury.—Northrop & Keller, dissolved; Henry Northrop continues.
Meriden.—H. Theo. Graeber, removed to 191 Pratt st.

FLORIDA.

Ocala.—R. B. Mitchell & Co., dissolved; succeeded by Post Office Drug Store.
St. Petersburg.—West Coast Drug Co., sold to J. A. Bishop.
Tampa.—Terga & Co., dissolved.

GEORGIA.

Albany.—J. R. De Graffenried, assigned.
Dawson.—McLain Drug Co., new store.

ILLINOIS.

Chicago.—Ballard & Co., 55th and Cottage Grove, sold to I. W. Blood, who removed stock to 69th and Stewart Boulevard.
Halsey Bros. Co., incorporated; capital stock, $100,000.
B. A. Holton, now Holton & Muench.
D. W. Wilson, 95 Evanston ave., sold to George F. Starr.
Elgin.—G. M. Peck, Opera House Block, new store.
Huntley.—T. R. Ferris, now Ferris & Glazier.
St. Anne.—George Ducharme, sold to J. L. Ducharme.
Wheaton.—L. L. Hiatt, accidentally drowned.

INDIANA.

Clayton.—M. F. Jones, sold to L. E. Jones.
Logansport.—J. Crawley, sold to Mrs. A. I. Kistler.
Marion.—John Tomlinson, discontinued.
New Albany.—S. H. Owens, damaged by fire.
South Bend.—W. M. Gibboney, sold to Fox & Ryan.
Terre Haute.—M. R. Combs, sold to Dodson & Co.

IOWA.

Bloomfield.—R. L. Hardy, sold to Owens Drug Co.
Davenport.—C. E. Sheriff & Co., dissolved; H. A. Emels succeeds.
Fort Dodge.—A. Reed & Co., sold to Jackson & Spohr, who removed stock to Mason City, Ia.
Frank Howey, now Howey & Maher.
Lenox.—Bennett & Lehman, dissolved.
Mason City.—Duffield's drug store, damaged by fire.
Montrose.—Thomas M. Ward, deceased.
Oskaloosa.—G. P. Bertsch & Co., now G. P. Bertsch.
Ottumwa.—A. B. Welton & Co., moved to Clarion.
Paulina.—Stewart & Co., sold to J. S. Scott & Co.
Rolfe.—C. W. Beam, now Beam & Fawcett.
Shenandoah.—F. A. Dixon, assigned.

KANSAS.

Atwood.—M. R. Randall, removed to Humboldt.
Lansing.—Dr. Neally's drug store burned out.
Utica.—T. Wilson, sold to C. Barr.

KENTUCKY.

Covington.—F. W. Blesi, 20th and Madison, sold to J. H. Schulte.
Louisville.—Fowler & Constantine, now E. R. Constantine & Co.

MAINE.

Dexter.—Dr. J. Springall, of Springall & Co., deceased.

MARYLAND.

Baltimore.—Dr. James W. Boykin, of Boykin, Carmer & Co., wholesale druggists, deceased.
Oriole Gum Co., mfrs. chewing gum, receiver appointed.
Stonebraker Chemical Co., assigned.
Elkton.—S. A. Buchanan, sold to Frank Starling.
Oakland.—Oakland Pharmacy, sold to J. E. Harned.

MASSACHUSETTS.

Milford.—P. Gillon, sold to A. S. Bassett.
Westfield.—Hollister & Smith, now W. T. Hollister & Co.
Worcester.—W. A. Volkmar, sold to Culverhouse & Co.

MICHIGAN.

Calumet.—Sorsen & Sodergren, now Sodergren & Sodergren.
Charlevoix.—Bugbee & Beaman, now Mrs. E. A. Beaman
Grand Marais.—F. H. Osborne, assigned.
Kalamazoo.—Dr. N. Abbott, succeeded by F. N. Maus.
Lansing.—F. B. Raynale, Butler Block, new store.
Midland.—Anderson & Orth, damaged by fire.
New Lothrop.—Snyder & Beatty, now W. F. Beatty.
Portland.—J. W. Higgs, burned out; insured.
Sunfield.—E. M. Snyder, succeeded by B. I. Whelpley.
Traverse City.—E. E. Miller, Front st., new store.

MINNESOTA.

Fulda.—B. E. Dailey, sold out.
Winona.—M. A. Galtz, has sold his east end store to J. Kowalewski.

MISSISSIPPI.

Edwards.—J. S. Davidson, discontinued.
Lexington.—W. T. Matthews, assigned.

MISSOURI.

Cameron.—B. R. Smithers, sold drug stock.
Kansas City.—Snodgrass Drug Co., 548-550 Main, slightly damaged by fire.
Kenoma.—McComb's drug store, burned out.
St. Louis.—J. M. Borton, sold out.

MONTANA.

Missoula.—Hickman & Lindsly, dissolved; E. Lindsly succeeds.

NEBRASKA.

Goebner.—E. Jones, out of business.
Julian.—Chas. Motherhead, burned out.
Lincoln.—F. C. Zehrung, 12th and O, sold to L. E. Dunn.

NEW HAMPSHIRE.

Nashua.—Blanchard & Currier, removed to Tuttle Building.

NEW JERSEY.

Newark.—C. E. Watkins, sold to R. M. Laird.
Paterson.—C. & B. German Elixir Drug Co., 16 Ramapo ave., incorporated, to manufacture proprietary medicines.
Plainfield.—H. J. Fleischauer, 224 East Front, sold to H. W. Lefke.

NEW YORK.

Brooklyn.—C. E. Rice, Jr., 318 Louis ave., sold out.
Buffalo.—C. Rodenbach, sold to George Schaefer.
Fairport.—Monroe County Chemical Co., incorporated.
Ithaca.—Baker & Warren, damaged by fire.
Rochester.—Hyde & Page, now B. M. Hyde Drug Co.
Syracuse.—D. Karb, W. Genesee and Clinton st., sold to Newton & Hickok.
W. D. Tolman, 348 So. Salina, in sheriff's hands.
Utica.—Wingenbach's pharmacy, Court and Hicks, new store.
York.—D. W. Gregg (gro. and drugs), assigned.

NORTH DAKOTA.

Hamilton.—G. W. Boylon, sold to Witmer & Derby, of Bathgate, N. D.

OHIO.

Cincinnati.—Robinson & Co., dissolved.
Toledo.—Louis Martin's estate, sold out.

OREGON.

Canyonville. P. B. Sherwood, sold to Jas. Benson.

PENNSYLVANIA.

Erie.—B. F. Disbrow, sold to C. W. Nick.
McKeesport.—Stephen's pharmacy, 835 5th ave., new store.
Philadelphia.—R. Cuthbert, 40th and Chestnut, damaged by fire; insured.

RHODE ISLAND.

Natick.—J. A. McQuade & Co., sold to W. O'Donnell & Co.

SOUTH CAROLINA.

Florence.—James B. Jarrot, burned out; loss, $1,200; insurance, $600.
Graniteville.—E. W. Stothart, sold to C. A. Teague.
New Brookland.—Robb & Kendall, damaged by fire.

TENNESSEE.

Dickson.—McCreery's drug store, burned out.
Dixon Springs.—J. L. De Bow, sold to J. D. Allen & Co.
Memphis.—Fahlen & Kleinschmidt, Main and Beal, sold to Gieselmann & Sommer.
Petersburg.—McRady & Cowden, now J. C. McRady.
Sweet Water.—R. F. Scruggs, sold out.

TEXAS.

Brownwood.—J. R. Sogars, now Payne Drug Co.
Conroe.—J. A. Knight, now Gilbert & Knight.
Lincoln.—A. W. Schubert (G. S. and drugs), sold out.

VIRGINIA.

Chase City.—H. N. Phillips & Co., sold to Burwell & Maddox.
Lynchburg.—C. B. Fleet, removed to 802 Main.
Richmond.—Paoli & Marston, dissolved.

WISCONSIN.

Clear Lake.—Briggs' drug store, damaged by fire.
Milwaukee.—M. W. McMillan, assigned.

WYOMING.

Rock Springs.—W. C. C. Freeman, closed under mortgage.

ONTARIO.

Hamilton.—Walder Parke, retires from firm of Archdale, Wilson & Co.
Toronto.—W. J. Nichol & Co., now W. J. Nichol.

QUEBEC.

Montreal.—R. A. Taschereau, assigned.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

Not So Black as Painted.

Columbus, O., Oct. 10, 1895.

To the Editor:

Permit me to call your attention to an error in your editorial of Oct. 3 on "Statistics of the Retail Drug Trade," wherein you state that the report of the Ohio Board of Pharmacy showed on May 1, 1894, a total of registered pharmacists and assistants of 1,892 in the State. By referring to the paragraph at the bottom of page 33, in the "Report of the Ohio Pharmaceutical Association for 1894," you will find that the statement made there in the report of this board shows that on May 1, 1894, there were in this State 2,895 pharmacists and 655 assistant pharmacists on the registration records, or a total of 3,550 of both grades.

There are, no doubt, too many drug stores in Ohio conducted in violation of law, but not so many as may be inferred from your statement.

W. R. OGIER, Sec'y.

Gilpin, Langdon & Co., Baltimore, have something to say in this issue upon the use of granulated opium, instead of the powdered, in making all liquid opium preparations. As their efforts are for better preparations at lower prices their statements upon this matter are interesting.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

Cele-Kola is a new preparation which has been lately introduced by Geo. D. Feidt & Co., Philadelphia.

Wax tapers should be in stock for the holidays. The "Haledon" brand is an easy one to remember, but for fear of forgetting it when the time comes to order, send to Theodor Leonhard, Paterson, N. J., for price list.

The price list of pharmaceutical preparations made by Henry Thayer & Co., Cambridgeport, Mass., is a great convenience to the druggist. He can see at a glance just what an article costs, as everything is figured net, with no discounts to deduct, and no cost of containers to include.

Bowdlear's Floor Wax is always in demand, but the demand is always greater during the winter season, when balls and parties require waxed floors for dancing. Floor wax is, therefore, seasonable, and the price list of W. H. Bowdlear & Co., 36 Central Wharf, Boston, is something worth sending for.

Larkin & Scheffer's peroxide of hydrogen has been aptly referred to as an "ideally perfect product." This means a good deal for peroxide of hydrogen, but the manufacturers are willing that all the official tests shall be applied to their product to determine the propriety of its being specified upon the pharmacist's order.

Acetanilid and cocaine are two important chemicals whose purity should be accurately established. This matter of purity has been pretty well settled by hundreds of users in favor of the acetanilid of Hofmann & Shotensack and Zimmer's brand of cocaine. R. W. Phair & Co., 14 Platt street, New York, are agents for both.

In ordering quinine pills the next time, it will be well to remember the new style in which the Upjohn Pill and Granule Co., of Kalamazoo, Mich., are offering them. They have a box with perforated cardboard diaphragm holding twelve pills, each pill by itself. Price, $4.50 per single gross of filled boxes, or $4.25 in five-gross lots.

The Columbia Chemical Co., Washington, D. C., have an attractive line of specialties which are extensively advertised and in good demand, both from the general public and the medical profession. They invite correspondence from the drug trade relative to a special advertising proposition which they are now making.

When customers see Metcalf's Sachet Powders in the druggist's show case they recognize an article which they have read about in the magazines, or which they have probably heard of through other users. This familiarity leads to purchasing. These powders are standard and staple. No necessity for explaining their virtues to the buyer.

The druggist who has Merz empty elastic capsules and apparatus for filling can invite the prescription patronage of physicians with perfect confidence in his ability to supply all their wants. He need never be "out" of any particular kind wanted, as he can make all kinds himself. Send for samples and information to Merz Capsule Co., Detroit, Mich.

The business of the New York branch of the Low Art Tile Co. has so increased that larger quarters have become necessary. The firm has become so identified with the present location in the Havemeyer Building, that they have secured the store adjoining their present quarters, and will fit it up and stock it at once. The New York address will then be 29 and 31 Church street.

The suspensory bandages manufactured by Flavell, 1005 Spring Garden Street, Philadelphia, have certain qualities of fit and durability which have made them favorites with the medical profession, and the druggist will find that a stock of them is one which meets many prescription demands. A sample line of six bandages will be sent by mail at the nominal price of $1.10.

Morrisson, Plummer & Co., Chicago, are ready for holiday buyers with a large assortment of new things, and they invite every druggist visiting Chicago to call on them and examine the display. Those who cannot visit them will have their wants attended to by correspondence in the best possible manner. See their advertisement in this issue for some hints.

The druggist who does not know all about the white lustral wire ware made by Woods, Sherwood & Co., Lowell, Mass., is possibly neglecting some of the sure things which bring profits. Now the buying spell is on, people will quite likely look with favor on the wire racks, easels, baskets, soap holders and other novelties which this firm manufacture. Their catalogue affords good picking for a line of profitable goods. Send for it and see.

There is a great deal of unoccupied space in most drug stores, although their proprietors do not admit it. This space is above the ordinary shelving up near the ceiling. All this can be used if a rolling ladder is employed. The Coburn Trolley Track Mfg. Co., Holyoke, Mass., manufacture four styles of these ladders, and are quite anxious to let all druggists know all about them and their prices. They will appreciate a request for catalogue.

Calisaya La Rilla is one of the best of tonics for bracing up the system in its struggle with coughs and colds upon the approach of the winter season. The manufacturer, Chas. Allen Reed, 9 Cliff street, New York, knows just how to tell people of this fact to make them believe it. His advertising is straight from the shoulder, forcible and convincing. Send for some of it. It will convince you that Calisaya La Rilla will do certain things, and that you ought to keep it in stock.

Many druggists would do more advertising if the printing cost less money. The advertisement of Kelsey & Co., Meriden, Conn., may suggest how this cost may be lessened. Their catalogue containing particulars will be sent upon request.

The manufacturers of soda water apparatus make all possible efforts to economize in the use of ice, and L. L. Rowe, 16 Howard street, Boston, has made the same effort to save fuel for the hot soda apparatus. He has succeeded pretty well, too. His invention automatically shuts off the expense while there are no customers to be served. This saving goes a long way toward paying for the apparatus. Send for circular describing the automatic apparatus.

Wagons, machinery and utensils, used out of doors, should be painted before winter sets in. Every druggist knows a lot of people who should attend to this important matter, but he does not know exactly how to convey the hint. John Lucas & Co., Philadelphia, print some color cards which bring this subject to the front in the most effective manner. Druggists who wish to sell paint for this purpose should send for some of these and order some of the goods which they describe.

With the choicest Concord grapes for raw material, and a product which is bottled within one hour after the skin of the grape is broken, there can be nothing finer that Dr. Welch's Grape Juice, and no one can ask for anything better or purer. It is a most desirable beverage for the sick or well, as it contains no alcohol, and it is much used for sacramental purposes. Druggists who have never handled this product will have sample sent to them upon application to the Welch Grape Juice Co., Vineland, N. J.

When it come to luxuries such as perfumes and toilet articles, the new ones are always chosen. There is philosophy in this, because the taste for luxuries is progressive, and people are always looking for something better. This explains in part the popularity of Ed. Pinaud's Sels Romains, the new, fancy smelling salts. The salts are cubical in form, in assorted colors, and very attractive. There are eight odors. Lavender costs $4 per dozen, while the others, Heliotrope, Menthe, Rose, Royal Peach, Verveine and Iris cost $5 per dozen.

When the public sees something that looks like silver, but is better and much lower in price than silver, they are interested to an extent which quite often results in buying. "Cosmeon" toilet articles, brushes, combs, trays, mirrors, etc., fit the above description, both in being better than silver and interesting people up to the buying point. The hardest kind of thinking will not suggest anything more appropriate for a holiday offering than something in the Cosmeon line. Send for catalogue to the Florence Mfg. Co., Florence, Mass., and see if this statement isn't all right.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 21 of this issue, in the back part of the journal.

Advanced: Asafetida, Balsam Tolu, Cod Liver Oil, Monobromated Camphor, Golden Seal, Menthol, Oil Anise, Orris Root, Quicksilver.

Declined: Manna, Oil Citronella, Oil Cubeb, Oil Pennyroyal.

New York, Oct. 15, 1895.

There is apparently nothing to retract from the favorable reports which we have published for several weeks concerning the condition of the general market for drugs and medicinal chemicals. In some of the commercial industries the recent confidence is said to have been exchanged for a more doubtful feeling, and the statement is made that there has been a temporary halt in the incoming wave of prosperity. The same authority claims that "the next wave will go still higher, but just now the business world is waiting for that 'next wave.'" That the drug trade cannot be included among the mercantile departments thus referred to, is evidenced by the steady progress being made, and also by the continued frequent advances in values of many leading commodities. Other proofs are not wanting, but it is apropos to mention that very few and only unimportant declines have occurred, and also the fact that there is almost an entire absence of depressing influences. Transactions of magnitude are exceptional and mainly between dealers, while buyers in a jobbing way continue to operate on the old conservative lines, but business in the aggregate reaches liberal proportions, and the continued firm undertone indicates that there is no lack of confidence in the future. The general demand is good from all consuming sections, and in some articles there is substantial proof of increased activity, while the only instances of a slow movement are in the varieties which are seasonably dull. These conditions are expected to prevail throughout the current season, or at least until near the close of the year, when stock taking and annual settlements will command attention. The changes in prices this week have not been so numerous as during the previous corresponding period, but in addition to the few advances noted below, all those recorded in our last issue are firmly maintained, and the general tendency is toward a still higher basis. The more important advances this week have been in balsam tolu, orris root, oil of anise, menthol and quicksilver.

OPIUM.—The simple statement that the market seems to be firmer and that the limited business reported has been at slightly higher figures than those current last week, does not convey a correct idea of the situation. The statement is true, but, nevertheless, the market is in such a sensitive condition that not much surprise would be occasioned by a radical change in either direction. Opinions vary materially concerning the near future, some predicting a higher market while others are looking for a collapse. The former base their belief on the small available spot stocks and the fact that the principal holders decline to quote in a large way; they also think that the Armenian troubles in Turkey will retard shipments, and aid the advancing tendency here. Those anticipating a collapse claim that their view is warranted by the statistical position which would naturally create a weaker feeling, the crop being larger than for many years. Stocks are accumulating in the primary market, and late cable advices report fine weather for the autumn sowings.

MORPHINE.—The movement into consuming channels is of average volume and manufacturers' prices are unchanged, but the peculiar position of opium has an unsettling influence and an early change is not improbable.

QUININE.—The demand continues active and wholly for consumption, with the general condition of the market practically as noted in our last issue. Domestic manufacturers and agents of foreign makers continue in control of the situation, but there is yet no indication of any intention to change the current schedule of prices. A number of orders have recently been received by brokers for lots of 5,000 ounces or more, at a slight fraction under ruling quotations, but they cannot be filled as there is none offering from second hands.

ALCOHOL.—Grain is without quotable change and a fair jobbing business is in progress, but there is nothing in the future outlook that favors an early settlement of existing differences between distillers and distributers. Wood alcohol is in good demand, but chiefly for manufacturing purposes.

ACIDS.—All leading varieties are meeting with a good jobbing inquiry, but no further change has occurred in quotations, although both citric and tartaric are ruling strong at the recent improvement, and holders offer sparingly in view of the strong position of the crude materials abroad.

BALSAMS.—The increasing scarcity of tolu, referred to last week, together with an improved export demand, has influenced a hardening of prices, and values have been advanced 5 cents per lb. Some of the orders from abroad were filled at the figures ruling last week, but others were subsequently declined, even at the advance, the spot stock being considered too low to admit of further shipments. Only small lots are now available, and a further advance is expected. Peru is slightly easier owing to freer offerings from first hands, but jobbing prices are unchanged. Copaiba is moving freely in small lots at previous values. Canada fir is in fair demand and nominally steady.

CACAO BUTTER—Is scarce on the spot, and business is restricted to small lots, for which the full recent advance is realized.

COD LIVER OIL.—An active buying movement which developed last week has resulted in clearing the market of all cheap lots recently offering, and the general position is stronger with all desirable brands offering in limited quantities

ously. Cable advices from primary markets report a further advance with purchases for American account.

CREAM TARTAR.—The market is ruling strong with prices showing a decided upward tendency, and manufacturers are not inclined to quote for future delivery owing to the continued upward tendency of argols abroad.

OIL OF ANISE.—Prices show a further advance of 10@15 cents per lb and only small lots are obtainable, still higher figures being anticipated.

OIL OF CITRONELLA.—The market is better supplied and a consequent easier feeling is manifest with values of round lots about 1 cent per lb lower, and a corresponding reduction is noted in small packages.

OIL OF CUBEBS.—The decline in the berries noted several weeks ago has at last influenced a lower range of prices for the oil, and quotations show a reduction of 10@15 cents per lb.

OIL OF PENNYROYAL.—The demand this season has been much smaller than heretofore, and with liberal stocks in the hands of dealers the tone of the market is weak under pressure to realize, and prices are 20 cents per lb lower.

CAMPHOR—Has met with a fairly good demand, and the advance noted last week is firmly maintained.

MONOBROMATED CAMPHOR.—Manufacturers have marked up their quotations 10 cents per lb owing to the higher cost of the gum.

MENTHOL—Has reacted from the easy condition referred to in our last issue and values are fully 25 cents per lb higher, the stimulating influence being a decidedly better feeling in foreign markets.

MANNA.—The new crop has begun to arrive and a general revision of prices shows a lower range, the decline being about 5 cents per lb in large and small flake and 1 cent in sorts. Advices from London report that rain in the producing sections of Sicily has stopped the collection. The season is at an end, but a good average crop has been gathered.

QUICKSILVER.—An advance in Rothschild's London quotation has stimulated a stronger feeling here, and prices are 1 cent per lb higher.

JAMAICA GINGER.—The bulk of the large purchases mentioned in our last issue will be shipped to Europe, leaving this market poorly supplied with the better grades. Prices consequently are firmly maintained at the recent advance.

SPERMACETI—Has been quite active for export and values are 1½ cents per lb higher for block. All the stock obtainable has been taken up, and in absence of further offerings the quotation is entirely nominal.

ORRIS ROOT.—All varieties of both Verona and Florentine are 3@5 cents per lb higher, and the market is stronger in tone owing to advices from Leghorn, which state that the old crop is entirely exhausted and the new being rapidly taken up by speculators at advancing prices.

GOLDEN SEAL ROOT—Is firmer in the producing districts, and prices here have been advanced ½ cent per lb.

ASAFETIDA—Is in active request with the demand chiefly for the medium and better grades. Values are about 1 cent per lb higher.

London Market Report.

London, Oct. 5, 1895.

On the whole this has been a fairly active week, and the general tone has been healthy all round. The drug sales although large, were rapidly got through, buying being the rule and bought in lots the exception.

ACID CITRIC—Is very firm at 1s. 2¾d. per lb from second hands, and higher prices are generally looked for. Juice is dearer at £15.

ACID TARTARIC.—The position is firm, though at the moment quiet. Foreign, 1s. 1½d.; English, 1s. 2d. spot; 1s. 2½d. forward. Before the end of the year 1s. 4d. per lb seems probable.

ALOES.—Cape slightly easier at 23s. 6d. per cwt. for fair, hard bright. Curacao of good quality wanted. Socotrine in kegs is held for 70s. for good, while slightly inferior sold at 65s. per cwt.

ARECA NUTS—Firm, 10 bags fair quality selling at 12s. 6d. per cwt.

ASAFETIDA.—About 70 cases offered, but at the auctions no interest was taken in the article. Privately some ordinary block, part pinky, sold at 50s. per cwt. Stock Oct. 1, 846 packages, against 296 same time last year.

BENZOIN.—Fine Sumatra continues scarce; up to £8 10s. was paid for good seconds. Siam scarce, and wanted in good quality. Stocks of all grades, 2,198 packages, against 2,061 last year.

BUCHU LEAVES.—Rounds are very scarce. At auction 12 bales exceptionally fine green were offered and secured after active competition by a leading New York House at 5¼d. per lb, a neighbor securing 4 bales lighter green at 4½d. per lb. Long sold at 6d. for fair.

CAFFEINE—Continues quiet, but a general feeling exists that at present rates the article is cheap.

CAMPHOR.—The syndicate are concentrating supplies here, and send orders to China and Japan, but fail to secure more at their limits. The article is quiet at the moment, but no fear is expressed that prices will give way for a long time, rather that they will improve considerably. Published stocks give 16,202 packages in public warehouses on Oct. 1, as against 4,394 last year.

CARDAMOMS.—Decorticated lower at 2s. per lb.; other kinds at about steady rates. Stock, 1,155 packages, against 1,245 last year.

DRAGON'S BLOOD.—A new lot of 10 cases reed very well packed, found buyers in and after the sale at £11 per cwt.; other kinds quiet. Stock 258 cases, against 215 last year.

ERGOT OF RYE.—Weevily lots of both Russian and Spanish sold at low rates. The former at 6d. to 6½d. per lb, the latter at 7¼d. to 7½d. per lb.

GAMBOGE.—One case only sold, at £10 5s. for fair, bright pipe. Stock 180 cases, against 196 this time last year.

IPECACUANHA.—Stock of Rio, 639 bales, against 821 last year, while of Carthagena 30 bales only, against 156. Importers hold firmly, and only a few bales Rio sold at 5s. 3d. to 5s. 4d. per lb.

KOLA NUTS—Tending downward; good sold at 10d. to 11d., lower qualities in proportion.

MENTHOL.—Rather dearer, at 13s. 6d. per lb.

MUSK—Has been an active market this week for America and France, and quite a fair quantity has changed hands. This has brought out inquiries from the home trade, and higher rates may be looked for, and are, in fact, now nominally quoted.

OILS (Essential).—Star Anise is dearer; 7s. 9d. paid; 7s. 10½d. refused; 8s. asked. Cassia, 7s. 9d. paid. Lemon is much dearer, 4s. being paid for anything fairly good.

QUINCE SEED—Continues to sell readily at 1s. 3d. per lb.

QUININE—Firm at 1s. 1⅜d. per ounce. Stocks further reduced, being now 2,092,976 ounces, against 2,915,984 ounces last year.

RHUBARB.—One hundred and fifty cases offered in sales, of which about 60 sold at easy rates. Stock, 1,034 chests, against 801 last year.

SENNA.—Alexandria in no demand. Tinevelly—Nearly 700 bales offered, and all sold at slightly easier rates for ordinary quality, while common qualities were dearer. After the sales several lots changed hands at an advance. Stocks, 1,829 bales, against 1,993 last year, but it must be remembered that a good proportion of this stock is very old and only fit for burning. Higher rates are looked for later on.

If in doubt as to what brand of corks to order, specify "Lancaster." But all doubts may be removed by sending for samples and prices to Lancaster Cork Works, Lancaster, Pa.

The right kind of a machine often means a great reduction in cost of manufacturing. The catalogue of J. H. Day & Co., Cincinnati, shows lots of ideas in pharmaceutical machinery which may put money in a manufacturer's pocket.

Two preparations handled by E. Fougera & Co., New York, are now being extensively advertised. They are Quina La Roche and Anti-Stiff. It pays the druggist to watch these evidences of coming demand, also his shelves, to see that stock is not exhausted.

The Hartt Mfg. Co., Chicago, show one of the latest designs in soda fountain apparatus in this issue. It is made with the latest improvements, tilting syrup cans, removable porcelain jars, etc., and extra thick marble makes it a great economizer in ice. They are making prices and terms which invite business.

On your next order for Oil Sandalwood remember the Dodge & Olcott brand. There is no prospect of disappointment in specifying it as it is made to stand the most exacting tests of the dispensing pharmacist. It is put up in 4-ounce bottles, especially for trial orders.

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GROUP PORTRAIT.

A. PH. A. OFFICERS.

We have just issued, and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the present.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address, The Pharmaceutical Era, New York.

"PERCENTAGE" IN ANTISEPTIC DRESSINGS.

We had hoped that the discussion of "the meaning of percentage as applied to antiseptic dressings" had terminated, and an article in this journal last June was presented as an impartial review and a fair and just statement of the conditions prevailing with regard to the matter, from which article the reader could draw his own conclusions and decide the question for himself. There has as yet been not a single argument advanced in opposition to the position taken in that article. Whatever has been written or said in rejoinder has been simply to stir up the mud which it was our effort to settle to the satisfaction of any unbiased person.

So far as druggists are concerned, so far as physicians are concerned, all they want to know is whether manufacturers are giving them the kind of dressing they think they are getting to judge from the labels of the articles. The manufacturer is far exceeding his prerogative when he attempts to force physicians to adopt one or another standard. This is for the physician to settle, and the manufacturer has only to give him what he wants and what he expects. As a matter of fact, the physicians have not settled upon a standard. Some expect "percentage in dry product," others, and just as many, even more, want "percentage in medicating solution." Both can be satisfied, and with the same article, too, if it is properly labeled.

There are certainly many little points, many niceties of manipulation and preparation, many variations of constituent materials, which interest the manufacturer in his endeavor to produce a thoroughly satisfactory article, and it is his privilege to dwell upon these to his heart's content, presenting to the physicians and pharmacists the advantages of his own and the disadvantages of his rival's product if he see fit. But farther than this he cannot go. It is his business to make what the medical profession demands and label his goods so the purchaser may know what he is getting.

Therefore, what is the use of confusing the main issue by the discussion of side questions, as is done by the writer of the article published in this issue? The courtesy of these pages is granted him, but he says nothing to controvert the position above outlined and nothing whatever to dispel the obscurity which in some degree attends this question of percentage. We do not care, the druggist does not care, whether the term "percentage" shall be applied to the solution or to the finished product; but we do care, and the druggist cares, to know what we are purchasing. The physicians can sanction either, both, or neither standard; let the manufacturer meet their wishes. It is unfortunate that all this trouble over "percentage" has arisen, for there was absolutely no occasion or reason for it. The manufacturers may thank themselves for it, for it is purely the result of business rivalry, some hard feeling, perhaps, and possibly a little willful misrepresentation and desire to get the best of a business rival.

We would say to these manufacturers: Make your medicated dressings by any process you choose, use your choice of material, any size of gauze-mesh — all these are but matters of preference and policy on your part—but when the articles are finished put a label on them which shall state exactly what they are, how they are made and what they contain. The physician then will decide whether he wishes yours or another's.

THE TARIFF COMMISSION AGAIN.

There is apparently such a unanimity of opinion among business men upon the matter of the establishment of a non-partisan tariff commission that a discussion of the merits of the case is almost useless. In fact, the only point now to be considered is the means and methods for getting what is wanted. And it is right here that symptoms of weakness obtrude themselves. It is too often the case where an agreement is unanimous that a certain thing should be done, that particular thing remains in a tantalizingly "undone" condition, and "what is everybody's business is nobody's business" is an old saying which finds appropriate application in such instances. The difficulty in the way of securing a non-partisan tariff commission is not one which concerns propriety or desirability, but is simply in getting certain machinery into running order to secure the result.

The National Paint, Oil and Varnish Association, at its late meeting in Chicago, resolved that that organization use all means in its power to have Congress create such a commission, and although the annual meetings of nearly all the other commercial bodies have already been held, there is assuredly enough authority vested in the legislative committees which nearly all of these organizations have to allow a hearty co-operation with the efforts which the paint men have inaugurated.

As to the difficulties which might beset a non-partisan commission in attempting to act upon wool, salt or iron

in a non-partisan manner, that is a matter of cookery which comes after the catching of the hare, but we are not unmindful of the perils of the chase. There is a countless number of politicians who have been nourished and brought up on tariff ideas, and who owe their present political existence to more or less adroit juggling of the question. If the partisan newspapers can be believed, there are at present two great political parties in the United States fatuously endeavoring with tariff legislation to ruin the industries of the country. Of course this is not so—but people read such things. Then there is the material sustenance which political parties are supposed to derive from tariff agitation. There is an operation called "fat-frying," by which one party is popularly supposed to derive benefit; and there is another curious operation by which another party is popularly supposed to be corrupted by "foreign gold." Would political life be worth living without the frequent recurrence of these exciting diversions? Would the political tariff game of seven-up be of any interest with "high" and "low" eliminated from it? Asking a politician to legislate himself out of office, or discard the banner under which he has won victories is a desperate thing to do, and our advocates of a non-partisan tariff commission will perhaps find those things the most serious part of their undertaking.

WHERE ANGELS FEAR TO TREAD.

"Sooner or later it must shut up shop and go out of business, as the philanthropist does not have the life expectancy that the money-maker has." This is the prophecy anent the proposed publication of a journal by the commercial section of the A. Ph. A. indulged in by a correspondent, whose letter entire is published on another page. And he never spake a truer word; it will be considerably sooner rather than later, for the prospect is the scheme will "die a' bornin'." How in the name of common sense the commercial section or any member of it could have seriously considered such a plan passeth all understanding. It is surely another verification of the truth of the old adage, a portion of which we take for a caption. Does the commercial section realize what it means to issue a journal which is good for anything, which has any stamp of individuality and reliability? Does it realize that money and lots of it is necessary; money to pay for brains, and brains come high; money for printers, for a thousand and one uses which attend the business of publishing a paper? If it expects to conduct the journal on the co-operative plan, editors and contributors laboring for love, the thing will last for about one issue; if on a business plan it will not even reach a first issue, for the first business step would be to get the money, and this would be impossible.

Little can be added to our correspondent's criticisms and objections. They are all weighty and just. The commercial section has no authority to sail its new bark under the A. Ph. A. flag; there is no crying need for a new drug paper, and if there were, no association, no section of one, could give one which would fill any want, if conducted on a philanthropic rather than a business basis. The exclusion of advertisements is alone a feature to stamp the enterprise a harebrained one. A contemporary rightly remarks that "what is wanted of the commercial section of the A. Ph. A. is not so much the expensive luxury of a newspaper outfit as hard work for a national organization along the established lines of success."

We can only say to the gentlemen—we understand they are but very few—whose fingers itch to wield the pen, don't; but if you will and do, please do not forget in the hour of discouragement and defeat, we told you so. We would be just mean enough to find a little pleasure in this fulfillment of our prediction.

PURE FOOD AND DRUG LEGISLATION.

A few years ago, when the name Paddock was much in print, there was not wanting a plentitude of ideas upon the subject of what pure food and drug legislation should be. A well-kept scrapbook and a carefully embalmed copy of Mr. Paddock's famous bill, recently resurrected, show this. All of this makes interesting reading even now. The greatest opposition to Mr. Paddock's effort for purity was due to the fact that it wickedly provided means by which those charged with the enforcement of the law were to be enabled to find out if things were adulterated. A pure food and drug law is a good thing, but many people do not care to have it enforced by having officials poking their noses into foods and drugs to see if they are what they should be.

At the time when Paddockism was in a peculiar state of exacerbescence, we remember that our esteemed contemporary of this city, the Sun, in pursuing its usual policy of championing the wrong side of everything, asked in a tone of voice which caused unsecured things in the china closet to rattle, "Why are the States not able to take care of the food and the drugs that are manufactured or sold within their limits? We have not heard that citizens of the United States are complaining about the quality of their food or their drugs. Are a few hogs in the West squealing about cottonseed oil?" A distracting allusion to the musical ability of hogs right in the midst of heated debate is enough to disconcert the most able advocate of pure food. The bill failed to pass. After being painfully whacked with inferences that people residing in portions of the country remote from that point where the orb of day first makes its influence felt were necessarily ignorant of most things, especially business when spelled with a capital B, these misguided purists evidently took kindly to the advice that the States could take care of foods and drugs manufactured and sold within their limits. The result has been painfully apparent. Such a law has been enforced in Ohio in such a manner that there is a call for amendments, or a commissioner who will read it differently. Pennsylvania has also adopted a law which is nearly identical with the Ohio statute, beside which the Paddock-Hatch-Conger efforts are as milk-and-water compared with a liberal draught of tincture of capsicum. Now that the experiment of State regulation has been fairly tried, and the discovery made that State lines have little force in maintaining proper standards for food and drugs, there has arisen another demand for national legislation, and once more may we be prepared for an increase of that peculiar sound which indicates to the agriculturist that some of his domestic animals have inadvertently become fastened under a gate.

Congressman Bromwell, of Cincinnati, is the latest to come forward and offer himself as a sacrifice to be crushed, bill in hand, under an avalanche of words. Mr. Bromwell modestly seeks advice so that he may properly frame a bill. This rashness is not entirely commendable. There is too much of this advice already available. He will find bushels of resolutions passed by druggists' and grocers' associations condemning adulteration, but he will find that he is expected to draft a law, the enforcement of which will not cause inconvenience to certain piratical crafts which sail with a "Business" flag at the masthead, and whose papers have been certified by some of the ablest journalists of the country.

COUNTER PRESCRIBING.

All druggists know that this is a reprehensible practice and we allow ourselves to believe that very few willfully indulge in it. But just where counter prescribing begins is a hard matter to determine. There are minor ailments which it is the druggist's privilege and his duty to minister unto, but where must we stop? Anything which serves to define the boundary between the legitimate and the illegitimate is therefore appreciated, and no apology is needed for a few words on this hackneyed subject. Prof. Frederick T. Roberts, in an address at the recent winter opening of the school of pharmacy of the Pharmaceutical Society of Great Britain, said: "To treat patients merely on their own statement that they are suffering from indigestion, neuralgia, cough, palpitation, or what not, for which they require a remedy, is absolutely wrong in principle and disastrous in its consequences, and for their sakes, as well as having regard to your own sense of honesty and integrity, you ought invariably and without hesitation to refuse to do anything of the kind. You can only be working in the dark, for you know nothing about the actual nature of the case, and are utterly incompetent to investigate it, even if you tried."

He proceeds to give a little consolation, as an offset, by saying, "I feel ashamed to acknowledge that there are practices prevalent amongst a certain class of qualified medical men which are not one whit better than those of the 'prescribing chemist.' The running of 'cheap dispensaries,' where 'advice and medicines' are supplied to all comers without the slightest pretensions to 'clinical investigation,' and, as a rule, at a

figure that I feel sure would make you blush if I mentioned it." He concludes by quoting the remarks of one standing high in pharmacy, and who has said: "If there is one thing more than another that our educational system has taught us it is that the best educated men amongst us are those who never trench on the medical man's province."

More Good Words about the A. Ph. A. Group Portrait.

Joseph P. Remington, Philadelphia, Pa.—It is very interesting and will be highly appreciated by me.

Alfred B. Taylor, Philadelphia, Pa.—Most of the portraits are very satisfactory, and they bring to mind many pleasant reminiscences of the early history and times of the association.

Alex. K. Finlay, New Orleans, La.—It is a very handsome work of art in which my likeness appears in goodly company. The work is finely and faithfully executed, and reflects credit both on the skill of the artist and the enterprise of its projectors.

Albert E. Ebert, Chicago, Ill.—Most of the persons that the pictures of the group represent have been and are personally known to me, and they are excellent likenesses and speak volumes for the enterprise and thoughtfulness in presenting to the history of American pharmacy so valuable a contribution.

Wallace Procter, Philadelphia, Pa.—The whole idea is one which appeals to the members of the association, and will enable the members of later date to become familiar with the features of those founders and workers who have preceded them. It is an excellent illustration of your well-known enterprise in the journalistic arena, which I still further recognize and appreciate as I turn the leaves of the "Price List Edition" of the Era, which is now lying on my desk. Such efforts to interest, encourage and educate the pharmacists of the country can have but one result, viz., success in making the Era the foremost exponent of the pharmacy of the day, as practiced in the great republic.

EUDOXIN contains 14½ per cent. of bismuth and 53 per cent. of iodine, being the bismuth salt of tetraiodophenolphthalein. It is devoid of odor and taste, and is insoluble in ordinary solvents. Its principal use is in the treatment of intestinal catarrh and other chronic intestinal troubles. It is given in 5 to 10 grain doses three or four times daily.

APOLYSIN is a derivative of phenetidin, which is said to possess valuable antipyretic and analgesic properties. It is a combination of citric acid with phenetidin, and occurs as a crystalline powder, of acid taste, soluble in 55 parts cold water, its own weight of warm water, and also in glycerin and alcohol. Melting point, 72° C. It is exhibited in 8 to 20 grain doses up to as high as 90 grains daily, in the treatment of typhoid fever, pneumonia, headaches, neuralgias and like affections.

PRACTICAL HINTS.

——Tact, affability and knowledge are three factors in the make-up of a good salesman. Irascibility and churlishness don't go. If you find yourself getting cross and taciturn make a resolve to do better, taking a little recreation, if necessary, and note the effect on business. On the other hand, don't be too loquacious.

——Jan. 1, 1896, will be here before you know it, and that day marks the beginning of a new year's business. Upon that date, too, many merchants and business men commence taking their annual inventory of stock, a performance which should never be neglected. An inventory not only shows the increase or decrease in the value of stock over that of the preceding year, but it will prove of value to you in adjusting your claims for insurance in case of fire. Nothing can better substantiate your claims in a court of law than can an inventory honestly made. Then, too, if rightly made, it may answer as an index or directory to your stock. Keep it in your safe for protection, and where you can consult it readily. It will tell you every time whether you have something rarely called for in stock, and if you have, just where it may be found. We have in mind a druggist who, to expedite matters and save confusion and hurry at that busy time, makes out beforehand, and when business is slack, a list of his stock in the order in which he has it arranged in the store. When the time to take the inventory comes around he simply fills in the quantities and prices. To use his own words, "he walks right through the whole business."

——The question of stock taking emphasizes the necessity of having all goods marked with the purchase price upon each article. The time lost and the worry incident to a search for an invoice several months old, is oftentimes enough to make a man feel very uncharitable and unchristianlike. Further, every time you sell an article you should know exactly what it cost you and just how much you have made in the transaction. Don't trust to memory. If you haven't a cost mark, or "code," or if you have, and have become tired of it, you may make a change, by adopting some one of the following suggestive words culled from pharmaceutical and chemical literature: Cumberland, bisulphate, carbolized, hydraectin, hydrogenum, glycerinum, black oxide, isothermal, vinum aloes, sulphoacid, oxyvaleric, pyromucate, sulphamide, pelargonic, hydrazones, procumbens, fluorescein, carboxylic, mercaptols, amphoteric, manuscript, camel thorn, hickory nut, tin hydrate, malt whisky, white sugar. Here are some of a different flavor: Complexity, disputable, rudimental, panegyrist, precaution, exhumation, polytheism, misfortune, profligate, triumphant. Each of the following phrases contains ten letters: "Come and buy," "gain by them," "gain we must," "fear thy God," "I teach work." If you prefer a sentence, you can make the first letters of each word in "one penny saved is far better than a cent gained" answer the purpose.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

No person living within the isotherms which include the United States will confess an ignorance of several means for curing a cold, but these same people turn anxiously for advice toward the drug store, when "the worst cold they ever had," or the one which they "can't imagine how they caught it," seizes them. The druggist is appealed to in spite of whatever opinions he may have upon self-medication. We believe he always will be approached in this manner, and from a business standpoint it is an excellent policy to have people think of a certain drug store when they are compelled to take notice of an incipient cold. We believe that the picture of familiar misery presented herewith will suggest a means of relief, and the place where it can be procured, when the next critical period approaches. So many druggists make excellent cough remedies that reading matter can be arranged to suit, and the advertisement thus given a special application.

(No 36.)

This is the old way—"the good old way"—of curing a cold. But it is inconvenient and only adopted as a last resort. There is another old way which is more convenient and quite effective. We refer to the Brown Mixture. It has been curing colds for over half a century, and is still in favor. We have it in liquid form, or in lozenges, handy to carry in the pocket, and suggest that you think of it when your next cold is coming on. Also think of

KNIGHT & DAY, DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

WANTED, A SALESMAN.

Manufacturers and jobbers when in need of good salesmen will find that a "Want Ad." in the Era will bring them many good replies. There are plenty of bright, active and capable drug clerks seeking such positions, and thousands of drug clerks are constant readers of the Era "Want Ads."

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[Continued from page 489, October 17.]

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XXIV. BOTANY.

[*Continued.*]

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FERTILIZATION.

A knowledge of fertilization is of importance to the pharmacognosist only as it throws light upon the characters of the fruit, in which term we include the seed. Only the principal facts connected with the subject will, therefore, be here considered.

The gross appearance and parts of the ovule have already been described. Its internal structure is illustrated in Fig. 238.

The Nucellus, being a cellular body, in which one or more spores are to develop, is a Sporangium. The development of its spore or spores presents striking differences from that in flowerless plants, the most important result being that the spore produced is single, and, germinating, fills the entire interior of the nucellus, the cellular tissue surrounding it at the time of its origin mostly disappearing subsequently to give place to it. Almost immediately after its formation the macrospore germinates by the division of its nucleus. Although the development is very simple and the growth very slight during the first stage, the resulting structure confined entirely within the embryo-sac, it is to be regarded as a plant body, the female gametophyte. It develops seven incompletely formed cells, or corpuscles, possessing specialized functions. That occupying a central position is the Central Cell or Nucleus of the Embryo-Sac. The two nearest and in coutact with the foramen are the Synergidae, in contact with which lies one called the Egg-Cell, or Oosphere. Those at the opposite end of the embryo-sac are called the Antipodal Cells. The mouth of the foramen affords a means of ingress to the fertilizing element in this, the angiospermous ovule. The ovule of gymnosperms agrees in the possession of an embryo-sac, with several bodies corresponding to the oosphere of angiosperms, but the other corpuscles not clearly developed. The foramen is secretory, so as to be adapted to acting upon the pollen-grain which it receives, as does the stigma in angiosperms.

Between the ovule thus prepared and the stigma there is an almost continuous connection through conducting tissue, extending through the body of the stigma, style and placenta. The extent of this conducting tissue, like that of the stigmatic surface, is usually greater or less according to whether there are more or fewer ovules to be impregnated.

The pollen grain consists of a highly hygroscopic mass of tissue, partly vital and partly nutritive, the latter of variable composition, surrounded by a thin, nonperforated, highly elastic membrane, the Intine, and this in turn by a thicker, nonelastic covering, the Extine, or, according to some writers, "Exine," bearing one of more complete perforations, very thin places or otherwise modified points upon its surface. In exceptional cases the pollen grain possesses but a single wall.

The process of fertilization is illustrated by Fig. 239, and the ordinary phenomena are as follows:—The pollen grain, fixed upon the stigma of the angiosperm, or upon the summit of the ovule of the gymnosperm, the hygroscopic contents absorb moisture from the secreting or transuding surface with which it is in contact, oxidation and nutrition commence, the mass increases in size, and distends the intine which surrounds it. At the same time cell-division of its contents takes place, the combined changes constituting the germination of the microspore. Through one or more of the perforations of the extine already existing, or forcibly made by this process, protrude prolongations of the pollen contents, still enveloped in a process of the intine. These processes, or this process, for in general there is but one, penetrates the tissue of the stigma and extends downward through the conducting tissue of stigma, style and placenta, and is known as a Pollen-Tube. A body of this kind, proceeding from the germination of a matured spore, is properely to be regarded, like its female homologue, as a plant body, distinct from that of the parent, notwithstanding that it is developed in immediate contact therewith. It is to be noted in passing that it can be equally produced by germination upon other surfaces which present the proper conditions. It is known as a Male Prothallium, and because, like the product within the embryo-sac, it is designed for the production of true sexual elements, to result in the formation not of a spore, but of an embryo, it is called in contradistinction to the sporophyte, or spore producing body, the Gametophyte. Nourishment is afforded partly by the contents of the pollen-mass and partly by the tissues with which the prothallium is in contact. At its lower end are one or more little bodies which constitute the male element and which are to fertilize the oosphere, which we have already observed within the embryo-sac. This fertilizing element is the Male Cell, corresponding to the Antherozoid of cryptogams. The downward growth of the male prothallium toward the ovule is known as the Descent of the Pollen-tube. The distal end of the pollen-tube at length enters the ovarian cavity and finds the foramen of the ovule, contact of the male cell with the oosphere is effected and fertilization is completed.

Carpology.—Fructification or the Changes Produced by Fertilization.

The changes effected by fertilization extend to all parts of the flower and even to other parts of the plant. A consideration of the objects of the process will prepare us to understand the nature of the changes. The objects are (1) the production and maturing of one or more seeds, including provisions for their protection and nourishment throughout the process, together with the nourishment of the parts which thus protect them; (2) provisions for their transfer, still enclosed in their container, to a suitable place for germination and the fixation of the latter there, or (3) provisions for their exit from such container and (4) their transfer after such exit to the place of germination and their fixation there. The combined processes connected with the attainment of these objects is Fructification, and the product thereof is the Fruit.

It is clear that the energies of the plant should not be called for in the further development or preservation of any parts of the flower which are not serviceable as a part of the fruit in the attainment of the above named objects, unless possibly they may possess some other function foreign thereto, as, for instance, the action of the stamens of a flower in which fructification has already begun, in fertilizing the ovules of some other flower. We should therefore look (a) for the disappearance or death of all floral parts not thus serviceable, and (b) for the stimulation and development of those which are. That the first of these two objects is an immediate

result of fertilization is strikingly and unhappily illustrated in the behavior of ornamental flowers, in which the latter process is allowed to take place. Those who produce for the market the handsome and expensive flowers of orchids are obliged to carefully exclude insects from their greenhouses. Valuable flowers which, without fertilization, would last for several weeks, wither and die within a few days, or even hours, after such process has occurred. That the accomplishment of the second named object is no less immediate is apparent upon considering the morphology of the fruit.

The only portion of the flower which is certain to be in no case utilized in fructification, and, therefore, to disappear after fertilization, is the actual stigma, and the stamens when they are non-adherent. The stamens, as has been shown, may be serviceable for other purposes, so that their death depends rather upon the performance of their individual function than upon fertilization. In proterogynous flowers this function is actually stimulated by the completion of fertilization in their own flower.

Upon the other hand, we are not certain of a requisition in every case for the preservation and development of any part other than the particular ovules which become fertilized, the ovarian walls of the pistil or pistils containing them (and in some cases only a part of these), and of the torus. The death or decay, therefore, of any or all of the other parts will be determined by the individual or class habit of the plant concerned. To any part other than the ovary itself which thus develops and enlarges as a part of the fruit, the term Accrescent is applied. Fruits of which such accrescent parts form the conspicuous portion are called Accessory fruits.

Finally we must note that new parts, of service in the fruit, frequently develop in the course of fructification, upon either pericarp or seeds, just as special appendages develop upon the floral organs for performing special functions in connection with pollination. That such additional parts exhibit little, if any, development during the floral stage, is due to the fact that an enormous waste of energy on the part of the plant would thus be involved. Of all the flowers produced by a plant only a minor portion usually accomplish fructification, and of all the ovules produced by any gynaecium only a minor portion produce seeds. The development of these superfluous flowers and ovules constitutes in itself a serious waste, but it is a necessary or, upon the whole, an economical one, as it tends in the end to secure the full degree of fructification by the plant. The development, however, upon such superfluous flowers or ovules, of parts which will be of value only in case fructification is effected, would be anything but economical. Hence, the general rule that parts of the fruit which are of no use in effecting pollination and fertilization are not developed until after these functions are performed.

There are two distinct senses in which the term "fruit" may be employed. In the first instance, we may regard it as the gynaecium product of the development in fructification of a pistil, or in the second as an organ performing a certain reproductive function or functions. The limitations of our definition of the term will vary accordingly.

In many cases the ripened gynoecium performs or may perform the fruit function entire, as in the cherry, the strawberry, the blueberry, the so-called "seed" of the sunflower, and the pod of the bean or digitalis. In such cases the solitary ripened carpel (cherry and bean) or the aggregation of ripened carpels (as in the other illustrations), of a gynoecium, constitutes the fruit, from either point of view. In other cases a number of carpels of a gynoecium are separate from first to last as pistils, as in the case of the buttercup. The entire collection then constitutes a fruit, being the product of a flower, but each of the individual pistils must also, from a physiological standpoint, be regarded as a fruit, inasmuch as it performs the fruit function independently. Again we find, as in the case of the borage, that carpels, originally coherent, separate before performing their function, so that we must regard each of the separated carpels, as well as the entire gynoecium, as in the nature of a fruit. Occasionally even a carpel will itself divide into separate parts, each of which is equally entitled to be designated as a fruit. In still other cases the ripened gynaecia of more than one flower cohere and perform the fruit function as one body, as in the case of the partridge-berry and the fig. Finally we note that many fruits can perform their function in either way—namely, by means of their carpels, or parts thereof individually, or as aggregations proceeding from a single flower (blackberry), or from many flowers (figs, hop, &c.). It is therefore to be noted that that which is at one time to be regarded as a fruit, is at another time only a part of one, according to the manner in which it performs its function.

From the foregoing considerations we may deduce the following definitions of fruit:—

A Fruit is a separate ripened carpel, or part thereof, or an aggregation of ripened carpels, together with any adherent parts.

Multiple or Collective Fruits are those proceeding from the gynaecia of more than one flower.

Aggregate Fruits are those which proceed from a number of separate pistils of one flower.

Simple Fruits are those proceeding from a single pistil.

Apocarpous Fruits are those consisting of one carpel or more than one un-united carpels.

Syncarpous Fruits are those consisting of coherent carpels.

Accessory Fruits are those in which some part other than the ripened ovary constitutes the conspicuous portion.

The student cannot have failed to note in reading the above statements that the composition of the fruit is extremely variable and in some cases complicated. In accordance with this fact the classification of parts of the fruit is open to great differences, according to the principles upon which the observer bases his classification. The typical fruit may be considered as that which consists only of the ripened pistil with the contained seed or seeds. Such a fruit is regarded as possessing but two portions, namely, the seeds and the Pericarp. But since in many cases the calyx, disk or other part is closely adnate to the wall of the ovary and more or less indistinguishable from it, it becomes impracticable to restrict the term pericarp to a part consisting only of the pistil. Again we find that there are all intermediate forms and degrees of adnation and separation between the ovary and the accrescent parts of accessory fruits. It, therefore, appears most convenient to define the pericarp in a broad sense as the fruit with the exception of the seeds. When the pericarp consists of other elements than the ovarian-wall it is called a Pseudocarp or Anthocarp.

When the pericarp is seen to consist of three demonstrable layers these are called respectively Exocarp, the outer; Endocarp, the inner, and Mesocarp, the middle. When an exocarp is thin and membranaceous, like the skin of a plum, apple, or tomato, it is called an Epicarp, and when an endocarp is hard and strong, like the stone of a peach or the "core" of an apple, it is called a Putamen.

We shall now consider the manner in which the four objects of fructification are accomplished through the modifications effected in each of the floral parts and in the parts adjacent, by fertilization, including such new appendages as are thus caused to develop. The development and maturity of the fruit are effected by the stimulation, through fertilization, of the nutritive functions of the pistil, the torus, adjacent portions of the plant, and through the combined influence of all the flowers, a similar stimulation of all portions of the plant. So far as the development of a protecting container for the maturing seed is concerned, the object in general demands the development of nothing more than the ovarian wall; but the effects of adnation and the requirements of the other objects result in the extension of this process to various other parts of the flower or even of its supporting parts. The development of such parts in connection with the ovarian walls will therefore receive attention in considering the methods by which such other objects are accomplished. It has been stated that not always are all of the ovarian walls involved in the development. A gynaecium possessing several pistils may fail to develop all of them in fruit (Fig. 185), and when these are adnate into a compound ovary, as in Vallesia, one or more of them may likewise fail to develop. A several-celled ovary, as in Calesium (Fig. 239a), may, after the fertilization of one or more ovules in one or more cells, permit the abortion of those in the other cells, the septa of the latter being then crowded against the outer wall by the growing

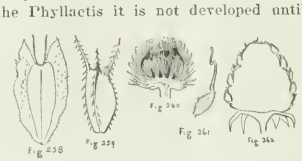
seeds, or even disappearing, so that the fruit will contain a smaller number of cells than the ovary which produced it. The partial obliteration of cells in a similar manner is well shown in the fruit of Diospyros (Fig. 239b). Additional walls upon the other hand, may develop during fructification. Datura has a 2-celled ovary (Fig. 240a), but a 4-celled fruit (Fig. 240), and this occurs regularly in the Labiatae. The newly formed walls are not always vertical. The fruit of Desmodium (Fig. 301a) and that of Sophora (Fig. 301) divide transversely into one-seeded joints.

Concerning the protection of the fruit and seeds we note that its full accomplishment often calls for other defensive provisions than those against merely mechanical forces, in the form of appendages constituting an armor. These are sometimes an outgrowth from the ovary itself, as in Stramonium (Fig. 240), sometimes upon an enclosing calyx (Fig. 241), an enclosing wall, consisting of a hollowed branch, as in the prickly pear (Fig. 242), or sometimes upon an enclosing involucre, as in the chestnut burr (Fig. 243). At other times the protection is secured by developing acrid or otherwise disagreeable pericarps, as the husk of the walnut or the pulp of the colocynth. These defences may be effective only during the maturing stage, as already pointed out, or their deterrent action may be permanent. In the same direction are to be considered the effect of poisonous principles proper and the inedible nature of the pericarp pending the maturing of the seeds.

The transfer of the fruit to the place of germination is secured by methods which for the most part admit of classification. We shall first consider those provisions which utilize the agency of the wind for this purpose.

We note, first, that the weight of fruits to be thus transported is reduced to a minimum. They are in almost all cases one-seeded (Monospermous), the loss due to this character being made good by the fructification of a large number of flowers. The one-seeded condition of such fruits is, moreover, not restricted to families which are characterized by it. Many fruits of the Leguminosae, which are commonly several or many-seeded, as the pea and bean, become one-seeded when adapted to wind transportation (Figs. 244 and 245). Fruits which are not one-seeded may divide into one-seeded parts, easily separable, to facilitate transportation by wind or other agencies, as has already been shown.

Such a state having been attained, the action of the wind upon them is next secured through the development of an expanded surface of some kind, commonly a wing or plume. In the Machaerium (Fig. 244) it is the entire wall of the ovary, in its original nature a pod, like that of the bean, which becomes developed into a wing. In the elm (Fig. 246) it is likewise the ovarian wall. In the carrot (Fig. 247) and the Polygonum (Fig. 248) it is an enclosing accrescent calyx. In Piptoptera (Fig. 249) it is two accrescent lobes of such a calyx. In the Zinnia (Fig. 251) a persistent corolla performs the same office. In the hop (Fig. 252) an accrescent bract is made to serve the office of a sail. The fruit of the Cardiospermum represents a class in which the thin pericarp, instead of being expanded into a wing, is inflated into a balloon-shaped receptacle, subserving a similar purpose. Plumes, consisting of the modified persistent calyx, are seen in the Valerian (Fig. 254), where it is present, though concealed by a circumnate praefloration, from the flowering stage, while in the Phyllactis it is not developed until



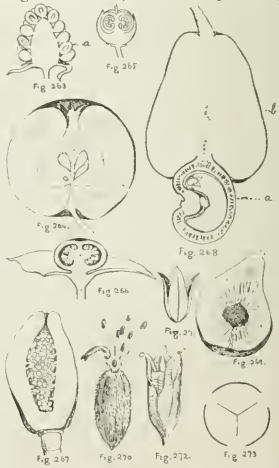
after fructification begins. A plumose style is seen in Pulsatilla (Fig. 255).

We shall next note the cases, perhaps even more numerous, wherein use is made of passing bodies by providing such appendages as shall serve to attach the fruit to them. Fig. 256 represents the fruit of a Rumex, in which the calyx is divided into hooks for this purpose. Fig. 257 shows another species, in which this method is combined with wind transportation, a combination which is very common among the Umbelliferae. The accrescent calyx teeth (awns) of Verbesina (Fig. 258) are adapted to piercing passing bodies, while at the same time the adnate tube is winged. In Bidens (Fig. 259) similar awns are barbed and adhere very tightly to anything which they may pierce. In the case of the burdock (Fig. 260) it is an involucre which bears such hooks. Similar hooks are found upon the outer wall of the ovary itself in many cases. Sometimes the style is recurved at the apex, thus forming a terminal hook, while at others (Fig. 261) the apex, after performing the stigmatic function, falls away, but leaves a hooked lower joint to become effective in the fruit. The atachment is not always thus secured by means of distinctively piercing appendages. The surface may be rendered adhesive in other ways seen in the minute structures covering the fruit of Desmodium.

We shall next consider another large class of fruits which depend for their transportation upon the possession of edible pericarps or edible portions of them. Such fruits may be eaten with the contained seed, as in the case of the strawberry or small cherries, in which case transportation is effected during the process of digestion of the pericarp; or, as in the case of the peach and plum, the fruit may be too large for such process, depending for transportation upon carriage by a berry or small cherry, in which case they are of such a nature that they can be carried and stored for winter use. The edible portion is in some cases, as in that of the banana, highly nutritious, while in others it is apparently eaten merely for its palatability or for its thirst-quenching properties. Some special form of protection is commonly required for the seeds of edible fruits. That of the peach is enclosed in a hard stone, so that it shall not be abraded as the pulp is pecked or bitten away. Those of the cherry and strawberry are enclosed in similar hard coats, which resist the digestive process as well. The more or less laxative or purgative properties of many fruits doubtless contribute to such protection by the more prompt dejection of the seeds which is brought about by their action.

The origin of the edible portion is various. In the strawberry (Fig. 262) it is the complete torus, and this only. In the blackberry (Fig. 263) such a torus is combined with a partially fleshy ovarian wall upon each of the ripened pistils. In the rose (Fig. 46) it is a similar receptacle, but hollowed, probably with other elements combined. In the apple (Fig. 264) it is a fleshy, thickened disk, together with the adnate calyx lined by it. In the checkerberry (Fig. 265) it is the calyx only which becomes fleshy. In the gooseberry it is the calyx and the entire ovary, but without any disk, while in many other berry-like fruits it is the ovary alone. In the plum and cherry not all of the ovarian wall is edible, its endocarp becoming a putamen. In the lemon, the papaw (Fig. 267) and the pumpkin it is the inner portion which is edible, while the outer is not. In the watermelon the placentae comprise almost the whole of the edible portion, while in the tamarind it is the middle layer of the ovary.

In all of the above mentioned cases it is some one or more of the parts of the flower which eventually forms the edible pericarp, but there are numerous cases in which other parts of the plant contribute to or form the whole of such portion. In the Cashew (Fig. 268) the ovary (a) enlarges but little, while the petiole (b)



undergoes a great enlargement and becomes edible. In the cactus (Fig. 242) the end of the branch is hollowed out and the wall so formed becomes the edible pericarp of a single flower. In the fig

(Fig. 269) we have a similar hollowed branch, but instead of being occupied by a single flower, the wall is lined by an immense number of them.

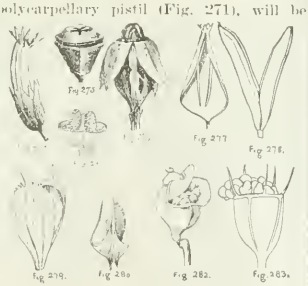
Besides the more common methods of seed distribution referable to the pericarp, which are thus subject to classification, we find numerous special devices which cannot here be enumerated in detail. Fruits which grow beside or in the vicinity of streams or other bodies of water are commonly adapted in some way for using the latter as a vehicle for transportation. They are frequently of a rounded form and of considerable weight, so that upon falling they will roll into the water, where they are then enabled to float by virtue of low specific gravity, due often to the presence in them of large cavities. The pericarp is in such cases usually furnished with some means of protection against the action of the water. Apparently the thick and woody pericarp of the Dipteryx is so constructed in order to avail itself of this method of transportation. The fruit of a species of Avena is so constructed that by the change of form and position of its long awns in dry and wet weather respectively it is enabled to travel.

Finally we must note that some fruits are protected by special devices against transportation. Thus the mangrove possesses a seed which germinates while still attached to its parent and which does not sever its connection therewith until the young plant has descended many feet and fixed itself into the mud below. The peanut, after anthesis, drives its ovary beneath the surface of the soil, where its fruit is developed. Plants possessing this habit are always highly gregarious and in this way occupy the ground to the exclusion of all other species, thus securing their perpetuation even though they are not specially disseminated. The high degree of adaptation secured by the peanut is further illustrated by its apparent power to support itself by means of these buried branches should the parent stem in any way become severed; a very important protection in view of the highly nutritious character of the herbage which renders it liable to destruction by grazing animals.

The fixation of many fruits with their contained seeds is secured by a series of devices no less interesting than those which affect their distribution. Fruits like those represented in Figs. 61, 62 &c., are commonly more or less sharpened or narrowed at the lower end, which is much the heavier, so that they shall the more readily penetrate a favorable surface. Their bodies, moreover, are commonly toothed or hispid upward, so that the tendency is for them to sink more and more deeply until properly interred. The fruit of Viscum, whose seed can develop only upon the bark of trees, is intensely adhesive, so that upon falling it can never bound away, but becomes adherent to the first solid body which it encounters.

As a rule, fruits which are provided with special devices for their transportation are not designed for the discharge of the contained seed, which escapes accidentally or develops while still enclosed. Provisions for the discharge of seeds, therefore, ordinarily apply only to such fruits as complete their function at the place of origin. For provisions for the distribution of such plants we should naturally look to the seeds themselves; yet to this rule there are numerous exceptions, for many fruits which never leave the place of growth yet possess various devices for distributing their seeds over a greater or less area by virtue of forces inherent in their pericarps. The common name of the Impatiens, "touch-me-not," is derived from the habit of its fruit of exploding with considerable force, discharging its seeds meantime to a considerable distance. The fruit of Hura similarly explodes, but with such violence as to cause a report like the discharge of a firearm. Elaterium (Fig. 270), during the ripening process, collects by osmosis within its cavity an amount of liquid which exerts a powerful outward pressure upon the pericarp. When fully ripe the slightest contact with another body causes the pericarp to leap away from its attachment, with the production of a hole at its base through which the seeds are expelled with much force.

The ordinary method of providing for seed discharge is by means of a splitting of the pericarp known as Dehiscence. A fruit so splitting is said to Dehisce and is known as a Dehiscent or Dehiscing fruit. Other fruits are called Indehiscent. True dehiscence is longitudinal, although the term is not altogether denied to other forms, provided the line of separation is regular and constant (Figs. 279-282). The parts into which pericarps dehisce are called Valves. The valves may separate entirely or remain attached in various ways. Dehiscence may occur at the ventral or at the dorsal suture or at both. If at the ventral, then the carpel (Fig. 300), or each carpel if it be part of a polycarpellary pistil (Fig. 271), will be



left entire. If, as sometimes, the polycarpellary pistil have several cells, ventral dehiscence must involve the separation of the carpels by the splitting of their walls or septa, whereas in the one-celled form septa do not exist or are incomplete. Nevertheless the principle is identical in the two cases, and this form is called Septicidal Dehiscence (Fig. 271). In the former of these two cases the carpels, after separating through their septa, are not necessarily open, and unless the dehiscence shall follow the wall into and through the ventral suture, which it rarely does, the dehiscence will be Imperfect and the carpels will act as separate indehiscent fruits. If dehiscence occur at the dorsal suture (Figs. 272 and so on) it must separate the wall of the cell into two parts, and this form is called Loculicidal Dehiscence. By an intermediate form the dehiscence takes place at the point where the septum joins the outer wall (Fig. 273), the Marginicidal. Various other modifications and combinations of the two forms may be discovered, but do not call for a notice in this work.

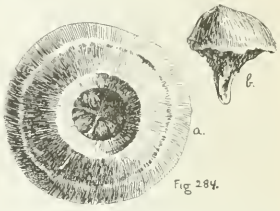


Fig 284.

Dehiscence is secured by a peculiar adaptation of the fibres to the other tissues and to the form of the fruit. Various forms of imperfect or incomplete dehiscence are those in which it commences at the apex and fails to extend itself to the base, as in Cerastium (Fig. 274) and Eucalyptus (Fig. 275), or in which it commences at the base and extends only partially toward the apex, as in Jussiaea (Fig. 276) and in Cinchona (Fig. 277). Important pharmaceutical decisions have rested upon the question of basal or apical dehiscence. The true Cinchona barks have all proceeded from species whose fruits dehisce as represented in Fig. 277, while those of the trees yielding the false barks dehisce as represented in Fig. 278.

The manner in which true dehiscence passes into false or transverse dehiscence, called Circumscissile, is well displayed by Figs. 279 to 281, all illustrations of closely related plants. A very curious form of special dehiscence is that of Jeffersonia (Fig. 282).

Dehiscence is not the only method by which fruits open to discharge their seeds. Rupturing fruits are those which open by an irregular line. Some portion of a pericarp may decay quickly, leaving an opening, or the same result may be secured by excessive shrinkage in drying of the very delicate tissue of some part of the pericarp, as in Fig. 283. Openings of this kind are called Pores. Our consideration of this subject will close with an illustration of the fruit of the Brazil-nut (Bertholletia, Fig. 284). The apex of this enormously thickened and strongly hardened involucre consists of a small circular portion connected with the remainder by a circle of tissue which quickly decays and becomes movable, thus leaving an apical pore.

CLASSIFICATION OF FRUITS.

A perfect or even fairly satisfactory classification of fruits has never been pre-

sented, and it is impossible, except through a complete revision and uniform agreement of terminology, based upon a uniform set of principles. A classification of some sort is, however, an essential in pharmaceutical botany, and such a one is here presented as appears most serviceable to those for whom it is intended.

Among all the various systems which have been proposed two fundamental principles have been observed—first, the morphological structure; second, the physiological features. By the first, fruits have been classed according to the character and number of the parts entering into their formation and the modifications which these have undergone in fructification. By the second, according to the structural characters as seen in the complete fruit, without regard to their mode of origin. As characters of the latter kind exist for the sake of the offices which they are to fulfil it is clear that physiology forms the basis of the latter method of classification. Although it is impracticable to follow either system without some regard to the other, it may be said that to follow in the main the morphological plan is the more scientific, the other the more convenient and the more practical, especially in economic work. This is therefore the plan which is here adopted. Fruits possessing pericarps fitted for transportation will then form the first of our two classes, while those fitted for discharging their seeds in situ upon maturity will form the second.

For a few fruits not readily introduced to this key, and for some exceptions, see the explanations which follow:

- *a*
  - Fruits with pericarp designed for transportation (a).
  - Fruits with pericarp not designed for transportation (e).
- *b*
  - With fleshy pericarp (Carnose) (b).
  - With non-fleshy pericarp (Siccose) (c).
- *c*
  - With seeds imbedded in a soft endocarp (g).
  - With seeds enclosed in a putamen (h).
- *d*
  - With an enclosing involucre, at least before maturity (l).
  - Without an enclosing involucre (d).*
- *e*
  - Vertically divisible into one-seeded parts (i).
  - A one-seeded part resulting from such division (j).
  - Transversely divisible into one-seeded joints (n).
  - Not divisible into one-seeded parts nor the product of such division (k).*
- *f*
  - Not transversely dehiscent (f).
  - Transversely dehiscent (q).
- *g*
  - Monocarpellary (m).
  - Dicarpellary, the valves separating from the placentae (o).
  - Not monocarpellary nor dicarpellary, with valves separating from placentae (p).
- *h*
  - Soft throughout.....Berry
  - With a soft, tough rind. Hesperidium
  - With a hardened rind.....Pepo
  - Putamen of bony hardness, Solitary.....Drupe
  - Putamen of bony hardness, one of several which are coherent.....Pyrena
  - Putamen of bony hardness, one of many which are noncoherent.....Drupelet
  - Putamen thin and tough.....Pome

* Exceptions occur.

- *i*
  - .....Schizocarp
  - (If dicarpellary, with a carpophore .....Cremocarp)
- *j*
  - Part of a cremocarp.....Mericarp
  - Not part of a cremocarp..... Coccus, Nucula or Nutlet
- *k*
  - Dehiscent, the valves separating from the two placentae.. Most Silicles
  - With thin winged pericarp..Samara
  - With inflated pericarp.....Utricle
  - Pericarp, thickish in view of its size, not inflated, sometimes winged.....Akene
  - A one-seeded fruit from a glans..Nut
  - A non-glumaceous involucre, with contents.....Glans
- *l*
  - A glumaceous involucre, with contents. A few.....Spikelets
  - A one-seeded fruit from a spikelet.....Caryopsis
- *m*
  - Dehiscing by one suture only. Follicle
  - Dehiscing by both ventral and dorsal sutures.....Legume
  - (When spirally coiled.....Cochlea)
- *n* .....Loment
- *o*
  - Elongated.....Silique
  - Silicle .....Some Silicles
- *p* .....Capsule
- *q* .....Pyxis

The fact, as stated above, that custom has not been uniform in the application of the principles of classification leading to the above terms, so that the latter are not employed in the same sense in botanical writings renders it necessary that such a key as that presented should be supplemented by a detailed consideration of the limitations and modifications of each class of fruits.

(To be Continued.)

PERCENTAGE DESIGNATION OF ANTISEPTIC DRESSING.

Editor Pharmaceutical Era:

In your columns of June 20 you discussed at some length "The meaning of percentage as applied to antiseptic surgical dressings." The question as presented was briefly: "Should percentage refer to the actual amount by weight of finished product? Or should it refer to the percentage composition of the solution used in medicating the dressing?"

Percentage as Based on the Solution, or, the "Vehicle" Idea

The advocates of percentage based on the strength of the solution claimed that a dressing dipped in a 10 per cent. solution and expressed, without reference to the weight or measure of the cotton or fabric used, was properly termed a 10 per cent. dressing, the cotton or gauze being merely "a vehicle for carrying the antiseptic," and "cutting no figure" in the calculation of antiseptic strength.

In support of this position you say: "In the first dressings the gauze or other fabric resembled the plaster cloth upon which a plaster mass is spread, or lint or other cloth upon which an ointment is smeared to apply to a wound. For instance, the carbolized gauze of the National Formulary consists of an ointment or plaster mass which is adhesive and more or less fatty, which contains a definite percentage of carbolic acid, and which is, by the means of heat or by the use of an alcoholic solvent, distributed over the surface of the fabric or gauze used. The percentage really applies to the mass or mixture. This is of a definite strength."

Now, of what does this "plaster mass" of the National Formulary consist? The formula given by this work for carbolized gauze is as follows:

"Resin in coarse powder. 40 parts
Castor oil .... 5 parts
Carbolic acid .... 10 parts
Alcohol .. ..225 parts
Gauze muslin a sufficient quantity."

Doubtless what you refer to as the "plaster mass" represents the resin, castor oil and carbolic acid, although they are not directed to be combined into a mass. The combined weight of these substances is 55 parts, of which the carbolic acid forms practically 18 per cent. This "ointment or plaster mass" you say is distributed over the *surface* of the gauze used.

In other words, the carbolized gauze of the National Formulary, according to the Pharmaceutical Era, consists of a gauze over the surface of which is spread a plaster mass containing approximately 18 per cent. carbolic acid, for you say, "the percentage applies to the mass or mixture."

Now, the National Formulary says: "The impregnated gauze, when dry, contains about 2.5 per cent. of carbolic acid."

This percentage *is not* the percentage of the imaginary plaster mass, for that would be about 18 per cent.

It *is not* the percentage of the solution in which the gauze was *immersed*, for that contains about 3½ per cent.

You will surely admit that *it is* percentage based on the weight of finished product.

This farfetched analogy involves calling belladonna spread plaster, belladonna muslin, and so many other strange things, that it is needless to go further.

Imagine a surgeon buying a 10 per cent. iodoform cotton in which the amount of iodoform has no reference to the weight of the "vehicle" cotton; or a 10 per cent. iodoform gauze in which the expensive medication bears no relation to the "vehicle" gauze. What can he tell of its value? The rules which circumstances compel him to apply in the extemporaneous bedside medication, he will never think of applying in the case of prepared dressings sold by pharmacists. These are not expected to duplicate the dressings dipped and expressed by hand. With any such expression as this, the solution would not naturally tend to concentrate at the bottom on standing, in proportion as the force of gravity overcomes that of capillarity. As to evaporation, sample yards of moist sublimated gauze, for example, were found to vary in total weight from 883 to 1,273 grains. Deducting weight of gauze, we have a variation in solution present of from 298 to 688 grains, showing how uncertain a thing water is to base percentage upon. Weights were taken before and after breaking the "hermetically sealed" glass packages so

there could be no loss of moisture in weighing.

The surgeon expects the pharmacist to replace the indefinite with the definite in surgical dressings, as was long ago done in the case of medicinal preparations. This going back to first principles and extemporaneous methods is retrogression. To state the strength of the solution as the strength of the dressing means nothing definite, as the degree of expression can easily influence the amount of solution retained by the dressing 100 per cent.

Percentage Based on Weight of Finished Product.

Throughout the domain of pharmacy, was the propriety of basing percentage on finished product ever questioned, except in this case of surgical dressings? Is there any case where 100 parts of a 10 per cent. preparation should not contain 10 parts of the article named? In reply to a letter from the writer, asking his views on the percentage question, Dr. Charles Rice said (April 26):

I have reason to know that the leading surgeons of New York City interpret the meaning of "percentage" in antiseptic dressings as I do—that is, they choose or designate dressings by what is in them, and not by what they were dipped in.

Rule for Expressing or Interpreting Percentage in Medicated Dressings.

The percentage strength of a prepared medicated dressing refers to or expresses the weight of a medicinal agent in 100 parts of the finished product calculated as being dry, or as having been dried as far as possible—that is, free, or assumed to have been freed from water, alcohol and other volatile solvents.

It is a very good plan, as you suggest, to express the strength also in grains per square yard or grams per square meter, but I think that this should not supercede the percentage form of statement, which is the most easy to pronounce, to write or to remember.*

Percentage on finished product applies to all dressings, cottons, lints, jutes, wools, oakums, gauzes, etc. In the case of gauzes, it is admitted that the weight of the gauze affects the actual amount of medication per yard. This is true by any standard, other things being equal. The charge "that gauzes prepared on the finished product basis are dangerously strong," is groundless, unless too heavy gauze is used. This is not the case with the old standard gauze weighing 1 ounce per yard.

A standard weight and count of thread in gauzes was asked for by the writer in the initial article of the recent discussion (March 25.) This question is one on which an agreement should be arrived at. It does not, however, involve the correct principle of calculating percentage, but has, of course, a decided bearing in establishing a uniform standard of weight per area.

Weight of Gauzes Used for Surgical Dressings.

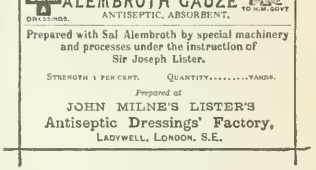
This question of gauze weight should be considered from the surgical as well as the dry goods standpoint. The writer has secured from London samples of gauze, plain and medicated, made according to Sir Joseph Lister's ideas. Lister's plain absorbent gauze, as put on the market, weighs about 220 grains per yard, and a medicated gauze put out under the label, of which a reduced photograph is here presented, weighs 224 grains per square yard.

The photographs herewith illustrate what a wide range exists in the weight of gauzes used for dressings.

1.
Hospital Supply Co., 226 grains per yard.
2.
Lister's (plain), 220 grains per yard.
3.
Lister's (Alembroth), 224 grains per yard.
4.
Seabury & Johnson, 1 ounce per yard.
5.
Seabury & Johnson, as pictured by others, "436" grains per yard.
6.
Johnson & Johnson, 585 grains per yard.
7.
National Formulary, 785 grains per yard.

It will be noticed that the weight of thread varies as greatly as the count; thus, Nos. 2 and 3 nearly agree with No. 1 in weight, and with Nos. 4 and 5 in count, the thread being very fine and light.

With this wide range, manufacturers whose goods go to all parts of the world may well occupy a middle position. The old ounce-per-yard standard seems a natural and happy medium, in the absence of any general agreement and pending a final decision as to what is preferred by surgeons, from considerations of drainage, etc. No. 4, for instance, will figure as much medication per given area on finished product basis as a much heavier gauze, if strength is based on weight of



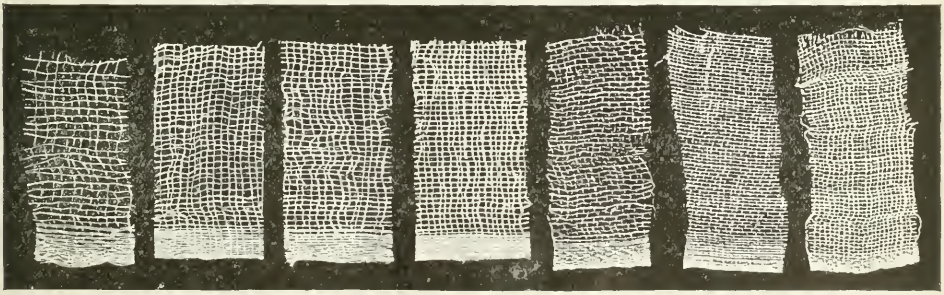
gauze and medication only, glycerin, etc., excluded in the latter calculation. The photographs 2, 3 and 4 have been added to the remainder of the series previously published. The illustrations do not fairly represent the weight of thread, particularly in the case of 1 and 5, but will answer for rough comparison.

Valuation.

The occasion for all this discussion was the actual state of affairs disclosed by numerous and repeated assays of the antiseptic dressings of the market. The need of a clear understanding of the meaning of percentage designated on labels was apparent.

With labels which cannot be misunderstood, the pharmacist is in a position to verify statements by assay. One house has had reprinted the contributions from its laboratories to this branch of analysis, and offers them free to any who apply.*

The determination of iodoform by distillation with steam has proven very satisfactory. The ether test, as fully explained,† is not applicable in cases where other ether-soluble substances than iodoform are present. (It requires thorough treatment to extract from glycerin combinations, but thorough treatment is admissible.) Its great defect is the *overrating* of gauzes containing oils, resinons



1 2 3 4 5 6 7

* Dr. Rice's letter appears in full in the American Druggist, May 25, p. 305.

* Tests and essay. Processes for Surgical Dressings. Reprinted contributions to the Pharmaceutical Press from the Seabury Pharmical Laboratories. East Orange N. J.

† C. E. Parker, Ph. C., Druggists' Circular, Nov., '94.

matter, etc., soluble in ether. In such cases the iodoform may be treated with silver nitrate, and the iodine estimated as silver iodide by Greshoff's process.‡ While the ether process may be used for rough comparison, the steam process should be used for accurate valuation.

So far as iodoform dressings, deficient in iodoform and colored with a yellow dye, are concerned, these, as found both in Germany and this country, have received such notices in the press as to need no comment here. The ether test serves in detecting the dye, which in cases reported is nearly insoluble in ether, it being practicable to remove the iodoform and leave a plain yellow dressing.

It may be said in closing that efforts toward elevating standards and improving the condition of the market merit co-operation rather than discouragement.

There has been a marked improvement in both labels and dressings since the beginning of the percentage discussion, which, while tiresome, has thus largely accomplished its purpose.

S. W. WILLIAMS.

East Orange, N. J., Sept. 27.

‡ See Pamphlet alluded to, or Druggists' Circular, Nov., '94.

Mr. Tyrer on Technical and Trade Union.

Mr. Thomas Tyrer addressed the students at the recent opening of the chemical laboratory of the Carpenters' Company's Institute, at Stratford, England. Mr. Tyrer, says Chem. & Drug., impressed upon his audience the importance of not being deluded into the belief that they were chemists because they had heard a few lectures, seen a few experiments, probably made still fewer, and had passed the science and art examination of South Kensington. One of the most irritating things which he experienced was to find men who applied to him for situations as chemists give quite a long list of what they had done, and, upon actual trial, proving themselves rather worse for practical purposes than those who had learned nothing of chemistry. He thought that nothing less than five years' study would suffice to produce a chemist worthy of the name, and if the students intended to turn the knowledge placed within their reach at the school to good account they must regard the object of the instruction as they ought to look upon the teaching of history—as a means of helping them in the intelligent performance of their duties as workers; but whatever their aims, they should not forget that a man might work a lifetime and then find he knew but little. Mr. Tyrer also referred to the position which trade unions ought to occupy toward technical education. The trade union system, he said, made one man as good as another, the worst equal to the best, and the best no better than the worst as regards remuneration, thereby taking away men's incentive to put their faculties to the best use. He believed that the best use trade unions could make of their funds would be to support technical education, and that they ought to graduate their members according to experience. It ought to be possible for an employer to go to a trade union bureau and ask for a first, second or third rate worker, and at the same time obtain, with that guarantee of efficiency, a guarantee of the personal character of the person in want of a place. If trade unions adopted a line like this they would meet with wider sympathy and be engaged in a better warfare.

(Written for the Era.)

THE FAMOUS HOLLIS POISONING CASE.

Being a Detailed Account of the Tragedy and of Druggist Ayer's Connection with it.

By HOWARD FIELDING.

Synopsis.

[The facts in this case, as stated in the preceding number of the Era, may be summarized as follows: A Harlem druggist named Mallory, having married a fortune, had retired from the active management of his store and had put one of his former assistants, Dr. Willis Ayer, in charge. Dr. L. M. Stanley, a friend of the young druggist, came into the store one evening and inferred Ayer of the death of Stephen Hollis, a wealthy and eccentric old man, well known in the neighborhood. Dr. Barker, who with Dr. Stanley had been present at Hollis's death, followed Stanley to the store and the two had a conversation, a part of which was overheard by Ayer. Barker asserted that Hollis had died of poison; Stanley insisted that he had succumbed to a form of paralysis. Edward Hollis, nephew and heir of the deceased, chanced to overhear Barker's charge. He exhibited strong emotion, which was observed by Ayer and attributed to guilt and fear. Edward Hollis confronts Barker and asks for proof of the poisoning. Barker is reticent. Subsequently Ayer and Stanley, by questioning a servant in Hollis' house, learn that Barker had found in young Hollis' room a bottle supposed to contain morphine. They believe that that is the basis of his suspicions. On the following day Dr. Jordan, an oculist, calls at Ayer's store and asks for a solution of eserine which he had ordered some days before. Ayer goes to get it, and takes from his case, by mistake, a bottle containing liquor strychniæ.]

III

NEWSPAPER GOSSIP.

Dr. Ayer's poison case was just like a thousand others, being simply a little cupboard with shelves for bottles. He preserved an alphabetical arrangement, and was rather more than ordinarily careful and methodical in all things relating to the preparation and use of toxic agents.

It surprised him greatly to find that he had taken the wrong bottle out of the case, but he did not at first refer the occurrence to any transposition. It flashed across his mind that he had made a mistake because of the awkwardness of his position in reaching around the partition.

He took the bottle of liquor strychniæ from Dr. Gordon, and went behind the partition where he could get at the poison case more handily. He immediately discovered that the solution of which he had been in search occupied the position of the liquor strychniæ.

Hastily glancing over the case, he saw that it was otherwise in order. He was somewhat annoyed by the error, but it seemed to be trivial, after all. There was no reason to suspect that anything serious had resulted from it. The incident affected his mind merely because he could not understand how it had occurred.

He was perfectly certain where he had put the physostigmine in the case. The preparation of it had been an unusual matter, and he remembered with perfect distinctness every detail connected with it.

Dr. Gordon had designed to use it for experimental purposes, and had given certain directions regarding it, among them being the request already alluded to, that the druggist should hold it till the oculist brought a special vial for it, in which for some reason of his own, he desired to take it away.

The solution was physostigmine sulphate, 4 grains to the ounce, a somewhat unusual strength. Ayer had prepared it accordingly, and, as has been told, had put it into one of the regular stock bottles, to which, of course, a special label had been affixed.

After Dr. Gordon had gone away, Ayer made some inquiries of his assistant, a young man named Everett, but learned nothing that could have any bearing on the transposition of the bottles, except that the case had been dusted out about three days before.

Dr. Stanley called Ayer's attention away from the matter, and it passed from his mind.

"In regard to Hollis," said Dr. Stanley, "the case is now beyond my control, of course. There will be an investigation, and Barker will probably figure as prominently as he can desire. It will be a nuisance to me, but otherwise I don't care, except that I am always sorry to see the relatives of a dead man subjected to such annoyances."

The two men discussed the affair for a few minutes, with especial reference to what they had learned from the servant on the previous evening. The doctor scouted the idea that morphine had been used.

It was agreed between them that they would say nothing to indicate that they knew of Dr. Barker's detective work. He could be relied on to give out all the facts that were necessary for the information of the authorities.

As a result of the rumors which Hollis' death had caused, an official investigation was ordered. The facts as they developed from time to time became known to Ayer. He learned that Edward Hollis had not attempted to oppose any obstacle to the investigation.

The young man came to the drug store frequently. He seemed to regard Ayer as the only person with whom he could talk freely. He regretted that the plan which Dr. Stanley had suggested could not have been carried out. It would have saved a scandal. But he admitted that since the newspapers had taken up the case, it was best that it should be entirely in the hands of the authorities. In accordance with his agreement with Dr. Stanley, Ayer did not question Hollis about his possession of the substance supposed by Barker to be morphine. He decided that there would be time for that after the post mortem.

Meanwhile the druggist observed with regret that Hollis was under police surveillance. A detective was always at his heels. At first Hollis seemed not to notice this, but afterward he discovered it, and was greatly annoyed.

Stephen Hollis' will was read, and its provisions were published. Edward and his mother were the principal heirs; the tragedy had made them rich. The comments upon the case did not fail to lay stress upon this fact.

One evening Dr. Stanley came into Ayer's store looking especially cheerful.

"The chemist's report is in," he said when he had led Ayer into a corner. "What do you suppose he found?"

"I hope it wasn't morphine," said Ayer.

"No, it wasn't morphine, and it wasn't atropine, and it wasn't anything else," said the doctor, rubbing his hands. "The result was entirely negative. There was no trace of poison."

"I'm mighty glad to hear it," rejoined Ayer. "This clears Hollis, and rather puts our friend Barker in a hole. I suppose the case will be dropped now."

"Undoubtedly," said Stanley with evident satisfaction.

But the case was not dropped. On the contrary, it speedily assumed a new and alarming phase.

When Ayer picked up his morning paper on the following day, he found a long and very interesting article on the Hollis affair. It was so very interesting that the druggist's pulse went up to about a hundred before he had finished reading it.

It was evident that the writer had secured all the essential facts regarding the medical and chemical examination of Stephen Hollis' body. He also seemed to know everything that had occurred at the time of Hollis' death.

It was evident that the writer was not ignorant of medicine, and that he had a considerable, if not a very accurate knowledge of poisons.

He began with the bold announcement that there was a certain poison which would have produced death in the manner of Hollis's, and would have escaped detection in the post mortem examination. There was no accusation that anybody in particular had used such a drug. It was not even asserted that it had been used at all. But there was an agreeable intimation that a person situated as Edward Hollis had been, would find the drug in question very useful in accelerating the departure of a rich relative to the other shore.

Then followed an entertaining description of the calabar bean, with which the natives of Africa were said to have amused themselves from time immemorial. It had been found very useful by them in the trials of criminals which, in the tribe in question, were conducted by the priests.

The advantage of the bean in the department of justice was that it would convict or acquit, as directed by the court. Not only that, but it would conduct the execution as well.

All that was necessary was a proper regulation of the dose. An extract of the bean prepared by the simple chemistry of the savages was administered to the criminal as a test. If he lived, he was innocent; if he died, he was guilty, and nothing remained for the court but to order a proper disposition of the remains.

In order to make the test perfectly fair, the priest who acted as prosecutor partook of the drug with the accused. Only the priest was careful to take a large overdose, which made him sick, but did not kill him.

The accused, however, was given a proper amount, if it was intended to get him out of the way. If, on the other hand, he was a person of "influence," he was protected in the same manner as the priest.

From this historical consideration of the subject, the writer passed to its scientific aspect. The calabar bean had been borrowed from the savages for the uses of civilization.

It had been subjected to chemical treatment, and had eventually yielded up an alkaloid known as eserine. In describing the poisonous quality of this substance, the writer exhausted the resources of a very active imagination, although, as a matter of fact, exaggeration was hardly necessary.

Quoting from an authority on the subject, he said:

"The most pronounced symptom of poisoning with eserine is a general progressive failure of muscular power, which affects all portions of the body, and increases until the victim dies of paralytic asphyxia. Along with this symptom occur muscular tremors, diminished reflex action, and contraction of the pupil, and some cardiac disturbance. Neither consciousness nor sensibility is affected until death approaches.

"The heart appears to be somewhat variously affected, sometimes acting irregularly or tumultuously, and sometimes less frequently. The palsy and loss of reflex activity are due to a depressant action upon the motor tracts of of the spinal cord; the brain, sensory tract of the cord, and the nerve trunks not being affected by the poison. The muscular twitchings are the result of a direct influence upon the muscles themselves, although the poison acts much more powerfully upon the spinal centers than upon the heart; the latter viscus does not escape its influence."

The article then passed to the uses of the drug, the principal one depending upon its action on the eyes. Applied directly, it causes great and lasting contraction. It also produces disturbance of accommodation, by virtue of which distant objects become indistinct, seem nearer, and are apparently magnified. These results are also noted when the poison is taken internally.

In fatal quantity, judging from experiments with the lower animals, the contraction of the pupil is succeeded by dilation at the moment of death.

Passing from this general discussion of eserine to the special case of Stephen Hollis, the writer proved to his own satisfaction that the symptoms might easily have been mistaken for those accompanying death from the form of paralysis with which Hollis was known to have been afflicted.

In particular, he called attention to the phenomena which had been observed in the patient's eyes, leading to a theory that two contradictory poisons had been used, one causing contraction and the other dilation of the pupil. It was shown that eserine would account for both these effects.

Its discovery in the body of the victim was not to be expected, the writer asserted, especially as its presence was wholly unthought of. The dose was doubtless very small, an extremely minute quantity being sufficient to insure death in the case of a man afflicted as Stephen Hollis had been.

And so the writer went on, piling up details with great ingenuity, and accounting for any inaccuracies by the difficulty of explaining so technical a subject to the readers of a newspaper.

When Ayer had finished that article he was in a high fever. He went back and looked at his poison case, and it seemed to be inhabited by devils. But he pulled himself together, and took up a large volume containing his prescription records.

There he learned that he had prepared for Stephen Hollis on Dr. Stanley's prescription, the following solution:

℞
Liq. Strych. B. P.... ..... ℥ii
Quin. Bisulph..... ..... ʒii
Glycerinæ..... ...ʒss
Aquæ, q. s..... ..ad ℥iv
M. et sig:—
℥i t. i. d. in H_2O.

This Dr. Ayer had prepared on the day preceding Hollis' death. The eserine solution had been in his poison closet at the time.

Had he committed the incredible folly of substituting the eserine solution for the liquor strychniæ?

Was that the fatal meaning of the transposition of the bottles which he had discovered?

(To be continued.)

Animal Charcoal as a Pill Excipient.

By Señor Evielé.

The dispensing of pills containing creosote, croton oil, etc., is one of the most important operations which present themselves to the pharmacist, and the processes published sufficiently indicate how much this question occupies the attention of every dispenser jealous of the faithful discharge of his professional duties. Animal charcoal exhibits, as regards creosote and croton oil, a considerable absorptive power. With creosote it is moreover absolutely necessary to use some inert substance capable of binding the pill mass; with croton oil this is unnecessary.

1. Creosote pills containing 5 centigrams in each. Place in a mortar about 2 grams of animal charcoal, pouring on to the powder a gram of creosote, or, better, 43 drops measured by the regulation pipette, stir quickly until a soft paste is obtained indicating that all the creosote is not entirely absorbed. Add little by little more animal charcoal (about 0.60 gram) until the mass is converted into a moist powder not adhering to the pestle nor to the mortar. The creosote now forms with its excipient a powdery mixture which binds beautifully on the addition of 0.20 to 0.25 gram of Venice turpentine. Beaten together quickly a pilu-

lar mass of perfect homogeneity and plasticity is produced, which, when cut into twenty pills, soon sets satisfactorily.

2. Croton oil pills containing 5 centigrams each: Croton oil, 49 drops. Animal charcoal, enough to make twenty pills. For these it is not necessary to use Venice turpentine, as the mass is easily made and rolls well on the machine.

3. In the case of a more complicated formula in which, for example, the creosote is associated with tannin and iodoform, animal charcoal will be found again very useful, as in the following prescription, which is very often met with:

Beech creosote .....1 gram
Tannin (prepared with ether) .....1 gram
Iodoform .....1 gram
Make twenty pills.

To quickly get a satisfactory and smooth mass, first absorb the creosote with animal charcoal as previously directed, add the tannin and iodoform triturated together, mix well, and mass with Venice turpentine.

Pills thus prepared may be sent out rolled in magnesia, silvered or varnished with tolu varnish, which latter helps to mask the caustic taste of the creosote, although the animal charcoal does this to a great extent.

Animal charcoal enables one also to dispense creosote and similar medicines in the form of cachets, as in the two annexed prescriptions:

1. Cachets of creosote of 20 centigrams each:

Beech creosote .....2 grams
Animal charcoal .....5 grams
Mix intimately and divide into ten cachets.

2. Cachets of Venice turpentine of 50 centigrams each:

Venice turpentine .....5 grams
Animal charcoal .....5 grams
Mix and make ten cachets.

One can thus see that these substances hitherto only sent out in capsules, perles or boluses, may be prepared by the pharmacist himself at his own dispensing counter, and by this means he will be able to send out an accurately dosed and prepared remedy of whose quality he has previously satisfied himself. (Revista Farmaceutica Argentina, Phar. Jr.)

HOW TO FIT UP A SMALL LABORATORY.

Below is the solution of a problem, indicated in the title, which has worried many an embryo chemist and pharmacist who desires to enter upon the study of practical analytical chemistry. It is adapted from a paper in the Pharmaceutical Journal:

Of all the subjects with which the pharmaceutical tyro becomes acquainted on commencing his studies, it may safely be said that practical chemistry is the one which has most charm. In many cases it is with some hazy notion that a chemist divided his time between handing soap and scent across his counter and causing mild explosions in his back shop, that a youth decides to become a member of the pharmaceutical calling, and finds his Utopian dreams quickly dispelled. However that may be, the average apprentice having read and haply digested the first principles of chemistry, generally avails himself of any facilities that his surroundings afford for putting precept into practice.

Fortunately there are at the present day so many opportunities for joining classes in chemistry that there is but little excuse for an apprentice who does not at an early period in his pharmaceutical career lay hold of a grounding on which may be based a chemical training which will not be limited by the requirements of the examination schedules. It has been proven times without number how helpful the preliminary work is to a student when he goes through a systematic course of instruction previous to the examination, and it gives him an immense advantage over those who rely upon a few months' cram to get through the ordeal successfully.

Generally speaking, employers at the present day are fully alive to the duty which they owe to their apprentices in respect to affording opportunities for study or attending lectures, and some even go further than this and pay the fees for their instruction. Those who are thus happily situated are not concerned by these remarks. On the other hand, there are many who have no other chance of obtaining an insight into practical chemistry than can be obtained by fitting up a laboratory for themselves. Individual circumstances will decide whether this is to be on the business premises or at home. A place can often be found in the warehouse or laboratory, but a student will probably prefer to have it fixed up at home, and if he can manage to overcome the objections of the "powers that be" and successfully convince the neighbors that the "drains are up" when the manufacture of sulphureted hydrogen is in full swing, well and good. It may be taken for granted that a spot will be chosen within easy access of the water-tap, and if gas can be had so much the better. The question of apparatus then comes in. We will presume that the student is already familiar with the properties of the common elementary gases, having either prepared them or seen it done. He now wishes to take up the practical work at the metals and their salts.

The cost is the first consideration, and fortunately this is not nearly so serious a matter as it was a few years ago, as prices generally are 30 to 40 per cent. lower. There is, therefore, no necessity for soda-water bottles to be utilized as test tubes, as we knew a now well-known pharmacist to do in his student days. In addition it will be noticed that many of the dealers in apparatus afford every facility to the student in equipping him with sets of apparatus at very moderate prices, and some of their suggestions have been utilized in drawing up the under-mentioned preliminary list, every item in which may be regarded as indispensable:

Apparatus.

One Bunsen burner (or spirit lamp); three feet India-rubber tubing; two dozen test tubes, 6 by ¾; one test-tube stand, with pegs for 12; one test-tube cleaner; one blowpipe; one asbestos and iron-wire gauze, 5 by 5; six inches platinum wire; one square inch platinum foil; three beakers, Nos. 1, 2, 3; one wash-bottle; one dozen litmus books; one retort stand, 2 rings; one sand-bath, 6 inches; one tinned wire tripod stand; one test-tube holder; one 8-ounce flask; one 4-ounce flask; one 2-ounce beaker; one 4-ounce beaker; one 3 inch funnel; one acid funnel; half a pound glass tubing; half a pound glass rod; crucible tongs; two feet India-rubber "feeding-bottle" tubing; one evaporating basin, No. 0; filter papers, 4½ inches; one rat-tail and one triangular file; one pipe clay triangle.

This list calls for little comment, but the expenditure can be brought well within $5. It will be noticed that a test-tube cleaner is mentioned. This is not the ordinary brush, which is simply an abomination and generally breaks more tubes than it cleans, but a flat piece of india-rubber inserted in a slit at the end of a wooden handle, which will be found to answer capitally. The asbestos and iron gauze should certainly be used in place of the ordinary thin wire material. It will last for any length of time, and there is no fear of cracking a beaker or flask on it. The wash bottle can be brought fitted with cork and tubes, but it will be better to do the cork boring and tube bending one's self. A piece of flannel is best stitched round so as to protect the fingers when used for boiling water. A sand bath has been included, since it is only a question of a few cents, but as a matter of fact the top of an empty enameled tin can be used equally well. The test-tube holder is the wooden variety with india-rubber spring.

Do not buy polished steel crucible tongs. They look very nice for a day, but their glory soon fades, and they are covered with rust. A brass pair can be had for a trifle extra, and are far preferable. If it be thought worth while, the pipe-clay triangle can be made equally as well as bought, a yard of wire and a couple of clay pipes supplying the materials. There will no doubt be many who will be wishful to go in for a more elaborate outfit than this, but generally it will be found sufficient for preliminary requirements, at any rate. It may, however, be noted that should the student wish to make the elementary gases he will also need a pneumatic trough, a few gas collecting bottles and stoneware trays for the same. With regard to reagents, the majority of students will be able to obtain most of the chemicals they need from the pharmacy at which they are engaged. It is not advisable to go in for too expensive a range of solutions at first, it being preferable to prepare just those which are certain to be used, and keep small quantities of the ones only occasionally required in the solid state. The liquids will, of course, be kept in stoppered bottles. In fact, the prices for bottles are now so reasonable that many will be disposed to keep the solid in stoppered bottles also. It is mistaken economy to try and make corked bottles serve for some of the liquid reagents; of the latter the following will be required:

Hydrochloric acid, strong; sulphuric acid, strong; nitric acid, strong; acetic acid, strong; ammonium hydrate, potassium hydrate; sulphureted hydrogen water; ammonium chloride; ammonium sul-

phide; ammonium oxalate; ammonium carbonate; ammonium acetate; sodium phosphate; barium chloride; calcium chloride; ferric chloride; silver nitrate; lead acetate; ammonium molybdate; stannous chloride; potassium ferrocyanide; potassium ferricyanide; potassium chromate; calcium sulphate.

With regard to the above, it will readily be seen that the cost is not very serious. The first six on the list are of every day use in the pharmacy. The cheapest form of sulphureted hydrogen apparatus would cost about 60 cents, but a perfectly satisfactory one can be made with a couple of 1-ounce ordinary wide-mouth bottles, one of which can be fitted with the acid funnel, and a bent tube to pass the gas into the wash bottle, and another tube thence into the reagent bottle. Do not buy the iron sulphide in lump; it can be had in broken lengths convenient for use. The same apparatus can, of course, be used for preparing the ammonium sulphydrate solution. It is hardly necessary to advise the student to economize his silver nitrate and save the residue from silver precipitate. Ammonium molybdate is best made in the following proportions: Ammonium molybdate, 6; nitric acid, 1.4 s. g., 50; ammonia, .96 s. g., 40; water, 40. Dissolve the salt in the ammonia, and decant into the acid until the precipitate at first formed disappears. Stannous chloride is not stable in aqueous solution, so should be dissolved in hydrochloric acid. We may here note that a very satisfactory book for students in practical chemistry is Bloxam's "Laboratory Teaching," a new edition of which was issued last year. It gives many useful hints on apparatus and directions for the preparation of solutions, in addition to the ordinary matter, and will well serve for introductory work. Those who do not care to go to the trouble of writing the labels for the bottles and varnishing them themselves can buy them in books containing many duplicates at 18 cents the book. Of chemicals, the following will be required at the outset:

Two ounces of each of the following:

Sodium carbonate; ammonium chloride; ammonium carbonate; magnesium sulphate; tartaric acid; sodium phosphate; fusion mixture; manganese dioxide; potassium chlorate; sodium bicarbonate; copper turnings; granulated zinc.

One ounce each of the following:

Potassium ferrocyanide; potassium ferricyanide; barium chloride; potassium chromate; calcium chloride; citric acid; sodium hyposulphite; zinc sulphate; borax; potassium nitrate; copper sulphate; alum; sulphur; copper foil.

One-quarter ounce of each of the following:

Silver nitrate; bismuth nitrate; cadmium chloride; chromium chloride; gallic acid; tannic acid; turmeric; iodine; platinum chloride; nickel nitrate; manganese sulphate; strontium nitrate; benzoic acid; fluor-spar; phosphorus; copper oxide.

Eight ounces of each of the following:

Ether, methylated; alcohol, methylated; lump charcoal; iron sulphide.

As to the cost of the reagents and chemicals, the bottles really constitute the greatest expense, with the exception of a few of the chemicals. Approximately the cost would be about $10.

The Practical Utilization of the Metric System.

Some amendments are requisite to render the metric system more acceptable to the general public, including the illiterate, and to adapt it to the people's wants and customs.

First. The system should be presented simply as having been unanimously adopted at an international convention of scientists held in Paris at the close of the last century. It has since been legalized by nearly all governments, including Japan and the twenty-eight treaty ports of China, and all are provided with exact copies of the standards in Paris. It has not yet been made compulsory, however, here, in Great Britain or Russia, but it no doubt will be in time.

Second. The polyglot titles should be dropped and their respective initials substituted. Thus, the capital letters K, L, M, A, S would serve as indeclinable symbols—precisely like the symbol $. The fractions or hundredths to be designated by a small c, in the same way that cents are now designated by cts.

Third. The unit for commercial weights should be K, as harmonizing with its fluid equivalent L. This plan has already been adopted by the Government of British India.

Fourth. The notation should conform exactly to that of our currency—that is, rather centesimal than otherwise—and the units and hundredths should be designated by an upright line, on bills and invoices, as $ and cts. are. This is shown in the appended example:

K	2	50 Cheese	$0.40	$1.00
L	10	00 Kerosene	.25	2.50
M	4	25 Silk	2.00	9.00
A	1	25 Oilcloth	.50	.62
S	1	00 Broken stone	4.50	4.50¾
Kilom	1	00 Fences per M.	.40	400.00
T	2	00 Coal	5.40	10.80

These symbols would be intelligible wherever the metric system is known. They are preferable to such local names as fass, loth, pinta, stein, stoma, etc., adopted by various countries to facilitate the change from their respective old systems into the metric. It is a noteworthy fact that the most ignorant and illiterate compute their wages and make change with ease in our currency. That is the fundamental principle on which this plan of symbols and notation is constructed.

The Symbols.

The recollection of the symbols is aided by the association of ideas. Thus: K, the first on the list, is the key; M stands for measure; L for liquids; A for area; S for solids; Kilom for long measure (⅔ mile), and contains all three consonants, K, L, M; T for ton or thousand K; H A for hundred A (2½ acres).

The foregoing comprise all that are in any way requisite. Being pronounced kay, el, em, etc., they possess the brevity of the present titles, ounce, pound, quart, gallon, foot and yard.

No mention need be made here of the denominations used by professional men, as they have already adopted the abbreviations G., mg., cc., mm., though they omitted to contrive similar conveniences for the transaction of ordinary business.

The necessity of a universal standard grows more urgent daily. While we still adhere to the old (or Winchester) pint, quart and gallon, a different system, called the Imperial, has been adopted in Great Britain, so that those titles are misleading. They have made similar indefensible changes in the old standard apothecaries' weights and fluid measures. Moreover, when the Department at Washington lately sent to London to have its yard measure compared with the standard there, to define the discrepancy known to exist, it was found that the said standard, and the only one, was broken and worthless. So there is no yard measure now. British writers have characterized the state of affairs as "intolerable."

The Legal System.

The metric system being legalized, in fact, being the only one legalized in the United States, the question arises whether the government should not proceed and establish it with appropriate symbols. It might be well to require that after some date sufficiently remote, in all business between it and citizens, as in contracts, duties, taxes, etc., the metric system should be used, and that it should cease compelling importers translating their invoices into the present non-legalized system. A set of standards might be placed with each postmaster—allowing him to collect small fees for their use, under certain regulations.

Unreasonable people will complain of the expense entailed by a change. Beam scales and balances will not have to be altered, but the dials on spring scales will. Platform scales and steelyards will have sliding K weights instead of pounds.—E. L. Milhau, in Alumni Journal.

GOOD LIQUID GLUE may be made by dissolving gelatine in an aqueous solution of chloral hydrate.

——Here is the way an Aberdeen, S. D., paper talks about the druggists, by which it is seen that the liquor-selling druggist is not in very good odor in that section of country: "There are now nine prisoners in the county jail, nearly all of them because of crimes growing directly out of the rum traffic. These are hard times, and taxes are hard to pay. It would be cheaper for the taxpayers to send the druggists to jail. They are the worst class of criminals we have—for they are crime breeders. It is inhuman to rob a poor woman of the last article of personal property she has, as the county did Mrs. Evens, in order to pay policemen and sheriffs and to keep up jails for the benefit of the druggists. They are growing rich, while the taxpayers are growing poor. How long will the people trifle with these fellows? We not only permit them to rob the poor, but the county itself robs the widow and the orphan to pay for the results of their crime."

Thirty-two pages each week, 52 weeks, 1,664 pages a year of the freshest and most reliable information on matters pharmaceutical is what the Era gives you for $2.

PHARMACY.

RHINODYNE is a hay fever snuff, which has also found use in the treatment of cold in the head. It consists of bismuth nitrate, a cocaine salt, a little menthol, and about 40 per cent. of lycopodium.

FIRE AND WATER-PROOF COATING.—A French chemist seems to make a big claim for a coating material he has patented in his own country. He dissolves 45 parts of rosin in 100 of sulphide of carbon, and adds to this 45 parts of a silicate, either colored or not, according to the uses to which it is to be put. This gives a paint which is anti-oxide, fire and water proof, and resistant to acids and alkalies. As if this were not enough, it dries instantaneously by evaporation, and has a brilliant and unalterable surface.

PHARMACY AS A PROFESSION.—In an address at the opening of the School of Pharmacy of the Pharmaceutical Society of Great Britain, Prof. F. T. Roberts said, among many other good things: "Of course, the fact must be fully recognized that the pharmaceutical chemist cannot ignore the business aspect of his vocation, but I really cannot conceive of any one, because he is an 'educated pharmacist,' being ashamed of his business. Listen to your president's words: "There is nothing derogatory in standing behind a counter, however well educated you are, and dispensing medicines and dealing with people in an honorable and upright manner. I never was ashamed of my business, and I have never lost a jot in the social respect of anybody.' Never were truer words uttered, and they are full of downright common sense. I only wish they could be echoed far and wide in these days of social humbug and pretentious snobbery. And here let me say that, speaking personally, I certainly do not claim any abstract social superiority for the vocation of the medical practitioner over that of the pharmacist, or that there is any line of demarcation between them. Their relative position must very much depend on individual attainments, character and actions; and in my opinion the educated pharmacist may fairly regard himself as a 'professional man' if he acts accordingly, and 'carries out everything in a true professional spirit.' There is no reason whatever why every pharmaceutical chemist may not be competent to associate with, and be a fitting colleague for, the members of the medical or any other profession, both socially and scientifically, and it will mainly rest with you individually what position you take in these respects."

REMOVAL OF FACIAL BLEMISHES. G. H. Saltmarsh, in Boston Med. and Surg. Jour., says the process is very easy, requiring but little skill, and a comparatively inexpensive outfit, consisting of a galvanic battery, milliamperemeter, two conducting cords, a sponge electrode, needle-holder, needles and a pair of depilatory forceps. The patient should be seated or semi-reclining before a well-lighted window, holding in the hand the sponge electrode, previously moistened and connected with the positive pole of the battery. The operator, with the needle-holder in the right hand, introduces the needle into the follicle beside the hair until it has reached the base; the circuit is then completed. A few seconds' time is allowed, during which the forceps are applied by the left hand, slight traction is made, and if the follicle is destroyed no particular force is required to remove the hair from its bed. It is better not to remove several hairs that are in close proximity, but over a scattered area, as this will prevent the possibility of lighting up any inflammatory action. Usually from twenty to fifty hairs may be removed at one sitting. The eyes of the operator will tire of this somewhat trying process if continued too long, and the patient will, although suffering no pain, get restless. The current need not be stronger than three or four milliamperes. The removal or destruction of papillomatous growths and small nevi may be accomplished in much the same manner. The sponge electrode is held by the patient or placed firmly against some part of the body. A single needle of somewhat larger size than the one for the former work is used, or the double conducting cord with two needle-holders attached, and the latter seems preferable, especially if the base of the growth is of any considerable size, as one needle may be removed and reinserted while the other is doing its work, and the patient will hardly realize what is being done. The needle should enter at the junction of the growth with the healthy skin, or slightly beyond it, carried through and out at the opposite side at the same line. It should remain in position from twenty to forty seconds, or until electrolytic action is thoroughly accomplished. The number of punctures necessary will depend upon the size of the growth and strength of the current. The distance between them should be about one-sixteenth of an inch. From three to five milliamperes is sufficient for ordinary cases. The cicatrices remaining after this procedure are noticeably less than after the use of the knife. The total obliteration of the supplying vessels causes the immediate death of the excrescence if the operation has been carefully done, and in a few days the mass falls off, leaving a smooth, healthy tissue.

NEW REMEDIES AND CHEMICALS.

SEDATIN.—Synonym for antipyrin.

CHLORSALOL.—The salicylic acid ester of chlorphenol, analogous in action to salol.

CUPRATINE.—A compound of copper and albumin, analogous to ferratin, introduced by Filehne.

LEPINE.—An antiseptic mixture consisting of bichloride of mercury, carbolic, salicylic and benzoic acids, chloride of calcium, bromine, quinine hydrobromate, chloroform and distilled water.

ENTEROL.—A new German patent, advertised as a "physiologisches Antisepticum," but concerning the composition of which no information is given. It is exploited by Dr. Kade's Oranienapotheke in Berlin.

KRYSTALLOSE.—Name given by Fahlberg, List & Co. to their new sodium-saccharin preparation, or water-soluble crystalline saccharin. It is said to be absolutely free from all contaminations and to be more than 500 times sweeter than sugar.

RHINALGIN.—Suppositories to be stuck up the nose in case of colds and in treatment of catarrh, etc. Introduced and given this pretty name by one Thomella, who states that they are made of cacao butter, alumnol, menthol and oil of star anise.

SOLFINOL (also written solphinol).—A white crystalline powder, consisting of boric acid, borax and an alkaline sulphite, soluble in ten parts of water and twenty of glycerin. (We find the above in the Union Pharmaceutique. It is probably intended for sulphinol.)—(Nat. Dr.)

SOME NEW HANDKERCHIEF EXTRACTS.

The following are taken from the Seifensieder Zeitung, by Nat. Dr.:

Stolen Kisses.

Jonquil extract	1,000 parts
Orris-root extract	1,000 parts
Essence of ambergris	120 parts
Essence of civet	100 parts
Extract of cassie	500 parts
Spirit or rose, triple	500 parts
Extract of tonka bean	500 parts
Oil of citronella	6 parts

Mix. Said to be "herrlich."

Boquet D'Amour.

Extract of cassie	500 parts
Extracts of jasmine	500 parts
Essence of ambergris	125 parts
Extract of violet	500 parts
Essence of musk	125 parts

Mix thoroughly and filter.

"Tannendutt."

Oil of bergamot	5 parts
Oil of pine (edeltanne)	100 parts
Rectified oil of turpentine	3 parts
Alcohol	1,000 parts

Mix.

"Heuduft Bouquet."

Extract of tonka bean	1,000 parts
Spirit of rose, triple	500 parts
Extract of rose-geranium	480 parts
Extract of jasmine	500 parts
Extract of orange-flower	500 parts
Extract of rose	600 parts

Mix.

Flowers of Spring.

Rose pomade extract	1,000 parts
Extract of violets	1,000 parts
Essence of ambergris	60 parts
Spirit or rose, triple	150 parts
Extract of cassie	150 parts
Oil of bergamot	10 parts

Mix.

Esterhazy Bouquet.

Extract of vetivert	500 parts
Extract of violet	500 parts
Extract of vanilla	500 parts
Extract of tonka bean	500 parts
Extract of orange-flower	500 parts
Spirit of rose, triple	500 parts
Essence of ambergris	300 parts
Sandalwood oil	40 parts

Mix.

FROM ERA READERS.

Journal for the A. Ph. A. Commercial Section.

M. E. Shultz, Beatrice, Neb.—We learn that the literature of pharmacy is to receive an accession by the publication of a journal by a section of the A. Ph. A., not by advice or authority of that body, but by a section of the organization. It is true the A. Ph. A. has just closed a very successful session, when matters pertaining to the welfare of pharmacy were fully discussed, but I was unable to catch even a whisper that the society needed an organ, though I admit I was not present at all the meetings and may have missed this particular recommendation if it was discussed or acted upon. Now, I believe it wrong in principle to issue any publication in the name of an organization without consent. I see no object in assuming our name unless it be to gain prestige and give standing to the proposed publication. Again, I believe there is no profession or business (importance considered) that is as ably represented as is pharmacy, and if there is any one feature of the profession that has been fairly and magnanimously treated it is the national association. Its proceedings have been published in the minutest detail, its officers and prominent men have been complimented and no doubt gratified by observing life-size portraits adorning the pages, and enhancing the value, of the pharmaceutical press in all the land. They have been the slaves, as it were, of the association, and it would seem that it is scarcely fair treatment to begin an opposition journal. It is filling a "want that has not been felt" long enough to justify its issue. Busy druggists find among the existing drug journals about all the matter that limited time will allow them to digest, and among the list are editors and contributors of national reputation. If (when the high standard to which many of them have attained is considered) there is not a good showing we are much mistaken in the diagnosis of the case.

Another objection to this publication lies in the fact that it does not propose to admit advertisements, is not conducted for the purpose of revenue, and hence, sooner or later, must shut up shop and go out of business, as the philanthropist does not have the life expectancy that the money maker has, and in case of suspension for any cause the A. Ph. A. receives the odium which attaches to a failure, and without corresponding benefit.

I have ever been opposed to the appropriation of the name or prestige and standing attained by an organization by any part of itself without consent, and while I have no doubt this enterprise is entered upon in good faith by the gentlemen in charge, I think the association name should in no way be connected therewith except by its own action at a regular meeting.

The only weekly pharmaceutical paper in the United States is the Pharmaceutical Era. Comes 52 times each year, with latest information from professional, news and trade circles. Subscription $2.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Formula Wanted.

(N.) Veno's electric fluid?

Spirit Thymol Compound.

(A. E.) See answer to a similar query in last issue of the Era, p. 494.

Ink for Playing Cards.

(E. J. G.) Repeat your query and tell us just how you wish to use this ink.

Claims for Alcohol Rebates.

(H. M. H.) Your question has been answered a number of times in the Era. See issues of July 25, p. 113; Aug. 1, p. 145, and Aug. 8, 1895, p. 177.

Rattlesnake Oil.

(Subscriber.) In further reply to your query in the Oct. 10, 1895, Era, p. 462, H. E. Heebner, Lee, Mass., says that he can furnish a genuine rattlesnake oil, "no bogus."

To Prevent Silver Apparatus from Tarnishing.

(F. P. B.) Paint the articles or apparatus (warmed) with a solution of collodion diluted with alcohol. It dries immediately, leaving a thin, transparent, invisible covering on the silver, which can be removed at any time by dipping the article in hot water.

Kola Wine.

(B. F. W.) The Bull. Med. gives this formula:

Fluid extract kola....	30 parts
Tincture nux vomica..	10 parts
Malvoisie or sherry wine, sufficient to make	1,000 parts

Slow Burning Flash Light.

(S. H. G.) In further reply to your query in the Oct. 3, 1895, Era, p. 431, a recent issue of a technical journal states that a light lasting a certain period may be obtained by mixing powder of magnesium intimately with very dry sand. For use, the mixture is spread on wadding imbued with alcohol.

Photographic Developer.

(H. L. K.) The following is taken from a photographic journal:

Paramidophenol hydrochlorate	120 grains
Sodium sulphite, crystallized	1 ounce
Potassium carbonate..	1½ ounces

For use, dilute with from 3 to 5 volumes of water.

Error in the United States Dispensatory.

(J. F. B.) has discovered on p. 597 of the U. S. Dispensary that fluid extract of black haw is given as one of the common names for "extractum viburni opuli fluidum." This is an error. "Black haw" is a synonym for viburnum prunifolium and is so given on p. 1445 of the above work under that title. Fluid extract of cramp bark should have appeared in place of fluid extract of black haw" and the latter should be given under "extractum viburni prunifolii fluidum."

Salts in Alcoholic Menstrua.

(F. A. B.) In the prescription

Compound spirit of lavender	3 drams
Sodium chloride	1 dram
Potassium chlorate ...	2 drams
Water	2½ ounces

the alcohol of the spirit (compound tincture) tends to throw the salts out of solution because a mixture of alcohol and water is not so good a solvent for them as water alone. In this instance the salts are readily soluble if added directly to the water. Upon the addition of the compound tincture, however, a precipitation is likely to occur.

Storing Red Fire.

(Red Fire) asks if there is any danger in keeping the compound made from the following formula:

Strontium nitrate	16 ounces
Potassium chlorate	3 ounces
Powdered shellac	4 ounces

Fuse together.

Yes, there is always a risk in storing explosive and combustible substances, and we do not believe it a good policy to do it. Friction or a sudden shock may cause an explosion. This danger, Thoener has shown, increases with age, as the point of inflammation changes in time and becomes lower. Better make up your "colored fire" as you need it.

Bureau for Collection of Alcohol Rebates.

(H. M. H.) Yes, in Philadelphia the retail druggists have organized a bureau for the collection of claims against the Government for a refund of the tax paid on alcohol used in the arts and manufactures. Address W. Nelson Stem, or A. T. Pollard, 239 So. Eleventh street, that city, for information. In this city the New York branch of the Interstate Retail Druggists' League have a committee for a similar purpose. T. O. Morrison, 262 Eighth avenue, is the secretary. Besides these bureaus any number of attorneys throughout the country advertise to prosecute these claims. In this city Des Brisay & Allen, Corn Exchange Building, make a specialty of this class of work.

Stock Calomel.

(P. H.) "Stock calomel" is the name applied to a commercial commodity of questionable composition. Meyer Bros.' Druggist states that its sale seems to be principally confined to Texas, where the article is employed in the treatment of wounds on cattle. The article is evidently the outgrowth of the demand for a large quantity in return for a little amount of money without regard to quality. An investigation reported by the above journal reveals the fact that under the name of stock calomel the following mixtures are sold at prices in accordance with the composition: (1) Calomel, 1 part; white lead, 3 parts. (2) Calomel, 1 part; white lead, 7 parts. (3) Calomel, 1 part; flaxseed meal, 1 part. (4) Calomel, 3 parts; white lead, 2 parts.

(5) Calomel, 1 part; sugar, 1 part. We do not know that a mixture of calomel and plaster of paris is sold under this name.

Quince Seed Lotion.

(D. H. J.) Dissolve 4 grains boracic acid in 8 ounces water; bruise 1½ drams quince seed and macerate in the solution for three hours; strain and press through cloth; add 2 ounces glycerine, 10 grains carbolic acid, 2 ounces glycerite of starch, and mix thoroughly. Then mix 2 fluid drams of cologne water, 20 drops oil of lavender and 3 fluid ounces of alcohol, add to the mucilage and again mix thoroughly. Finally, make up with water to 1 pint.

(2) Prepared by simmering 1 dram of quince seed in 1½ pint boiling water for ten minutes, straining the mucilage and mixing one part with one part of inodorous glycerine and six parts of orange flower or rose water. A little borax may be added, if desirable.

(3) Macerate 2 ounces of quince seed in 4 pints of rose water for 24 hours, strain, and add 2 pints of glycerine and 2 ounces tincture of benzoin.

Liqour Kalii Chlor. Ethereal Comp.

(F. M. W.) The German Pharmacopœia gives no official preparation under this title, nor does any German author whom we have consulted give a formula for a mixture composed of ethereal tincture of chloride of iron, syrup of myrrh, glycerin, saturated solution of potassium chlorate, water, etc., under the above title. The formula has all of the earmarks of having been written by a German physician for diphtheritic sore throat. Hager's Pharmaceutische Praxis gives the following similar formula:

Potassium chlorate..	5 parts
Dissolve in	
Distilled water	150 parts
Then add	
Ethereal tincture of chloride of iron....	5 or 10 parts
Syrup raspberry.....	25 parts

Teaspoonful every hour.

A formula for ethereal tincture of chloride of iron identical with that of the German Pharmacopœia may be found on page 143 of the National Formulary.

Mel Opii.

(F. P. B.) There is no official preparation by this name. The U. S. Pharmacopœia of 1860 and 1870 contained a preparation of opium with honey under the title "Confectio Opii." The formula reads:

Take of opium, in fine powder, 270 grains; aromatic powder, 6 troy ounces; clarified honey, 14 troy ounces. Rub the opium with the aromatic powder, then add the honey, and beat the whole together until thoroughly mixed.

This confection was intended as a substitute for those exceedingly complex and unscientific preparations formerly known by the names of theriaca and mithridate, which have been expelled from modern pharmacy. The British Pharmacopœia contains a formula for confection of opium, which is made by mixing compound powder of opium, 100 grains, with syrup, 300 grains. The old London Dispensatory contained this formula:

Hard opium, powdered..	6 drams
Long pepper	1 ounce
Ginger	2 ounces
Caraway seed	3 ounces
Syrup	1 pint

Mix the opium with the syrup heated; then add the other ingredients powdered, and mix.

Prize Elixir.

(P. H. and others.) This formula was published in the Jan. 3, 1895, Era, but as that issue is out of print we repeat it here:

Oil orange (fresh)...	96 minims
Oil lemon	24 minims
Oil coriander	6 minims
Tincture vanilla, U. S. P....	2 fl. ounces
Tincture cardamom, simple	2 fl. ounces
Powdered chocolate (Hance's or Baker's)	2 ounces
Alcohol	32 fl. ounces
Syrup, simple	48 fl. ounces
Water (filtered through charcoal) enough to make....	1 gallon

Filter and clarify with purified talcum.

(1) Dissolve the oils in 8 fluid ounces alcohol, add 24 fluid ounces water and the balance of the alcohol; shake well.

(2) Dissolve chocolate in 6 ounces hot water, add the syrup, shake well, add the tinctures of cardamom and vanilla, and enough water to make one gallon. Filter through paper, on which about one ounce talcum has been distributed; return the first part until the filtrate is clear.

For additional remarks upon the preparation of this elixir see March 28, 1895, Era, p. 398.

Intensifying Negatives.

(A. L.) See June 6, 1895, Era, page 709. The following formula, under the title "Carbutt's Intensifying Solution," is taken from American Annual of Photography:

No. 1.

16 gm. Bichloride of mercury.	240 gr.
16 gm. Chloride of ammonium.	240 gr.
600 cc. Distilled water.....	20 oz.

No. 2.

16 gm. Chloride of ammonium.	240 gr.
600 cc. Water	20 oz.

No. 3. Cyanide-Silver Solution.

180 cc. Distilled water.....	6 oz.
4 gm. Cyanide of potassium, C. P...	60 gr.
60 cc. Distilled water.....	2 oz.
4 gm. nitrate of silver.....	60 gr.

Pour the silver into the cyanide solution while stirring, and mark bottle "poison."

Let the plate to be intensified be washed for at least half an hour, then lay it in a 5 per cent. solution of alum for ten minutes, and again wash thoroughly to insure the perfect elimination of the hypo. The least trace of yellowness after intensifying shows that the washing was not sufficient.

Flow sufficient of No. 1 over the negative to cover it, and allow to either partially or entirely whiten; the longer it is allowed to act, the more intense will be the result; pour off into the sink, rinse, and flow over No. 2, and allow to act one minute; wash off, and pour over or immerse in No. 3 until changed entirely to a dark brown or black. No. 3 can be returned to its bottle, but Nos. 1 and 2 had better be thrown away. Wash thoroughly and dry.

Here are some formulas for "gelatin dry-plate" intensifiers:

1. Whiten the negative in a saturated solution of mercuric chloride, wash and blacken with a solution of sulphite of sodium 1 in 5. Wash well. The reduction is perfect, with a positive black tone.

2. Dissolve 1 dram of bichloride of mercury in 7 ounces of water, and 3 drams of iodide of potassium in 3 ounces of water, and pour the iodide solution into the mercury solution till the red precipitate formed is completely dissolved. For use, dilute with water, flow over the negative till the proper density is reached, and wash, when the deposit will turn yellow. Remove the yellow color by flowing a 5 per cent. solution of hypo. over the plate, and give it the final washing.

3. After whitening in the saturated solution of mercuric chloride, as usual, treat with an old hydrochinon developer; the result is a bluish-black intensification, which is applicable to positives as well as negatives.

4. After mixing and washing the plate well, place it in a solution of

Bichloride of mercury..	10 grains
Chloride of ammonium.	10 grains
Water	1 ounce

for a few seconds, until it bleaches. Then wash and place in a bath of cyanide of silver until it blackens, made as follows:

Cyanide of postassium.	2 ounces
Distilled water	48 ounces
Nitrate of silver.....	1 ounce
Distilled water.....	6 ounces

Pour the silver solution gradually into that of the cyanide, stirring with a glass rod. The quantities given are about right to form a precipitate which will re-dissolve afterward. To be used when a few days old.

"HEMICRANINE" is described by its introducers as a mixture of 5 parts phenacetin, 1 part caffein and 1 part citric acid; recommended in 5 grain doses for neuralgia, hemicrania or migraine, headaches, etc.—(Notes on New Remedies.)

MOLASSES AS FUEL.—Mr. A. Penn Wirt, Lancaster, Pa., has been experimenting with coal dust and other waste fuel, and believes that he has discovered a process that would utilize the Louisiana molasses now unsalable. Mr. Wirt believes that with coal at $3 per ton, a compound solid fuel, with molasses and other waste products as its component parts, could be profitably made in Louisiana.

Manufacturers and jobbers when in need of good salesmen will find that a "Want Ad" in the Era will bring them many good replies. Try it, two cents a word.

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FREE ALCOHOL.

The brief recently filed by Sharp & Dohme, in their case before the Court of Claims for rebate on alcohol used in manufacturing. presents several new views, and among them one that Section 61 is mandatory in its character so far as the framing of regulations by the Secretary of the Treasury is concerned. It is argued that "the word 'may' in the statute makes it optional with the manufacturer to abide by the regulations, and obtain the rebate, or to disregard them, and thus relinquish his right to the rebate. But the Secretary has no such option. The words 'to be prescribed by the Secretary of the Treasury,' clearly imply that it is his duty to prescribe regulations, and what is implied is as much a part of the statute as that which is expressed."

Decisions of the U. S. Supreme Court are also quoted to show that whatever public officers are empowered by statute to do, even though the language be permissive in form, shall be done whenever public interest or individual right calls for its performance. The Campbell case referred to in the Era of Jan. 17, is also cited to show that the rights of claimants to sue the government are not prejudiced by the failure of the Secretary to formulate regulations.

The contention of the Secretary that the section contains no reference to an appropriation for carrying out the provisions of the law, is met by the view that Congress in passing the law with no reference to an appropriation, expressed its judgment that such was not necessary, and by its reference to certain duties to be performed by district collectors of internal revenue, the inference is that the enforcement of the provisions of the law were intended to be carried out by the present existing force of the Internal Revenue Department.

Unhorsed by a Pharmaceutical Lance.

St. Paul, Minn., Oct. 18.—Once more has a dispenser of drugs emerged from a battle in triumph largely because the spirit of right, if not of righteousness, "fit" for him. It is C. G. Le Blond, of Chamberlain, S. D.—a Le Blond whose character his enemy tried in vain to make brunette. And a peculiar, if not unprecedented, battle it was, too. Le Blond is not only a druggist in good standing—honor enough for this world of Jumbo hopes and Tom Thumb realizations—but a member of the school board. For some reason best known to himself, and no doubt "good and sufficient," Mr. Le Blond successfully opposed the re-election of a Miss Morrow as a teacher in one of the public schools. This lady's father is "Judge" C. C. Morrow, who at the time of this incident was United States Commissioner. He straightway swore vengeance upon Mr. Le Blond. He thought the time for the gratification of his vindictiveness was ripe when, in April last, Mr. Le Blond, in accordance with the custom in that part of the country, sold some alcohol to James Goodroad, an Indian, on an order or prescription from Dr. A. Caskie, agency physician at the Crow Creek Indian Agency, who wrote that the Indian was dying of consumption. The druggist was arrested on the charge of selling liquor to an Indian and taken before Judge Morrow. He was bound over to the Federal Grand Jury, although the evidence was conclusive that filling prescriptions for Indians when made by agency physicians was not only legal but customary, and always had been. In due time the Grand Jury sat at Sioux Falls and by a unanimous vote refused to indict Mr. Le Blond. Now it was the turn of the knight of mortar and pestle, who preferred charges against Judge Morrow. The nature of the charges may be seen from the testimony of witnesses before the Grand Jury. These deposed that before Le Blond's hearing at Chamberlain Morrow had told them that he had Le Blond on the hip, and intended to play even with him for defeating his daughter's candidacy for teacher; that Morrow had told them that he had subpœnaed his daughter as a witness in a case against an Indian who promised to plead guilty, so that his daughter could get a trip to Deadwood, where the trial was to occur. Letters were offered in evidence where Morrow urged parties to institute actions before him, and he would see to it that they got their fees and a trip to Deadwood. He said Uncle Sam was rich and could stand it.

Whatever Uncle Sam can stand, he has an instrument in the person of United States Judge Edgerton, of South Dakota, that won't stand any chicanery of this sort if he knows it. To Judge Edgerton and Col. Leigh Chalmers, special inspector of the Department of Justice, the matter was referred by the Grand Jury without delay. Then came the climax, promptly and undodgeably. Mr. Commissioner Morrow had to resign his office instantly to save himself the mortification of removal by Judge Edgerton. It took the will of the gods six months to do its grinding in this case, but very few South Dakotans—least of all Druggist Le Blond—mourn because the grist as finished is "exceeding small."

The Commission After Cosmetics.

Cincinnati, Oct. 21.—Judging from news intelligences received here recently from Columbus, it appears that the druggists of that city are on the verge of an encounter with the officers of the Food Commission operating there. It seems that the State officials are particularly active against face powders and cosmetics, alleged to contain poisonous substances, and have made analytical examinations of several largely patronized articles in the toilet line. The analyses were conducted by Professor Weber, assistant State chemist, who asserts that corrosive sublimate and other poisons are the predominating ingredients in most of the specimens analyzed. Professor Weber says that the usage of mercury in any form in the preparation of cosmetics is stringently forbidden by the State laws covering adulterations. The professor's report produces the following information: A sample of "Recamier Balm" analyzed was found to comprise 96.688 per cent. of water, 0.042 of corrosive sublimate and 3.270 per cent. of oxide of zinc; sample of "Oriental Cream" contained, according to analysis, corrosive sublimate, 0.008; calomel, 7.056, and water, 92.936; sample of "Diamond Dew," which is manufactured by the Scientific Remedy Co., of Dayton, O., was found to be composed of water, 94.03 per cent., and corrosive sublimate, 5.97 per cent. Professor Weber's reports have been submitted to Food Commissioner McNeal, who, it is said, will communicate with the manufacturers, and endeavor to have the articles withdrawn from the Ohio market. If he fails to accomplish his purpose amicably, it is reported that the commissioner will cause the arrest of the parties from whom the samples were procured.

Sues the Ohio Board.

Cincinnati, O., Oct. 21—(Telegram).—Druggist Albert Ross has filed suit against Albert Meininger, member of the Ohio Board of Pharmacy, for $5,000, alleging false imprisonment. Ross was arrested Sept. 14 at the instigation of Meininger on the charge of compounding medicine without a State certificate, but was subsequently dismissed in police court.

A New Soda Fountain Company.

On Nov. 1 the National Soda Fountain Co. will open its offices and salesroom at 78 Sudbury street, Boston. Charles E. Hall & Co., marble workers at 69 Charleston street, are represented in the new company by Mr. Francis L. Maguire, and its factory will be at the latter address. The management of the business will be intrusted to Mr. W. H. Glynn, for seventeen years with James W. Tufts, and Mr. George T. Presbey, formerly of the Low Art Tile Co., will have charge of the sales department.

St. Louis Drug Contracts.

St. Louis, Oct. 19.—Quite a stir was caused in pharmaceutical circles this week by the filing of a written protest by the Hopkins-Weller Drug Co. against awarding the city drug contract to the Moffitt-West Drug Co. The protest, it appears, was made on a misunderstanding and has since been withdrawn. An effort was made to hush up the matter, but without avail. The contracts for supplying the city institutions with drugs, chemicals, etc., are let quarterly, and in this instance the amount was about $2,000. In the protest of the Hopkins-Weller Drug Co. it was alleged that the Moffitt-West bid was irregular inasmuch as the prices of a number of drugs specified in the bid were not carried out and included in the total. When the various bids were opened it was found that the Hopkins-Weller Drug Co. was the lowest, the Meyer Bros. Drug Co. the next lowest, the Moffitt-West Drug Co. next and the Daugherty-Crouch Drug Co. the highest. Investigation showed that an error of $100 had been made in favor of the Hopkins-Weller Drug Co. and an error of $200 of a similar nature in the bid of Meyer Bros. Drug Co. This put the bid of the Moffitt-West Drug Co. the lowest. The errors were purely of a clerical nature, and Mr. Hopkins, after a conference with Mayor Walbridge and Supply Commissioner Richardson, expressed himself as being entirely satisfied with the explanation and has agreed to let the matter drop. To Mr. Richardson Mr. Hopkins stated that the protest was filed without his knowledge and he regretted the circumstance very much.

Missouri's Patent Medicine Tax.

St. Louis, Oct. 18.—In the Circuit Court yesterday City Collector Henry Ziegenhein filed a demurrer to the suit instituted against him several weeks ago by the C. F. Simmons Medicine Co. et al. to prevent him from collecting a special tax of $25 for the sale of patent medicines. Collector Ziegenhein's demurrer is very brief and simply states that "the defendant demurs to the petition on the ground that said petition does not state facts sufficient to constitute a cause of action." City Counselor W. C. Marshall and his associate, Charles Claflin Allen, represent Collector Ziegenhein, and it is evident that they propose to put up a stubborn fight. The case, however, is not likely to come up for trial before January. The suit, it will be remembered, was instituted by the C. F. Simmons Medicine Co., the Meyer Bros. Co., the Prickly Ash Bitters Co., the Dr. J. H. McLean Medicine Co., the Phenique Chemical Co., the Peacock Chemical Co., the Sultan Drug Co., the Rio Chemical Co., the Moffitt-West Drug Co., the J. S. Merrell Drug Co., the Richardson Medicine Co., the Battle & Co. Chemists's Corporation, Morley Bros., P. A. Spangler and the Collins Bros. Medicine Co., and is for the purpose of testing the new law passed by the last General Assembly requiring each manufacturer and vender of patent medicines in Missouri to pay a license tax of $25. The plaintiffs object to paying the tax because, in their judgment, the act is clearly class legislation and therefore unconstitutional. The case is being watched with a good deal of interest.

A Decision Which will Please Druggists.

Boston, Oct. 18.—Druggists all over the country whose business has been hurt by the invasions of traveling medicine dealers, will be interested in and gratified by a decision just given by the Supreme Judicial Court of this Commonwealth, affirming the conviction of Ira E. Newhall and James P. Campbell, who were charged with a violation of the statute relative to itinerant venders, which provides that all persons who engage in a temporary or transient business in this State, either in one locality or in traveling from place to place selling goods, wares and merchandise, and who for the purpose of carrying on such business hire, lease or occupy any building or structure for the exhibition and sale of goods, etc., are itinerant venders and must have a license. The court says:

"The defendants' first contention is that they are not within this definition. They are part of a traveling troupe which is composed of Indians, a comedian and a physician, and which gives entertainments consisting of songs, dances, farces, Indian ceremonies and lectures. The purpose of the troupe and of the entertainments is to advertise certain proprietary medicines.

"The troupe hired and occupied for two weeks a public hall in Great Barrington, and there offered for sale and sold, both during the entertainments, which were in the evening, and during the daytime, bottles of the medicine to such parties as called for them.

"We are of the opinion that the defendants were clearly engaged in the business of selling merchandise and were within the statute. The court also holds that it is no defence that the defendants were employed by a foreign company, and that the goods were imported into this Commonwealth for sale in the same form and shape in which they were imported."

He's a Prohibition Druggist.

Baltimore, Oct. 17.—Druggist William H. Hassinger, of Dorchester county, Md., is a prominent Prohibitionist. Recently he became the purchaser of the Corner Drug Store in Easton, Talbot county, and to-day he assumed formal possession. His first act was to roll several barrels of whiskey and gin, which had passed into his possession with the store, out on the sidewalk, knock in the heads and send the contents flowing down the gutter in an odoriferous, intoxicating stream. His intention to do so having previously become known, a large crowd collected and watched the proceeding. Those who entertain Prohibition ideas loudly applauded Mr. Hassinger. Other regarded with sighs of regret the wholesale waste of good stuff. Mr. Hassinger declares that he will keep his pharmacy dry under all circumstances.

A Well-Known Druggist Dead.

Philadelphia, Oct. 21.—Dr. William MacPherson, who for a lifetime lived in the district called Southwark, in this city, died Oct. 13 at his residence, 327 Wharton street. After graduating from the common schools Dr. MacPherson went to the College of Pharmacy, from which he received a diploma in 1860, and shortly after he opened a drug store at Fourth and Wharton streets, of which he remained proprietor until his death. Shortly after he left the College of Pharmacy he began to study at the Jefferson Medical College, but a few months before the time at which he would have graduated the war broke out and he left without waiting for his diploma. He went to Harrisburg and passed an examination for assistant surgeon.

At the end of the war Dr. MacPherson returned and took up the practice of his profession. Dr. MacPherson was well known in this city and up to January last he was very active, but owing to his failing health at that time he was obliged to retire. His death was caused by heart disease, and he leaves a widow. He was a member of a number of secret societies.

Rumor of New Drug House for Cincinnati.

Cincinnati, Oct. 18.—Since the announcement of the Standard Drug Co.'s retirement, numerous rumors have been afloat here regarding the establishment of branch houses in this city by large Eastern and Western jobbing drug firms. The names of Meyer Brothers, St. Louis; Lehn & Fink, New York, and several others are coupled with the rumor.

Inquiry by the Era reporter has failed to prove the authenticity of the stories, and it probable that the yarns are circulated by persons unfriendly to some of the Cincinnati wholesalers.

Activity in St. Louis Drug Circles.

St. Louis, Oct. 18.—There is great activity in St. Louis drug circles and quite a number of changes have taken place recently. Hiram Young, a student at the Missouri Medical College, has bought D'Amour's Pharmacy at 2000 North Broadway; Alex. Crusius has purchased the store which formerly belonged to G. H. Scheel, at Fourteenth and Clark avenues, and Albert Koch has bought out Charles Barkhoefer at 4800 Florissant avenue. These changes are considered an indication that trade is in a healthy condition.

Philadelphia Trade.

Philadelphia, Oct. 19.—Since the recent rain there has been a great improvement in the drug trade in this city. Prior to that it seemed as if the business was drying up with the country and the orders from out of town druggists were few and far between, but this is changed now and the orders are coming in fast and thick, and all the large houses in this city are working overtime to keep pace with them.

Chicago Items.

Chicago, Oct. 21.—The shaving stone moved westward to Chicago a while ago. One druggist informed your correspondent that he had in one day about a hundred requests for the article, and could have made quite a bit of money—for a day or two. He intimated, whether from personal experience or not I do not know, that in theory the shaving stone might be a glittering success, but that for a man gifted with a truly Pfefferian hirsute adornment to whom time was money, the use of the shaving stone is not a practical idea. So far as he was concerned, he preferred to emerge into the twentieth century in some other way than in filing off his whiskers with a stone.

Keat's pharmacy, 376 State street, has removed to a fine location on Milwaukee avenue.

E. Hellar has purchased the Silver Pharmacy, on the corner of State and Oak streets.

Chas. E. Mathews, of the Chicago house of Sharp & Dohme, went to New York Oct. 17 on a short business trip.

H. H. Green, one of the leading druggists of Bloomington, Ill., was in this city on Oct. 16 for the purpose of buying new goods and meeting his old pharmaceutical associates and friends in the metropolis.

E. von Hermann has opened an elegant new store on the northeast corner of Thirty-first street and Indiana avenue. This is the location of the old store, but the new will be on more extensive lines.

William R. Warner, of the firm of William R. Warner & Co., Philadelphia, was in this city on Oct. 19 attending to certain business matters pertaining to the Chicago branch and to his other investments here.

De Witt Spalding has purchased the drug store of G. A. Goetsch, on the corner of Harrison street and Oakley avenue. Mr. Spalding is fortunate in securing such a location and business as that owned and built up by Mr. Goetsch, who has been in the profession a number of years.

The following gentlemen were in Chicago the past week buying goods for their holiday trade: D. A. Boal, Parker City, Ia.; F. H. Barber, Cissna Park, Ill.; G. A. Sexton, La Crosse, Wis.; Mr. Crow, buyer for J. M. Evans, of Evansville, Wis.; G. E. Mariner, La Crosse, Wis., and R. M. Coffin and H. Soleman, both of Talma, Ia. These gentlemen report that affairs in their districts are full of promise. Their orders, while not unusually heavy, are fully up to the average.

—Harry J. Krebs, a graduate of the Philadelphia College of Pharmacy, class of '92, and a resident of Mahoney City, Pa., while out driving the other day met with a serious accident. At a railroad crossing his horse took fright at an incoming train and tried to cross the track ahead of it. Krebs and a lady companion were both thrown out of the carriage, the former receiving a broken leg and other severe injuries.

NEW YORK AND VICINITY.

—"Sponges at rock-bottom prices," reads the sign of a Broadway druggist.

—D. W. Cressler, of Burk's Medicine Co., Chicago, was in this city on Oct. 17.

—Mr. Hale, of Hale, Justis & Co., of Cincinnati, has been in town for several days.

—I. L. Lowrie is to open a new drug store at Seventh avenue, near Fifteenth street.

—A new drug store is to be opened soon at Lexington avenue and 120th street.

—A. R. Park, of John D. Park & Son, Cincinnati, has been in town calling on friends.

—Among this week's callers on friends in the drug trade was George A. Kelly, of Pittsburg.

—Judgment for $1,417.99 has been filed against Willis N. Haverstick, 640 Madison street, by Tarrant & Co.

—T. E. Varney, of T. E. Varney & Brother, Dover, N. H., was in this city the early part of the week.

—C. H. Bangs has been very sick, but is now much improved. He is expected over from Boston this week.

—H. A. Brandner has resigned his position at Rutherford, N. J., to attend the senior lectures at the N. Y. C. P.

—John M. Peters, of the Fraser Tablet Triturate Mfg. Co., is on a Western trip. He was in Cincinnati last week.

—Robert R. Lampa, New England traveling salesman for Lehn & Fink, has returned to his territory after a few days spent in town.

—George Merrell, of the William S. Merrell Co., of New York and Cincinnati, is expected in town the first of next week for a few days' stay.

—S. W. Lothrop, of the sundries department of Tarrant & Co., is back from a Western trip, and reports that business is good all along the line.

—Among the Pennsylvania druggists in town last week looking at holiday goods were E. E. Hyer, of Wellsboro, and J. W. Carson, of Leechburg.

—Theo. Louis, proprietor of the Louis Pharmacy, 112 Avenue A, is visiting his daughter in Staunton, Va. He has been away from business several weeks.

—C. T. Laird, a graduate of the Ontario College of Pharmacy, has accepted a position as assistant apothecary at the New York Hospital in Fifteenth street.

—William Wendel, who was formerly manager of Dr. Edinger's pharmacy on Fifth avenue, is about to open a handsome store at 133d street and Fifth avenue.

—Mr. Weinman, of Dr. H. Baer's pharmacy, Charleston, S. C., in is town with Mrs. Weinman seeking rest and pleasure. Mr. Weinman is seventy years of age.

—Manager James A. Sangston, of the New York office of the Low Art Tile Co., is in Atlanta for a few days with his bride, taking in the Cotton States Exposition.

—George Judson, who has been with Caswell, Massey & Co. for the past year or more, has gone to Westfield, Mass., where he will engage in the retail drug business.

—George T. Fulford, of the Dr. Williams' Medicine Co., sailed last week for Europe, and will spend the next six months between the London and Paris branches of "Pink Pills."

—The embezzlement of two letters belonging to the C. N. Middleton Drug Co., of 74 Cordlandt street, on Oct. 16, led to the arrest of a letter carrier belonging to the general post office.

—R. Schuette, formerly with A. Applebaum, and S. Rivette, late of the Kalish Pharmacy, have taken positions with J. A. Carpentier, 123d street and Eighth avenue.

—Walter G. Curtis, formerly with A. Hamilton, of Auburn, N. Y., has accepted a position in Montclair, N. J., while he is attending lectures at the New York College of Pharmacy.

—Brent Good, of the Carter Medicine Co., left for Montreal last Thursday night to visit the firm's factory there. He had only just returned from his Western trip that followed his attendance at the Denver convention.

—Sumter L. Geegle, of Ocean Grove, N. J., a graduate of the class of '90, N. Y. C. P., has resigned his position with the White Pharmacy, and is to become manager of the I. P. Smith Pharmacy, Orange Valley, N. J.

—Peter R. Lance has returned to New York after a week or ten days' trip through Canada. He reports the drug people up that way as saying that business is good. Mr. and Mrs. Lance are stopping at the Barrett House.

—The American Lactose Co., of this city manufacturers of sugar of milk, has been reorganized, and is now known as the New York Milk Products Co. of New Jersey. The offices and sales rooms are at the old address, 300 Greenwich street.

—Henry W. Hoops, Jr., a graduate of the New York College of Pharmacy, class of '82, who represented an east side district in the Assembly last year, has received the Republican nomination for Senator in the Thirteenth Senatorial District.

—John W. Cox has a handsome suite of apartments at the Murray Hill Hotel which are kept all the year around, no matter where he is. At present Mr. Cox is in Baltimore, and before he returns to New York he will visit Boston and other New England centers.

—A package of corrosive sublimate, the property of the Mallinckrodt Chemical Works, was stolen from the premises of that concern last week by Jeremiah Murphy, nineteen years old. The poison was valued at $15. Murphy was held for trial in Special Sessions.

—John Masury, the paint manufacturer of New York City, who died recently, left $10,000,000. A contest over his will is promised by the action of his grandsons, children of his children by his first wife. All the property was left to his second wife and her two children.

—Dr. George A. Mursick, a well-known physician, died at Nyack, this State, Oct. 18. In his younger years he was engaged in the drug business in this city. During the war of 1861-65 he was a surgeon in the Union army and medical purveyor of the Department of Arkansas.

——Paul F. Junck, who has had stores in Hoboken, later in Brooklyn, has sold out his business in the latter city and entered the employ of the European Importing Agency, which deals in imported dyes, etc. He will represent the interests of the concern through New Jersey.

——Dr. William Jay Scheiffelin is chairmen as the receiver for Hazard, Hazard Good Government Party in this city, and Franklin Bien, well known to drug trade men as the receiver for Hazard, Hazard & Co.'s pharmacy, is the Democratic nominee for Assemblyman in the Fifteenth New York District.

——The Sautter drug store case in Brooklyn is still unsettled, no decision having been rendered by the court as yet. This is the store at Bedford avenue and South Fifth street which has been the subject of a legal fight for some time. Although Mr. Sautter is still in possession, Lehn & Fink are protected by a bond.

——C. O. Bigelow's store on Sixth avenue always looks neat and bright, in considerable contrast to some of the tradespeople's rooms thereabouts. Notwithstanding this fact, Mr. Bigelow has just had the painters improve the looks of the place, until now it fairly glistens. The window displays of this store are noted for their originality and taste.

——The German Apothecaries' Society, of New York City, is to have a big entertainment on Thursday, Oct. 31, in the hall of the New York Maennerchor Singing Society, which will consist of a botanical discourse on plants found in this vicinity, a one-act comedy by members of the New York Arion Society, and last, but not least, "Tanz braenchen." No enforcement of the excise laws by Roosevelt.

——Cards are out announcing the marriage, on Oct. 16, of Francis R. McDermott, of the Nichols Chemical Co., 45 Cedar street, and Miss Mary Elizabeth Hamilton, daughter of Mr. and Mrs. Clark B. Hamilton, of New Castle, Pa. The newly wedded couple will be at home, after Nov. 1, at 392 De Graw street, Brooklyn. Mr. McDermott's many friends in the trade are waiting anxiously to extend their heartiest congratulations.

——Druggist Harvie, of Macon street and Sumner avenue, Brooklyn, the other day got the better of a flim-flammer. When the swindler placed a $5 bill on the counter and began to work the old game, Mr. Harvie went to his telephone and called up Police Headquarters. This so surprised the caller that he ran out, leaving the bill on the counter. When headquarters asked what was wanted, Mr. Harvie replied: "I've just flim-flammed a flim-flam man," and rang off.

——James W. Tufts, the soda fountain manufacturer, pays a tax of $6,238 in the city of Medford, Mass., where he has a charming home. There is only one other citizen who contributes a larger amount, and that is ex-Mayor Lawrence, well known among druggists as a distiller. Gen. Lawrence pays $11,000.

The Rise in Cod Liver Oil.

It seems to be the general opinion in the trade that cod liver oil will go up in price still further, and that it will be a long time before the prices of the past season are seen again. The talk about the scarcity of that product and its effect upon the almost forgotten Newfoundland and New England supply does not seem to incline to the theory that the industry on this side of the Atlantic will be spurred up by the high price, principally, of course, for the reason that the American product has never been satisfactory.

Scott & Bowne's notice to the trade says that the firm has for some time contemplated advancing the price of their Scott's Emulsion, large size, to $8 per dozen from $7.50, and at the same time reducing the price of the small bottles to $4.25 per dozen, instead of $4.50, believing both to be fair, and they have put those prices into effect, beginning Oct. 7. They say that the Norway cod liver oil has more than doubled in price on account of the small production for the last two years, and that the duties have also nearly doubled by reason of the change in the tariff from specific to ad valorem.

So far, the price of the emulsion has not been raised by retail druggists, but it is evident that the cut-rate men will soon put up theirs. A few have already done so. As an instance of how the cost of the oil has been increased, it is only necessary to compare the cost per barrel two years ago, $12 to $15, with that of the present day, about $50. Then the former duty was a specific one of $4.50 a barrel. Now it is 20 per cent. ad valorem, or $8. It is estimated that these changes made a difference in one season to a large firm of about $70,000.

One trader says he can see no reason to expect that these prices will make much difference in the American industry, although the supply from Newfoundland may be increased some. The Bergen oil is the kind wanted, and the cost must be met. The retailer, if he sells for full prices, gets a profit of 50 per cent., which ought to be satisfactory.

W. G Moffit Sells his Store.

The news that William G. Moffit's Astor House drug store has been sold will not surprise the trade very much, although it will provoke a lot of talk. The purchaser is Frank O. Warner, who has been employed in the store for some time. Ever since Mr. Moffit bought out A. J. Ditman the store and its owner have been the subject of more gossip in the trade than perhaps any other store and proprietor in the city. In the first place, it was reported when Mr. Moffit bought the store that he paid $25,000 for it, but this statement was never believed to be true. The stand is a first class one in every respect and has a steady patronage that any druggist might be proud of. The sale, however, was made so near to the time of Mr. Ditman's business embarrassment that the trade concluded the price was much lower than was given out.

There was every reason to expect that Mr. Moffit would make the store a "mint" for money. He had previously been on Fulton street in the store from which Burroughs and Wellcome graduated, and which was afterwards owned by Fairchild Bros. & Foster. That that store did not prove a bonanza was no fault of Mr. Moffit. As soon as he took the Astor House store he had it entirely renovated and improved. Then he went away after a few weeks, it being given out that he was ill. During this summer the reports about his health have been such as to give his friends much cause for alarm, but at the store it was said he was at Atlantic City or up the State fishing. The story that he had to go to a sanitarium and is there now was shown to be groundless last week by the appearance of Mr. Moffit at his old store, looking the sick man, but still much better than report had him. He said he was recuperating up in Pike County and fast regaining his health and strength. Everybody will be glad to know that his return to town is probably only a question of a few weeks.

In connection with the sale of the store it may be stated that a certain firm supposed to have secured the ownership of the store from Mr. Moffit previous to Mr. Warner's purchase did not in any sense own the property, having only a financial transaction with Mr. Moffit that is now entirely a matter of the past. Mr. Warner is now the owner, and the store seems to be doing a splendid business.

Waging Dispensary Wars.

DOCTORS AND DRUGGISTS AT LOGGERHEADS IN NEW YORK AND BROOKLYN.

The doctors and druggists are waging dispensary wars in two sections of the Greater New York at present and the doctors seem to have their hands full in both places. In New York City an organization known as the Eastern Medical Society has been formed on the East Side by about 100 physicians of the district. At their head is Dr. H. B. Adler. He announces that the object of the society is literary and protective and that the doctors propose "to eradicate charlatanism" on the East Side. "The private dispensary," says Dr. Adler, "is one of the evils we propose to abolish. In many drug stores free dispensary signs are displayed, and, so it is claimed, advice is given free. The patient is examined and a prescription written. If the prescription is worth 10 cents, 80 cents or a dollar is charged, which covers the fee for examination. The patient, of course, imagines he is receiving the examination gratis. We have prepared a bill to be introduced in the Legislature prohibiting dispensaries in private houses. We must have the physicians on the East Side protected.

A rather more interesting fight is on in Brownsville, on the outskirts of Brooklyn. Some charitably disposed persons recently started the Brownsville Dispensary, which drew away from the druggists quite a number of customers. Then Druggist Abraham Silverman, who has for years dispensed drugs in that dis-

trict, decided he would run a free dispensary on his own account, only charging 10 cents for prescriptions. He secured a physician and went ahead with his scheme. Soon many of his old customers came back. This stirred up the doctors connected with the Dispensary, who held a meeting to protest. The fight is not yet ended, and meanwhile medical attendance in Brownsville is cheap and drugs are really a drug on the market.

UNJUST TO DRUGGISTS.

INJURY TO TRADE CAUSED BY THE PUBLICATION OF ITEMS GIVEN OUT BY THE POLICE.

Whenever a person commits suicide by taking poison or dies after taking a medicine prescribed by a doctor it is customary for the daily press to give the name of the druggist who supplied the poison or filled the prescription. Often this mention of the druggist produces an unfavorable impression upon the mind of the reader, and while the druggist's business is not hurt, perhaps, by the gratuitous advertising, nevertheless it is not helped. A case with even more point to it occurred last week. A young man secured some salts at an East Side drug store. After taking them he became very ill and died. The reports printed in most of the daily papers gave the name of the druggists from whom the salts were secured and also gave the alleged opinion of a physician that the boy died from poison. The impression conveyed to the reader was that the salts had in some way become poisoned in the drug store. Since that time a rigid examination has been made by the police and it is fairly well established that when the epsom salts left the store they were perfectly pure and free from the poison that killed the boy, strychnine. In fact, the poison was the alkaloid strychnine, while the firm has never sold anything in that line but the sulphate. The wholesale firm that supplies the druggists has examined its books and finds no sale for over a year of any alkaloid strychnine to the retailers who sold the salts. The theory now obtains that the strychnine was placed in the package of salts after the purchaser left the store. But the retail druggists claim to have suffered in business through the connection of their name with the case. They have their redress in the courts, but meanwhile business may have been seriously injured by the publication. Care by the police in giving out the reports of such cases would save druggists much trouble and perhaps money. At any rate, the reputation of the pharmacist should be considered.

Another instance of the same lack of judgment in reporting cases of this sort came to notice last week. A child apparently in perfect health caught a severe cold, whereupon its mother sent to a city druggist and procured a cough mixture. After taking several doses the child sickened and died. The coroner's physician called upon the druggist, who said the mixture was only squills and tolu. The cough medicine will be analyzed, but the chances are that the child's death was in no way brought about by the medicine. To mention the druggist's name until the analysis has been made is, so most if not all druggists say, an unjust act.

BOWLING TOURNAMENT.

In last Saturday's games by the teams in the Wholesale Drug Trade Bowling Association Whitall, Tatum & Co. and Parke, Davis & Co. won two games each. The games in their order were as follows: Whitall, Tatum & Co. defeated Max Zeller, 711 to 650; Seabury & Johnson defeated Powers & Weightman, 606 to 604; Max Zeller defeated Lazell, Dalley & Co., 653 to 600; Parke, Davis & Co. defeated Powers & Weightman, 682 to 522; Whitall, Tatum & Co. defeated Lazell, Dalley & Co., 649 to 582, and Parke, Davis & Co. defeated Seabury & Johnson, 763 to 489.

The schedule of games, in addition to those published last week, is as follows:

Saturday, Nov. 2—Alleys 1 and 2, Powers & Weightman vs. R. W. Robinson & Son, Tarrant & Co. vs. Powers and Weightman, Tarrant & Co. vs. R. W. Robinson & Son; alleys 3 and 4, Lanman & Kemp vs. McKesson & Robbins, Dodge & Olcott vs. Lanman & Kemp, Dodge & Olcott vs. McKesson & Robbins.

Friday, Nov. 8.—Alleys 1 and 2, Merck & Co. vs. McKesson & Robbins, Schieffelin & Co. vs. Merck & Co., McKesson & Robbins vs. Schieffelin & Co.; alleys 3 and 4, Powers & Weightman vs. Dodge & Olcott, Colgate & Co. vs. Powers & Weightman, Colgate & Co. vs. Dodge & Olcott.

Saturday, Nov. 9.—Alleys 1 and 2, Whitall, Tatum & Co. vs. Seabury & Johnson, Merck & Co. vs. Whitall, Tatum & Co., Merck & Co. vs. Seabury & Johnson; alleys 3 and 4, Max Zeller vs. McKesson & Robbins, Tarrant & Co. vs. Max Zeller, Tarrant & Co. vs. McKesson & Robbins.

Saturday, Nov. 16—Alleys 1 and 2, Tarrant & Co. vs. Dodge & Olcott, Seabury & Johnson vs. Tarrant & Co., Seabury & Johnson vs. Dodge & Olcott; alleys 3 and 4, Parke, Davis & Co. vs. Colgate & Co., Lanman & Kemp vs. Parke, Davis & Co., Lanman & Kemp vs. Colgate.

Saturday, Nov. 23—Alleys 1 and 2, Lazell, Dalley & Co. vs. Tarrant & Co., Schieffelin & Co. vs. Lazell, Dalley & Co., Schieffelin & Co. vs. Tarrant & Co.; alleys 3 and 4, Max Zeller vs. Dodge & Olcott, Bruen, Ritchey & Co. vs. Max Zeller, Bruen, Ritchey & Co. vs. Dodge & Olcott.

Friday, Nov. 29—Alleys 1 and 2, Lanman & Kemp vs. R. W. Robinson & Son, Schieffelin & Co. vs. Lanman & Kemp, Schieffelin & Co. vs. R. W. Robinson & Son; alleys 3 and 4, Merck & Co. vs. Bruen, Ritchey & Co, Lazell, Dalley & Co. vs. Colgate & Co., Lazell, Dalley & Co. vs. Bruen, Ritchey & Co.

Saturday, Nov. 30—Alleys 1 and 2, Seabury & Johnson vs. McKesson & Robbins, Bruen, Ritchey & Co. vs. Seabury & Johnson, Bruen, Ritchey & Co. vs. McKesson & Robbins; alleys 3 and 4, Merck & Co. vs. Parke, Davis & Co., Tarrant & Co. vs. Merck & Co., Tarrant & Co. vs. Parke, Davis & Co.

Friday, Dec. 6—Alleys 1 and 2, Max Zeller vs. Lanman & Kemp, Seabury & Johnson vs. Max Zeller, Seabury & Johnson vs. Lanman & Kemp; alleys 3 and 4, Tarrant & Co. vs. Colgate & Co, Whitall, Tatum & Co. vs. Tarrant & Co., Whitall, Tatum & Co. vs. Colgate & Co.

Saturday, Dec. 7—Alleys 1 and 2, Max Zeller vs. Powers & Weightman, Merck & Co. vs. Max Zeller, Merck & Co. vs. Powers & Weightman; alleys 3 and 4, Whitall, Tatum & Co. vs. R. W. Robinson & Son, McKesson & Robbins vs. Whitall, Tatum & Co., McKesson & Robbins vs. R. W. Robinson & Son.

Friday, Dec. 13—Alleys 1 and 2, Dodge & Olcott vs. Parke, Davis & Co., Lazell, Dalley & Co. vs. Dodge & Olcott, Lazell, Dalley & Co. vs. Parke, Davis & Co.; alleys 3 and 4, Bruen, Ritchey & Co. vs. Tarrant & Co., Lanman & Kemp vs. Bruen, Ritchey & Co., Lanman & Kemp vs. Tarrant & Co.

Saturday, Dec. 14—Alleys 1 and 2, R. W. Robinson & Son vs. Colgate & Co., Max Zeller vs. R. W. Robinson & Son, Max Zeller vs. Colgate & Co.; alleys 3 and 4, Whitall, Tatum & Co. vs. Lanman & Kemp, Powers & Weightman vs. Whitall, Tatum & Co., Powers & Weightman, vs. Lanman & Kemp.

Friday, Dec. 20—Alleys 1 and 2, Seabury & Johnson vs. Colgate & Co., Schieffelin & Co. vs. Seabury & Johnson, Schieffelin & Co. vs. Colgate & Co.; alleys 3 and 4, Merck & Co. vs. R. W. Robinson & Son, Bruen, Ritchey & Co. vs. Merck & Co., Bruen, Ritchie & Co. vs. R. W. Robinson & Son.

Saturday, Dec. 21—Alleys 1 and 2, Merck & Co. vs. Dodge & Olcott, McKesson & Robbins vs. Colgate & Co., Merck & Co. vs. Colgate & Co.; alleys 3 and 4, McKesson & Robbins vs. Parke, Davis & Co., R. W. Robinson & Son vs. Parke, Davis & Co.

Saturday, Jan. 11—Alleys 1 and 2, Parke, Davis & Co. vs. Schieffelin & Co., Max Zeller vs. Parke, Davis & Co., Max Zeller vs. Schieffelin & Co.; alleys 3 and 4, R. W. Robinson & Son vs. Lazell, Dalley & Co., Seabury & Johnson vs. Lazell, Dalley & Co.

Saturday, Jan. 18—Alleys 1 and 2, Bruen, Ritchey & Co. vs. Parke, Davis & Co., Whitall, Tatum & Co. vs. Bruen, Ritchey & Co., Whitall, Tatum & Co. vs. Parke, Davis & Co.; alleys 3 and 4, Lazell, Dalley & Co. vs. Lanman & Kemp, Merck & Co. vs. Lazell, Dalley & Co., Merck & Co. vs Lanman & Kemp.

Saturday, Jan. 25—Alleys 1 and 2, Schieffelin & Co. vs. Bruen, Ritchey & Co., Powers & Weightman vs. Schieffelin & Co., Powers & Weightman vs. Bruen, Ritchey & Co.; alleys 3 and 4, Seabury & Johnson vs. Tarrant & Co., Dodge & Olcott vs. Seabury & Johnson, Dodge & Olcott vs. Tarrant & Co.

Saturday, Feb. 1—Alleys 1 and 2, Powers & Weightman vs. Seabury & Johnson, Parke, Davis & Co. vs. Powers & Weightman, Parke, Davis & Co. vs. Seabury & Johnson; alleys 3 and 4, Whitall, Tatum & Co. vs. Max Zeller, Lazell, Dalley & Co. vs. Whitall, Tatum & Co., Lazell, Dalley & Co. vs. Max Zeller.

Saturday, Feb. 8—Alleys 1 and 2, Dodge & Olcott vs. Schieffelin & Co., Whitall, Tatum & Co. vs. Dodge & Olcott, Whitall, Tatum & Co. vs. Schieffelin & Co.; alleys 3 and 4, Lazell, Dalley & Co. vs. Powers & Weightman, McKesson & Robbins vs. Lazell, Dalley & Co., McKesson & Robbins vs. Powers & Weightman.

Friday, Feb. 14—Alleys 1 and 2, Lanman & Kemp vs. McKesson & Robbins, Dodge & Olcott vs. McKesson & Robbins, Dodge & Olcott vs. Lanman & Kemp; alleys 3 and 4, Powers & Weightman vs. R. W. Robinson & Son, Tarrant & Co. vs. Powers & Weightman, Tarrant & Co. vs. R. W. Robinson & Son.

Saturday, Feb. 15—Alleys 1 and 2, Powers & Weightman vs. Dodge & Olcott, Colgate & Co. vs. Powers & Weightman, Colgate & Co. vs. Dodge & Olcott; alleys 3 and 4, Merck & Co. vs. McKesson & Robbins, Schieffelin & Co. vs. Merck & Co., Schieffelin & Co. vs. McKesson & Robbins.

Saturday, Feb. 29—Alleys 1 and 2, Max Zeller vs. McKesson & Robbins, Tarrant & Co. vs. Max Zeller, Tarrant & Co. vs. McKesson & Robbins; alleys 3 and 4, Whitall, Tatum & Co. vs. Seabury & Johnson, Merck & Co. vs. Seabury.

Saturday, March 7—Alleys 1 and 2, Max Zeller vs. Dodge & Olcott, Bruen, Ritchey & Co. vs. Max Zeller, Bruen, Ritchey & Co. vs. Dodge & Olcott; alleys 3 and 4, Lazell, Dalley & Co. vs. Tarrant & Co., Lazell, Dalley & Co. vs. Schieffelin & Co., Tarrant & Co. vs. Schieffelin & Co.

Saturday, March 14—Alleys 1 and 2, Colgate & Co. vs. Bruen, Ritchey & Co., Lazell, Dalley & Co. vs. Colgate & Co., Lazell, Dalley & Co. vs. Bruen, Ritchey & Co.; alleys 3 and 4, Lanman & Kemp vs. R. W. Robinson & Son, Schieffelin & Co. vs. Lanman & Kemp, Schieffelin & Co. vs. R. W. Robinson & Son.

Friday, March 20—Alleys 1 and 2, Merck & Co. vs. Parke, Davis & Co., Tarrant & Co. vs. Merck & Co., Parke, Davis & Co. vs. Tarrant & Co.; alleys 3 and 4, Seabury & Johnson vs. McKesson & Robbins, Bruen, Ritchey & Co. vs. Seabury & Johnson, Bruen, Ritchey & Co. vs. McKesson & Robbins.

Saturday, March 21—Alleys 1 and 2, Tarrant & Co. vs. Colgate & Co., Whitall, Tatum & Co. vs. Tarrant & Co., Whitall, Tatum & Co. vs. Colgate & Co.; alleys 3 and 4, Max Zeller vs. Lanman & Kemp, Seabury & Johnson vs. Max Zeller, Seabury & Johnson vs. Lanman & Kemp.

Friday, March 27—Alleys 1 and 2, Whitall, Tatum & Co. vs. R. W. Robinson & Son, McKesson & Robbins vs. Whitall, Tatum & Co., McKesson & Robbins vs. R. W. Robinson & Son; alleys 3 and 4, Max Zeller vs. Powers & Weightman, Merck & Co. vs. Max Zeller, Merck & Co. vs. Powers & Weightman.

Saturday, March 28—Alleys 1 and 2, Bruen, Ritchey & Co. vs. Tarrant & Co., Lanman & Kemp vs. Bruen, Ritchey & Co., Lanman & Kemp vs. Tarrant & Co.; alleys 3 and 4, Dodge & Alcott vs. Parke, Davis & Co., Lazell, Dalley & Co. vs. Dodge & Olcott, Parke, Davis & Co. vs. Lazell, Dalley & Co.

Friday, April 3—Alleys 1 and 2, Whitall, Tatum & Co. vs. Lanman & Kemp, Powers & Weightman vs. Whitall, Tatum & Co., Powers & Weightman vs. Lanman & Kemp; alleys 3 and 4, R. W. Robinson & Son vs. Colgate & Co., Max Zeller vs. R. W. Robinson & Son, Max Zeller vs. Colgate & Co.

Saturday, April 4—Alleys 1 and 2, Merck & Co. vs. R. W. Robinson & Son, Bruen, Ritchey & Co. vs. Merck & Co., Bruen, Ritchey & Co. vs. R. W. Robinson & Son; alleys 3 and 4, Seabury & Johnson vs. Colgate & Co., Schieffelin & Co. vs. Seabury & Johnson, Schieffelin & Co. vs. Colgate & Co.

Saturday, April 11—Alleys 1 and 2, McKesson & Robbins vs. Parke, Davis & Co., R. W. Robinson & Son vs. Dodge & Olcott, R. W. Robinson & Son vs. Parke, Davis & Co.; alleys 3 and 4, Merck & Co. vs. Dodge & Olcott, McKesson & Robbins vs. Colgate & Co., Merck & Co. vs. Colgate & Co.

Saturday, April 18—Alleys 1 and 2, R. W. Robinson & Son vs. Lazell, Dalley & Co., Seabury & Johnson vs. R. W. Robinson & Son, Seabury & Johnson vs. Lazell, Dalley & Co.; alleys 3 and 4, Parke, Davis & Co. vs. Schieffelin & Co., Max Zeller vs. Parke, Davis & Co., Schieffelin & Co. vs. Max Zeller.

Saturday, April 25—Alleys 1 and 2, Lazell, Dalley & Co. vs. Lanman & Kemp, Merck & Co. vs. Lazell, Dalley & Co., Merck & Co. vs. Lanman & Kemp; alleys 3 and 4, Bruen, Ritchey & Co. vs. Parke, Davis & Co., Whitall, Tatum & Co. vs. Bruen, Richey & Co., Parke, Davis & Co. vs. Whitall, Tatum & Co.

R. W. Phair & Co. and W. P. Ungerer to Move.

R. W. Phair & Co., who are now at 14 Platt street, have secured the premises at No. 16 on the same street, formerly occupied by J. L. Hopkins & Co., and will move into their new quarters at their convenience, no date being fixed as yet. Their lease of No. 14 does not expire for some months yet. It is also understood that W. P. Ungerer, representing Roure-Bertrand Fils, Grasse Essential Oils, who is now located on South William street, will occupy a portion of the premises at No. 16.

Last Chapter in the Jamaica Plain Robbery Story.

Boston, Oct. 17.—Here is the final chapter in the tale of Nathan Clutier, once a drug clerk in the employ of W. E. Nichols at Jamaica Plain. Clutier thought one night that it would be fun to open the safe in the store and go to Chicago for a good time. He took about $400, he says, but his employer fixes the amount at $600. At any rate, after Nathan had reached the city by the lake he fancied that the natives might be paralyzed to see how much money he had at one time. But they were not; on the contrary, they were just cool enough and mean enough—that is to say, some of them were—to sandbag him and take away all he had. And now Nathan goes to prison for eighteen months to think about it.

——The study of medicine and surgery seems to becoming quite a fad with the St. Louis druggists. The medical colleges are running in full blast now, and over fifty of the boys are said to have been initiated. At the Missouri Medical College alone the number of pharmacists reaches fourteen, and their pharmaceutical friends are asking themselves, "What are we coming to?" Among the number who propose to enter upon a new life are Gustavus Siering, J. J. Jende, Otta A. Wall, Jr., Ambrose Mueller, Rudolph S. Vitt, A. W. Peterson, Henry Peters, F. J. Traut, R. A. Flippin, Edward C. Schnittker, E. Kohl, and Ed. Richter.

HERE AND THERE.

——P. R. Shea, a young pharmacist of St. Paul, has returned from South Dakota.

——T. Campbell & Co., of Lohrville, Ia., have purchased the drug business of H. P. Bell & Co.

——Carter, Dinsmore & Co., the ink and mucilage manufacturers, lost about $2,000 by a fire in South Boston the other night.

——W. G. Damm, formerly proprietor of the pharmacy at 1107 Columbia avenue, Baltimore, Md., has sold it to Buschman Bros.

——Mrs. Lucy Decker has won her suit and has been awarded $1,500 damages against Druggist Frank Higgins, of Des Moines, Ia., for selling liquor to her husband.

——A fire of unknown origin did damage amounting to $5,000 early Oct. 18 at the wholesale drug house of C. H. Butterworth & Co., 125 Market street, Philadelphia.

——Druggist H. B. Jadwin, of Carbondale, Pa., a brother of O. H. Jadwin, of New York City, is about to close out his business and become a resident of San Francisco.

——A loss of $150 was caused Oct. 13 in John C. Eichner's drug store, Mulberry and Stricker streets, Baltimore, Md., by fire which originated from an over-heated furnace.

——A pair of elk used to advertise a certain kind of soap made in New York, has appeared in Boston, where it attracts considerable attention while going about the streets.

——W. W. Fiero, late with Hinchman & Sons, Detroit, has gone into business for himself, having bought out Druggist Haigh, corner of Brush and Jefferson avenue, Detroit

——G. Evander, who for several years past has managed a drug store in Amery, Wis., is about to enter into a partnership with another and put in a stock at Wheaton, Minn.

——Dr. William McPherson, one of the best known druggists of Philadelphia, who retired from business a few months ago, died Oct. 13, aged fifty-five years. He leaves a widow.

——Among the buildings laid in ruins during a big fire at Bayard, Grant County, W. Va., Oct. 12, is S. T. Anderson's pharmacy. The loss was $1,500, partly covered by insurance.

——A cargo of nitrate of soda arrived at Boston a few days ago from Tocopilla, Chili, consigned to Hemengway & Browne. This is the first vessel to come from that port to Boston.

——Up in Maine a drug salesman carries his bicycle with him on the train and uses it in the different cities he visits, in his calls upon druggists. He finds the plan very satisfactory.

——George W. Kern, a Prairieville (Mich.) druggist, will have to answer to the charges of running a store without being a registered pharmacist, and also for the illegal sale of liquor.

——C. S. Tilyard, a druggist at the southwest corner of Franklin and Greene streets, Baltimore, Md., is offering his store for sale. The stock, fixtures and lease of the building can be purchased.

——A wail comes from Amherst, Mass., because the students there cannot get beer at the drug stores—something which appears to have been possible until the State Board of Pharmacy began its determined war upon "rum drug stores," as they are called.

——The will of M. Pasteur, according to Paris papers, reads as follows: "This is my testament. I leave to my wife all that the law allows me to leave her. May my children never depart from the path of duty, and always have for their mother that love which she deserves."

——Some burglars have queer tastes. One of the fraternity robbed a West Salem, Wis., drug store of a double-barreled shotgun and a bottle of mineral water. In justice to the burglar, however, the theory is that he took water in mistake for something stronger.

——Frank M. Fisk, druggist at Edwardsburg, Mich., held a lighted lantern while he attempted to draw gasoline from a tank. He was very seriously burned by the explosion which followed and came near losing his store. He feels thankful to bystanders for saving his property from combustion.

——Harry Gilpin, of Gilpin, Langdon & Co., was the last of the Baltimore delegates to return from the Denver convention of wholesale druggists. After the meeting he, in company with a number of friends, went hunting for big game in the extreme northwest corner of Colorado. Mr. Gilpin reports having had splendid sport.

——William F. Ritter has purchased the long-established H. F. Ruem pharmacy, at Fifth street and Broadway, Cincinnati. Will Ruem, the previous owner, will assume full proprietorship of the Stake & Ruem apothecary, on Walnut Hills, he having acquired Mr. Stake's interest in the business.

——John E. Rea, a druggist, sixty-four years old, was taken to the Baltimore University Hospital on the night of Oct. 17 suffering from congestion of the brain. A policeman found him lying unconscious upon the sidewalk. He rallied afterward, and at last accounts he condition was not considered critical.

——At Madison, Wis., Oct. 10, Judge Bunn, of the Federal Court, heard arguments on a motion for a permanent injunction to restrain the Eureka Chemical and Manufacturing Co., of La Crosse, Wis., from using similar advertising and labels in the sale of its cure for the tobacco habit as is used by the Sterling Remedy Co., of Indiana.

——At the recent semi-annual meeting in Boston of the Massachusetts Homeopathic Medical Society it was announced that a museum of materia medica is to be founded at the Homeopathic College, and that a prominent wholesale drug house in New York has promised to furnish bottled specimens of every known kind of drug.

——The patent rights of Stonebraker's Liniment and other preparations, the manufactured stock, drug materials, labels, machinery and other things necessary to carry on manufacturing, all the

property of the Stonebraker Chemical Co., of 5 West Pratt street, Baltimore, which recently went into the hands of a receiver, were sold at public auction on Oct. 16.

——At Westfield, Mass., Druggists Dewey & Parsons display in their show window nineteen old prescription books, containing 80,000 prescriptions. In addition they possess 7,000 prescriptions on spindles, put up previous to 1863, and nearly 40,000 which have been dispensed by themselves, a grand total of 127,000 in their possession.

——Hon. Gorham D. Gilman, of Gilman Bros., Boston, who is Hawaiian Consul General, says of the rumors about the re-establishment of a monarchy in Hawaii: "The fact is that the republic is becoming more firmly established every month. The men in control will compare most favorably with any framers of government the world has seen in this century."

——Four bills in equity have been filed in the U. S. Circuit Court by the Wells & Richardson Co., of Vermont, owners of Paine's Celery Compound, against Pittsburg dealers who are selling King's Celery Compound. The defendants are J. M. Fahnestock, T. W. D. Heiber, J. A. Shaffer and L. E. Hewitt. The plaintiffs allege that their label has been infringed upon.

——Druggist Louis J. Roth, who owns a drug stores at the corner of Light and Randall streets, Baltimore, Md., is being sued by his wife, Mrs. Ida B. Roth, for a partial divorce on the ground of cruelty. She also wants counsel fees and alimony, and asks for an injunction to restrain her husband from disposing of his property. The couple have been married two years.

——The stock and fixtures of the H. T. Clarke Drug Co. of Lincoln, Neb., which firm recently failed, have been sold to the Richardson Drug Co., of Omaha, for $59,500, a sum not much in excess of half the inventory value. The firm is succeeded by the Lincoln Drug Co., of Lincoln, which opened business at the old stand Oct. 14, with W. C. Mills as manager. Mr. Mills has been connected with the jobbing trade of Lincoln for twelve years or more and is well acquainted with the trade.

——In the campaign against rum selling in the prohibitory State of Maine one interesting incident is the giving of a warning by a law enforcement league in Biddeford to the landlords of buildings in which it is supposed liquor is sold, for the Maine law makes owners of buildings responsible with the actual sellers, in case of proof of sales, and the payment of a special tax to the Federal Government is taken as prima facie evidence of intent to violate the State statutes. This new move means that druggists may be ordered to move out unless they can satisfy their landlords that they will observe the law strictly. One ex-druggist declares that the present city marshal, when a deputy sheriff, used to protect, or offer to protect, him if he would contribute to a campaign fund—a statement which the marshal indignantly denies.

ASSOCIATIONS,
CLUBS, SOCIETIES.

To Connecticut Druggists.

Hartford, Conn., Oct. 6, 1895.

Dear Sir: The Committee on Pharmacy and Queries earnestly desire to have at the next meeting of the Connecticut Pharmaceutical Association a good display of pharmaceutical and proprietary preparations prepared by retail druggists, members of this association; also a generous number of papers on subjects of vital interest to pharmacists. In order to incite more than a passing interest in these matters we have decided to adopt the suggestions of a special committee and offer a series of prizes as follows:

For the best exhibit of elixirs, syrups and ointments, (Syrups and ointments, U. S. P., 1890), a prize of $5.

For the best exhibit of proprietary articles (products of own pharmacy), a prize of $5.

For the best paper on "How to be a Successful Pharmacist," a prize of $5.

For the best paper on "The Best Method of Reaching and Interesting the Physician in the Products of Our Own Pharmacies," a prize of $5.

For the best paper on "The Value of Pharmaceutical Journals to the Pharmacist," a prize of $5.

For the best paper on "How Far is It Profitable and Practicable for Pharmacists to Do Their Own Manufacturing?" a prize of $5.

All papers must be sent to the chairman of the Committee on Pharmacy and Queries at least twenty days before date of annual meeting, February 4 and 5, 1896. Name of author must be sent with paper, but not attached thereto. Those intending to exhibit products of their pharmacies must notify the chairman of the committee at least twenty days before date of annual meeting, so that provision may be made for placing exhibits. All contestants must be retail druggists and members of the Connecticut Pharmaceutical Association.

A committee of three appointed by the president of the association will decide upon the merits of the papers and exhibits and award the prizes. As no names are to be attached, the prizes will be awarded on their merits only.

Should you not desire to contest for any of the prizes, the committee would be pleased to receive a paper from you on any subject which you might deem of interest to the pharmacist, and we can assure you in advance that the association would be grateful for all such papers received. Try and lend us a helping hand and thus make the next meeting of the association one long to be remembered as both instructive and pleasant. RICHARD H. KIMBALL,

Chairman Committee Pharmacy and Queries, Connecticut Pharmaceutical Association.

——The next annual meeting of the Connecticut Pharmaceutical Association will be held at Bridgeport Feb. 4 and 5, 1896.

GUSTAVE J. MEYER.

St. Louis Paint, Oil and Drug Club.

St. Louis, Oct. 19.—The St. Louis Paint, Oil and Drug Club held the first of its winter meetings and banquets Thursday evening at the Mercantile Club. About forty of the representatives of prominent firms were in attendance. The following officers were elected for the ensuing year: President, Gustave J. Meyer, of the Meyer Bros. Drug Co.; vice-president, James A. Reardon, president of the Reardon Glue Co.; secretary, M. L. Wieder, vice-president of the Wieder Paint Co.; treasurer, Charles D. Stevens, president of the Stevens Paint Co.; directors, Melvin H. Stearns, H. V. Kent, M. L. Wieder, Robert Whitelaw and C. W. Blow. H. V. Kent, the retiring president, made a brief address in which he reviewed the work performed by the club during the last year, showing an average attendance much larger than in any of the previous years and a prosperous condition of affairs generally. Messrs. Kent, Stevens and Warner, the committee appointed to attend the convention of the National Paint, Oil and Varnish Association, submitted an elaborate report which was received with a great deal of interest. A special committee was also appointed to co-operate with the Manufacturers' Association for the entertainment of the Mexican Governor, who is to visit this city in the near future. After the business meeting of the club the usual banquet followed. Interesting speeches were made by members of the club regarding the importance of establishing trade relations with Mexico.

Mr. Meyer, the newly elected president of the club, was born in New York City in September, 1848. In 1854 he went West with his parents to Fort Wayne, Ind., where he attended Concordia College for a number of years and acquired the rudiments of the drug business with Meyer Bros. & Co., in that city, in 1865. Two years later he made a brief visit to St. Louis and finally located there in 1871. In 1880 he was taken into the firm of Meyer Bros. & Co., and in 1889, when the different branches of this firm were merged into a corporation, he became its secretary, which position he has held since.

New England Druggists Active.

Springfield, Mass., Oct. 16.—A most enthusiastic meeting of the retail druggists of Hampden County was held at Hayne's Hotel this forenoon. There was a large attendance and close, interested attention to all that was said and done, and a unanimous intention to stand as a unit in demanding that the jobbers of New England hear and accede to the desires of the retail trade for protection in the retail prices of medicines. The meeting was favored by the presence of Mr. Henry Canning, Mr. G. W. Cobb and Mr. F. W. Reeves, of Boston. These gentlemen, who were fully conversant with the state of friendly feeling now existing to such an extent between manufacturer, jobber and retailer, were able to make very clear the wonderful progress made by the New England druggists and prophesied a brighter future for the retail druggist provided he was willing to help himself. Resolutions were passed appreciating the friendly feeling shown by so many jobbers and manufacturers in New England toward the retailer, and by a standing vote, with raised hands, a loyal promise was made to stand by those who were so earnest to listen and heed and also grant the request of the retail drug trade of New England. If other cities can arouse and show an interest to equal that of the Hampden County druggists the day is near at hand when in every State will be found the "jobber coming to the retailer" promising help. Mr. Ward, of New York, intimated that the leading houses of New York would show their friendliness when so desired. Western Massachusetts is in line with strong, full ranks and will do all in its power to bring about a better condition in trade.

St. Louis Drug Clerks' Society.

St. Louis, Oct. 18.—The St. Louis Drug Clerks' Society has again sprung into life. A special meeting was held last night and this time a good crowd was in attendance. Vice-President Charles Milne presided. Six new members were elected and four more proposed. The resignation of President Max Schneider, who has become a proprietor, was accepted with regret. The vacancy was not filled, however, in view of the fact that the annual election of officers takes place in January. First Vice-President C. W. Tritschler and Second Vice-President Charles Milne were instructed to serve during the intervening meetings. The nominations for officers will be made at the next meeting, Nov. 14. It was also decided to give a smoker and luncheon on that day, and Samuel E. Livingston was unanimously elected toastmaster for the occasion. Arrangements are also being made for a ball to be given on or about Thanksgiving eve. A special committee, consisting of William Baron, Albert Horstmann and Samuel Livingston, was appointed to assist the Entertainment Committee in arranging for the ball, smoker and other enjoyments for the winter. The new members elected were S. L. Smiley, Henry A. B. Kippel, W. M. Lanmann, Theodore W. Larmel, H. C. Rohn and J. D. McFarland.

Apothecaries Guild Thanks the Journals.

Boston, Mass., Oct. 3, 1895.

To the Editor:

The following resolution was unanimously adopted by the Apothecaries's Guild this day:

Resolved, That the thanks of the Apothecaries' Guild of Boston and Vicinity be hereby tendered the various pharmacentical journals which are supporting the interests of pharmacy. In a special manner we are under obligations to these journals for reports of meetings and for favorable criticisms of the work of the N. E. Retail Druggists' Union.

We would particularly acknowledge the valuable assistance of our home journal, the New England Druggist, as well as that of the Pharmaceutical Era, the American Druggist, the Western Druggist, Merck's Market Report, and the Druggists' Circular.

C. P. FLYNN, President.
F. W. REEVES, Secretary.

——The meeting of wholesale druggists called to select a member of the Proprietary Goods Committee for the district embracing Maryland, the District of Columbia, Virginia, West Virginia and North Carolina, met Oct. 10 in one of the parlors of the Arlington Hotel, Washington. The firms represented were J. J. Thomsen's Sons, Muth Bros. & Co., Winkelmann & Brown Drug Co., Boykin, Carmer & Co., James Bailey & Son, Gilbert Bros. and Gilpin, Langdon & Co., of Baltimore; Purcell, Ladd & Co., of Richmond, Va.; the Powers-Taylor Drug Co., of Richmond, Va., and E. S. Leadbeater & Son, of Alexandria, Va. Herman I. Thomsen was elected chairman and J. Frank Bailey secretary. The meeting was very brief. Entire unanimity prevailed as to the excellence of the new plan to regulate the sale of patent medicines. R. W. Powers, of Richmond was selected without a dissenting voice to serve on the committee.

——The intention of Alfred R. L. Dohme, of the A. Ph. A., scientific section, to take up a line of investigation which has been followed by others, but not far enough, and from which the drug trade generally may derive great benefit by reason of the fuller knowledge acquired of the special needs in various sections of the country and of the tendency to use this or that article in preference to others. Mr. Dohme proposes to commence an analysis of prescriptions from all the larger cities in the United States. Altogether he desires to secure from 25,000 to 50,000. The data which he expects thereby to attain will be valuable to all druggists. Hitherto the prescriptions secured covered too limited a territory to admit of trustworthy conclusions.

——The Oklahoma Pharmaceutical Association held its annual meeting at Perry Oct. 2, President W. T. Mayfield in the chair. The officers elected for next year are: President, C. P. Wickmiller, of Guthrie; vice-presidents, E. S. Donnalley, of Guthrie, and George W. Tryar, of Oklahoma City; secretary, Edwin De Barr, Norman, and treasurer, J. M. Remington, Shawnee. The by-laws were changed to fix the time of meeting to the first Wednesday after the first Tuesday in April of each year. Next year's meeting will be held at the same place at which the Board of Pharmacy meets at that time.

——M. N. Kline and George A. Kelly, of the Proprietary Committee of the N. W. D. A., have just returned from a trip to Boston, where they have been looking into the new "rebate plan." While nothing was accomplished, they feel jubilant over the success so far attained, and it is thought within a short time a meeting of the new committee will be held, at which steps will be taken to put the plan into force. Owing to certain unavoidable happenings no definite time can be set for this meeting, but it is the opinion of all that the sooner it is held the better it will be for the trade in general.

——Harry Gilpin, of Gilpin, Langdon & Co., Baltimore, Md., has been appointed as a member of the committee on entertainment which will look to the welfare of the delegates to the annual meeting of the Wholesale Druggists' Association in Philadelphia next year. He is admirably qualified for the work, having on previous occasions served in a similar capacity. He forwarded his acceptance several days ago.

——The Drug Clerks' Association of Hartford, Conn., has elected as president, L. F. Hawley; vice-president, L. H. Tracy; treasurer, A. E. Lathrop; corresponding secretary, George Follet.

——The druggists of Carbondale, Pa., on Oct. 14, formed an organization for mutual benefit, and elected Frank E. Dennis president and B. A. Kelly secretary.

——The Albany College of Pharmacy opened its fifteenth annual session on the night of Oct. 8. Prof. W. G. Tucker delivered a short address of welcome; he was followed by a few remarks by Dr. A. V. Raymond, president of Union College, of which the College of Pharmacy is a branch, and he was followed by Prof. Gustavus Michaelis, professor of pharmacy, who delivered a very interesting address. A few remarks by Professor Huested terminated the exercises. The college has added a course in microscopy, to be under the supervision of Dr. Andrew MacFarlane.

——Some first-class chemist appears to be needed by the Massachusetts Institute of Technology, in Boston, to take the place left vacant by the election of Dr. T. M. Brown to the presidency of Lehigh University. No one seems to have been chosen to fill the position of head of the chemistry department.

——Dr. John C. Falk delivered an interesting lecture before the Alumni Association of the St. Louis College of Pharmacy on Oct. 15. His subject was "Poison Emergencies." A large and select crowd was in attendance.

——Prof. Henry Trimble, of the Philadelphia College of Pharmacy, left Oct. 15 for Atlanta, Ga., and expects to be gone several days. Professor Trimble is one of the judges at the Atlanta Exposition.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Little Rock, Nov. 13.
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco —.
Colorado (C. H. Wells, Pueblo)—Denver, Dec. 6.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Nov. 13.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, second week in January, 1896.
Florida Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—Chicago, Nov. 12.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Nov. 5.
Kansas (W. C. Johnston, Manhatton)—Junction City, Dec. 11.
Kentucky (Wiley Rogers, Louisville)—.
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Dec. 11.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Jan. 9, 1896.
Massachusetts (Freeman H. Butler, Lowell)—Boston.
Michigan (F. W. R. Perry, Detroit)—Lansing, Nov. 6.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Jan. 21, 1896.
Mississippi (J. C. Means, Natchez)—Jackson, April 7, 1896.
Missouri (F. W. Sennewald, St. Louis)—
Montana (G. W. Shoemaker, Billings)—Butte, April 7, 1896.
Nebraska (M. E. Shultz, Beatrice)—Lincoln, Nov. 13.
New Hampshire (George F. Underhill, Concord)—Manchester, Jan. 28, 1896.
New Jersey (Albert S. Elwell, Bridgeton)—.
New Mexico (W. C. Porterfield, Silver City)—.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburg, Rochester, Syracuse and Yonkers, Nov. —.
North Carolina (Wm. Simpson, Raleigh)—.
North Dakota (W. S. Parker, Lisbon)—.
Ohio (W. R. Ogier, Columbus)—Cincinnati, Jan. 14, 1896.
Oklahoma (C. P. Wickmiller, Kingfisher)—.
Oklahoma City, Jan. 14, 1896.
Oregon (Dan J. Fry, Salem)—Albany.
Pennsylvania (Charles T. George, Harrisburg)—.
Rhode Island (William E. Cates, Providence)—Providence, Nov. 4.
South Carolina (H. W. Hummel, Charleston)—Charleston, Nov. 20 and 21.
South Dakota (I. A. Keith, Lake Preston)—Sioux Falls, Jan. 8, 1896.
Tennessee (J. O. Burge, Nashville)—Memphis, Jan. 15, 1896.
Vermont (J. G. Bellrose, Burlington)—Montpelier, Jan. 7, 1896.
Virginia (E. R. Beckwith, Petersburg)—Richmond.
Washington (W. H. T. Barnes, Seattle)—. Spokane, Nov. 18 and 19.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville)—Milwaukee, Dec. 11.
Erie County N. Y. (C. O. Rano, Buffalo)—Buffalo, Nov. 2.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn)—Brooklyn, Nov. 19.
New York City (William Balser, M. D., 218 East 13th street)—College of Pharmacy building, Nov. 11.

——At the third quarterly meeting of the Vermont State Board of Pharmacy, held at Brattleboro Sept. 25, five candidates appeared for examination. Certificates were granted to the following: A. C. Booth, Bellows Falls; F. B. Howard, White River Junction; C. G. Maynard, Brattleboro. The next meeting of the board will be at Montpelier Jan. 7, 1896.

——The Commissioners of Pharmacy of Maine met at Portland for examination of candidates on Oct. 9.

——The Iowa Pharmacy Commission during the past year have commenced about 100 suits against itinerant venders of medicine. In many cases the venders have paid the license fee rather than go to court. There are about fifty cases now pending.

——The New York City Board of Pharmacy at its last examination passed Alfred M. Pierson and Arthur P. Lee. During the month thirty-two pharmacists were registered. Three were convicted and fined for violations of the pharmacy laws. Next examination Nov. 11, 9 A. M.

——Numerous instances of late demonstrate the activity of the Illinois Board of Pharmacy against itinerant venders of patent medicines in that State. A license from the board is required for this sort of thing, in addition to a town license, and the State is no longer a paradise for this sort of fakir.

——The Connecticut Board of Pharmacy held a special meeting at Hartford in the Capitol Oct. 9. Six candidates appeared, of whom Leone F. La Pierre, of Norwich; Frank J. McGuire, of New Haven, and Charles H. Shea, of Worcester, Mass., were successful. The board will hold a special meeting Nov. 13 at the same place.

——The Mississippi Board of Pharmaceutical Examiners, at its regular semi-annual meeting held in Natchez Oct. 1, granted licenses to W. R. Dicks, Natchez; J. D. McKee, Biloxi; C. E. Rowe, Columbia; G. B. Grover, Natchez, and W. W. Kirby (colored), Vicksburg. A new board will be appointed before the next regular meeting, Tuesday, April 7, 1895.

——The Maine Commission of Pharmacy at its meeting held in Portland Oct. 9 examined six candidates for registration, Fred. W. Chandler, Portland, being the only successful one. All persons who intend presenting themselves for examination should communicate with Secretary Frank R. Partridge, Augusta, at once. If a suitable number of applications are not made before Dec. 1, the December meeting will be omitted and no meeting will be held till Feb. 12, 1896.

——The Missouri Board of Pharmacy met on Oct. 14 in St. Louis, and examined forty-five candidates. The following were successful: C. W. Bartel, St. Charles; P. W. Beckman, Alton, Ill.; D. H. Cooper, Gilliam; W. S. Farris, Chamois; T. B. Harmon, Sweet Springs; F. K. Hutchinson, Hannibal; F. A. McCormick, Southwest City; H. A. C. Poppenhusen, Union; Wm. D. Powell, Excello; I. T. Townsand, Springfield; Chas. Herbert, Geo. B. Higgins, E. H. Kelly, Wm. C. Meyer, Rudolph Mueller, W. E. Stille, Aug. Vogelsang, St. Louis.

——At the last meeting of the Maryland Board of Pharmacy Howard C. Watts and Mr. Farrow, of Baltimore, and Joseph A. Hays, of New York, were examined, and passed very creditably. Mr. Farrow has gone into business with his brother at Walbrook, a suburb of Baltimore. Mr. Hays is taking examinations in various States, and will embody his experiences in a report to the next annual meeting of the American Pharmaceutical Association. He intends to make comparisons of the methods of examination in different places, and expects to make a very interesting exhibit.

——The Montana Board of Pharmacy met in Anaconda Oct. 8 and issued certificates as registered pharmacists to W. H. Dowling, Bozeman; Ph. Anderegg, Dillon; S. H. Osborn, Bozeman; W. A. Lewis, Deer Lodge; C. B. Snyder, Great Falls; E. H. Charette, Anaconda; P. H. Paradise, Philipsburg; Burt Hoffman, Butte; W. H. Lightstone, Anaconda; F. A. Wilson, Butte; Charles J. Wangler, Missoula. Special permits as registered pharmacists, until the next examination, were issued to Gustave Steineman, Livingston; David Dowty, Great Falls. Special permits as assistant pharmacists: G. A. Henry, Jr., Butte; Thomas Congdon, Philipsburg. Next meeting, Butte, April, 1896.

——The Tennessee Board of Pharmacy granted certificates as registered pharmacists to J. E. Hofmeister and William Oldendorph, of Memphis, and to Wm. S. Semonis, Knoxville; W. R. Hall and W. E. Drake, Chattanooga, and Wm. F. Friar, Nashville, as assistants, at its meeting held in Chattanooga, Oct. 16 and 17. The board passed a resolution granting druggists brought under the pharmacy law by the late amendment, thirty days from Oct. 16 in which to file their their applications to register without examination. Druggists who fail to take advantage of this resolution must take the examination at the next meeting of the board, or suit will be brought against them for violation of the law. All applications for examination must reach the secretary at least three days before date of next meeting, Jan. 15, 1896, at Memphis.

Prosecution of Violators of Illinois Pharmacy Law.

The State Board of Pharmacy of Illinois has decided upon a vigorous policy toward the violators of the pharmacy law. All prosecutions under State laws must be brought in the name of the people of the State of Illinois. This places the matter in the hands of the State's attorney, Mr. Kerr. It is the intention of those charged with the due execution of the law to see that its provisions are carried out to the letter. Before the fracas is over there may be some pretty legal battles, as it is claimed by those opposed to the law that there is a constitutional question involved which will support their contention. The law, however, was carefully drawn by those versed in matters of this kind, and it is confidently asserted that if the violators of the law have the hardihood to carry the matter to the Supreme Court of the State all its provisions will be upheld. The result of the coming issue is awaited with no little anxiety by the druggists, for it will determine whether or not their time, money and patience have been expended to no purpose in their efforts to better the conditions now existing in the profession of pharmacy.

COLLEGES
AND SCHOOLS OF PHARMACY.

Philadelphia College.

PAPERS READ AT THE PHARMACEUTICAL MEETING.

Philadelphia, Oct. 15.—The first pharmaceutical meeting of the Philadelphia College of Pharmacy was held to-day, at which papers were read on "Granulated Opium" by L. F. Kebler and C. H. LaWall, chemists for Smith, Kline & French Co. Mr. Kebler also had a paper on "Black Sulphur." During the meeting there was a talk on "Eucalyptus Growing in America" by Prof. George M. Beringer. There were also other subjects discussed.

The paper on granulated opium, in abstract, was as follows:

Granulated Opium.

"We recommend that granulated opium be used in the preparation of tincture and deodorized tincture of opium and that the use of precipitated phosphate of calcium be omitted in their preparation."

The foregoing recommendation of the "A. Ph. A. Committee on Revision of the U. S. Pharmacopœia," together with the unfavorable results of Professor Hemm's experiments with the official process for tincture of opium, led the authors of this paper to investigate the two processes in order to determine their respective merits. The use of powdered opium in this preparation has always been unsatisfactory, even since the addition of precipitated phosphate of calcium, which appears to prevent the thorough extraction of the morphine, as a number of carefully conducted experiments indicate.

The use of the granulated opium is simple, and it is very easy to manipulate. The process in general is as follows: A plug of absorbent cotton is placed in the lower orifice of a cylindrical percolator, and the opium is introduced without previous moistening. It is then pressed down firmly and covered with a filter paper held in place by a suitable weight, and the extraction can be performed by macerating for a short time (from four to twelve hours) with any desired menstruum and then percolating carefully until the required quantity of percolate is obtained.

The experiments, which were varied in their mode of application, were conducted carefully upon assayed samples of the drug. The U. S. P. process was found to justify all the complaints which have been made, as it required from sixty hours to six days to make a finished tincture, and the loss in extracting the morphine varied from 1.4 per cent. to 2.42 per cent. With the granulated opium most encouraging results were obtained, as it was found that a finished preparation could be made in from ten to thirty-six hours, with a loss of from only 0.3 to 0.6 per cent. morphine. A number of druggists were also interviewed, the majority of whom expressed their dissatisfaction with the present method, and only a few were found who used it at all. The table of comparative results is as follows:

No.	Process used.	Per cent. of morphine in opium.	Per cent. of morphine in tincture.	Per cent. of morphine lost.	Time allowed for maceration.	Time consumed in percolation.
1.	U. S. P., 1890	14.09	1.200	2.09		6 days
2.	U. S. P., 1880	13.92	1.195	1.97		2 days
3.	Granulated opium ...	12.15	1.183	0.32	12 hours	10 hours
4.	Granulated opium ...	12.15	1.180	0.35	4 hours	6 hours
5.	Granulated opium ...	14.35	1.370	0.65	4 hours	10 hours
6.	Granulated opium ...	14.35	1.370	0.65	12 hours	10 hours
7.	Granulated opium ...	14.35	1.375	0.60	12 hours	10 hours
8.	Granulated opium ...	13.70	1.355	0.15	12 hours	24 hours
9.	Granulated opium ...	14.25	1.360	0.35	12 hours	24 hours
10.	Granulated opium ...	14.35	1.370	0.65	12 hours	10 hours
11.	Granulated opium ...	14.35	1.398	0.37	12 hours	24 hours
12.	U. S. P., 1890	13.92	1.252	1.40		3 days
13.	U. S. P., 1880	14.48	1.296	2.42		4 days

Lyman F. Kebler also read another paper on the "Assaying of Coca Leaf and experiments with the Fluid Extract of Coca."

Coca.

The writer called attention to the fact that Schweissinger and Sarnow were the first to point out the advantages a chloroform-ether mixture possessed in assaying galenical preparations. Keller simply applied the above process to the drug itself with a slight modification.

Keller's method having for some time yielded unsatisfactory results in standardizing the fluid extract of coca leaves, the writer determined to investigate the process, comparing it with well-known methods. The following results were obtained:

Methods.	Per cent. of alkaloids gravimetrically.	Per cent. of alkaloids volumetrically.
Squibb.....	0.75	0.67
Marck.....	0.64	0.485
Pfeiffer.....	....	0.58
Lyons (General).....	0.503	0.481
" (ether).....	0.523	0.516
" (benzine).....	0.51	0.34
" (benzine and ether).....	0.72	0.52
Keller's (4 hrs.).....	0.56	0.532
" (24 hrs.).....	0.62	0.563

After taking into consideration the yield of alkaloids, time required per assay, ease of execution, difficulty of emulsifying, and neatness of the methods, the author decided in favor of Keller's.

Experiments were also made with the fluid extract of coca. After trying several menstrua it was concluded that diluted alcohol does not extract the leaf as well and thoroughly as a 65 per cent. alcohol. The conclusion was based on analytical data.

Black Sulphur.

A paper entitled "Additional Notes on Black Sulphur," by the same author, was also presented. It embodied the substance of letters of two well-known druggists, Messrs. Ebert and Heinitsh.

The following formulæ for the preparation of black sulphur were suggested by Mr. Kebler:

Sulphur .... 9 parts
Lamp black or powdered charcoal .... 1 part

When antimony sulphide is a necessary ingredient mix intimately:

Sulphur ....88 parts
Antimony sulphide .....12 parts

New York College of Pharmacy.

An idea which has been revolving in the minds of the members of the College of Pharmacy for some time found expression at the regular meeting of the college on the 15th inst. That is, members of the faculty of the institution should attend the meetings of the American Pharmaceutical Association, or at least some of the faculty should attend. Other colleges are generally well represented at such gatherings and the result is to the benefit, not only of the association, but of the colleges. The New York College has every reason to be proud of its faculty, and, say the members, there is no reason why its light should be hid under a bushel. One gentleman who attended the meeting on the 15th said to the Era: "At the meetings of the A. Ph. A. there are enough pharmacists to deal with all questions of business, while the presence of professional men, like members of a college faculty, would add very much to the enjoyment of discussions because of their expert knowledge and ability to discuss subjects from a scientific standpoint. Then, our college ought to be brought more prominently before the pharmacists of the country, and one means to that end would be the attendance of some of our professors. It is easy to see, of course, why some other colleges are always represented. The professors share in the success of the institution to which they belong, and it is bread and butter to them to advertise their college. While our arrangement with the faculty of the New York College is radically different, the principle is the same. I hope we shall be well represented at all future meetings of the A. Ph. A."

There was not much business done at the meeting. George J. Seabury made a report on the recent convention of the A. Ph. A. to the bare quorum of members present. There was a discussion on that, which involved the point above given. Then the usual notice of two or three proposed amendments to the by-laws was given. There was considerable pleasant talk about the new post-graduate course at the college, most of those present being surprised to hear of the number of students in that course. The college as a whole deprecates the use of the title "Doctor of Pharmacy," but the members

have felt that it was necessary to meet the other colleges in this matter. This post-graduate course must not be considered an easy one by those who think of joining it. One pharmacist told a member that he joined the class thinking he would not have much to do except pay his fee and take his degree, but much to his surprise he found he had started in on very hard work, with the chances very much in favor of harder work in the future. This was pleasing to the members, who have every reason to feel that the faculty is doing splendid work for the college.

Maryland College of Pharmacy.

Baltimore, Oct. 17.—E. B. Fischer, the new secretary of the Maryland College of Pharmacy, is displaying a very creditable energy in promoting the interests of the college. His endeavors to arouse greater interest in teaching colleges, and especially in his own institution, have already received mention in the Era. They took the form of a circular letter addressed to all the druggists, wholesale and retail; chemists, manufacturing as well as analytical, and to the secretaries of colleges in other States. In this circular the importance of more active participation in the affairs of the colleges and of a better attendance at meetings was emphasized. Comparisons were also made of the attendance in Louisville, Washington, St. Louis, Philadelphia, Baltimore, Chicago and New York. The local druggists were requested to communicate any suggestions which might occur to them, and this had already led to an interchange of opinions which will be valuable in future deliberations. Interest has been stimulated to such an extent that at the meeting of the board today Charles H. Doeller, Dr. Louis C. Horn and Horace Burrough, he latter the senior member of the Burrough Bros.' Manufacturing Co., were elected to membership, while some twelve applications are pending. The secretary of the Illinois college has written a letter to Mr. Fischer, in which the latter is complimented on his enterprise and the ideas advanced in the circular are indorsed. In four or five months Mr. Fischer expects to have reports from all of his correspondents as to the progress made during that time. Thus the circular, which was primarily intended to have a local import merely, will have a national effect. He has also compiled a directory of all druggists and chemists in the city and suburbs, and will endeavor to keep up with all changes that may take place. The long-distance student of the Maryland college this year is Nacklub F. Cabahe, who comes from Syria. He attended the American College there and is a very intelligent young man.

——Professor Heebner, of the Ontario College of Pharmacy, Toronto, reports a junior class of 120 members.

——The School of Pharmacy of Northwestern University has 225 matriculates this fall, which is an increase of 39 above the attendance of last autumn. Of this 225, about 30 have had no previous drug store experience. Twelve are women. 158 are juniors, 56 seniors, and 11 are engaged upon their second years' work for the degree of pharmaceutical chemist.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ARKANSAS.

Buena Vista.—J. D. Lockhart & Co., removed to Camden, Ark.

Little Rock.—Hooper & Allen, now Perry C. Hooper.

CALIFORNIA.

Alameda.—F. L. Volberg, now proprietor of West End Drug Store.

Bachelor.—J. W. Yelton, new store.

Dunsmuir.—E. Johnston, new store.

Healdsburg.—Whitney & Kruse, now W. B. Whitney.

Mariposa.—Jones & Burnett, new store.

Porterville.—M. P. Chubb sold to Hunt & Hibbard.

San Francisco.—J. B. Skinner, 1601 Filmore, closed by sheriff.

Winters.—Day & Watson, dissolved.

COLORADO.

La Jara.—H. O. Ellis, sold to George Hamilton.

Trinidad.—Riverside Drug Store, sold to C. H. Dietler.

CONNECTICUT.

New Haven.—M. J. Hotchkiss, will discontinue.

FLORIDA.

Green Cove Springs.—C. M. Merrill, burned out; loss, $1,000; insurance, $750.

Jacksonville.—F. B. Chase, sold to John Keiser.

Tampa.—P. Arlund, sold to Mr. Abernethy.

GEORGIA.

Palmetto—J. L. sAkew, will remove to West Point, Ga.

IDAHO.

Montpelier.—V. M. Reynolds, closed out.

Salmon City.—Kenney & Howe, sold to C. S. Kenney & Co.

ILLINOIS.

Beardstown.—W. T. Douglass, new store.

Champaign.—W. H. Zorger, will open new store.

Chicago.—G. A. Goetsch, Harrison and Oakley ave., sold to De Witt Spalding.

R. Jentsch, 12th and California, sold to Dr. Vollnl.

Kent's pharmacy, 376 State, removed to Milwaukee ave.

Low Art Tile Co., removed to 409 Dearborn.

Silver Pharmacy, State and Oak, sold to E. Heller.

East St. Louis.—Phenline Chemical Co., incorporated; capital, $250,000.

Highland Park.—F. W. Schumacher, is opening new store.

Loraine.—C. W. Wharton, burned out; insured.

INDIANA.

Clinton.—A. J. Woods, sold to Giles D. Walker.

Fort Wayne.—H. W. Rathert, sold out.

Tipton.—Powell & Stinson, now J. R. Powell.

IOWA.

Chester.—E. J. Eckstein, new store.

Gravity.—McColm & Moneyham, dissolved.

Lenox.—Bennett & Lehman, now T. W. Bennett.

Madrid.—Farr & Delander, assigned.

Missouri Valley.—C. F. Goodwin, of Munger & Goodwin, deceased.

Strawberry Point.—J. M. Henry, now J. M. Henry & Co.

KANSAS.

Atchison.—Armsby & Co., sold to James I. Taylor.

Marion.—H. W. Young, moved to St. Louis, Mo.

Seneca.—H. Jenkins, bought a store.

MAINE.

Greens Landing.—D. Jewett Noyes, new store.

Milltown.—Blanchard Drug Store, sold to P. L. Lord.

South Paris.—A. I. Sherman, is to open new store.

MARYLAND.

Baltimore.—J. H. Bentley, 1633 Madison ave., damaged by fire; insured.

W. G. Damm, 1107 Columbia ave., sold to Buschman Bros.

E. H. Dryden, 2200 N. Charles, succeeded by J. P. Hall.

J. C. Eichner, Mulberry and Stricker, damaged $150 by fire.

Elkton.—S. Buchanan, sold to Starling & Beck, instead of Starling, as reported in recent issue.

MASSACHUSETTS.

Brighton.—E. S. Murphy, sold to George McKee.

Clinton.—Thomas D. Tate, 49 Mechanic st., new store.

North Attleboro.—H. P. Childs, assigned.

Worcester.—Odell Boynton, 189 Pleasant st., new store.

MICHIGAN.

Marquette.—Kirkwood Pharmacy, closed under mortgage.

Portland.—J. W. Higgs, burned out; loss, $3,500; insurance, $2,500.

St. Ignace.—R. A. Serviss, sold to O. C. Boynton.

Standish.—D. Sullivan, sold to E. N. Austin.

MINNESOTA.

Audabon.—Andabon Drug Co., new store.

Fulda.—Rewalt & King, new store.

Kensington.—M. A. Scheldrup, retires from L. T. Olson & Co.

Oronco.—James Barnett, sold to C. F. McCray.

St. Paul.—F. Kult, succeeded by Stella Drug Co.

Wheatland.—J. A. Regner, new store.

MISSISSIPPI.

Lexington.—W. T. Matthews, assigned; succeeded by H. A. Perham.

MISSOURI.

Baring.—Dr. Hall, new store.

Edinburg.—G. G. Barnes, removed to Bancroft, Mo.

Kansas City.—John Cook, a former druggist, found dead in his room at St. Louis.

Charles Franzeen, 328 W. 16th, sold to Claus Johnson.

King City.—Hardwick & Lowary, sold to Ganaway Bros.

Laddonia.—N. D. Beagles, now J. M. & Frank Beagles.

Maitland.—Vanderlinde & Summers, now Vanderlinde, Summers & Co.

Martinsburg.—J. N. Pollard, of Pollard & Hamilton, deceased.

Spring Hill.—C. W. Patton, now Patton & Girdner.

St. Louis.—Charles Bauer, Taylor and Cottage ave., new store.

M. T. Schirner, Olympic Pharmacy, sold to Dr. Hartwig.

NEBRASKA.

Eagle.—R. S. Alford, moved to South Bend, Neb.

Lincoln.—H. T. Clarke Drug Co.'s stock sold to Richardson Drug Co., of Omaha, Neb.

Lincoln Drug Co., incorporated; capital, $116,000.

Charles McKinney, 225 N. 9th, slightly damaged by fire.

Lorton.—T. R. Whittaker, new store.

South Omaha.—D. S. Clark, new store.

NEW JERSEY.

Newark.—Maas & Waldstein, manufacturing chemists, succeeded by Jersey Extract Co.

NEW YORK.

Brooklyn.—C. E. Rice, Jr., Lewis and Jefferson aves., sold to John H. Reinders.

C. F. Sautters, 335 Grand, sold to F. W. Kinsman.

J. C. Ubert, Clymer and Division, sold out.

Campbell.—H. R. Willard, burned out; loss, $5,000; insurance, $4,000.

Mrs. E. B. Williams, burned out; loss, $4,000; partly insured.

Lima.—Coventry & Robbins, now John T. Coventry.

Newburg.—E. R. Post & Co., damaged $50 by water.

N. Y. City.—Low Art Tile Co., now 29-31 Church st.

Mangold's Pharmacy, 132d and 5th ave., sold to G. S. Snyder.

Wool Oil Refining Co., attached.

Rexville.—U. E. Van Fleet, deceased.

Waverly.—H. H. Hayes & Son, closed by sheriff.

NORTH DAKOTA.

Grand Forks.—D. M. Holmes & Co., sold to F. W. Schlaberg.

OHIO.

Berlin Heights.—John H. Beebberger, damaged $400 by fire; insured.

Hamilton.—Harper Bros., damaged by fire; insured.
Holgate.—J. A. Bowdle, deceased.
Steubenville.—Dr. Laughlin, S. 3d st., new store.
Toledo.—L. Martin, store sold to C. M. Williams.
Warren.—D. H. Byard, sold to McClure & voit.
Wilmot.—S. Wolf, of S. Wolf & Son, deceased.

OREGON.

Springfield.—G. A. Yerington, sold to Dr. Von Valzah.

PENNSYLVANIA.

Allen.—D. L. Devinney, deceased.
Lebanon.—V. H. Allwein, 430 N. 9th, deceased.
Philadelphia.—Dr. Wm. Macpherson, deceased.
Robert Simpson, Broad and Parrish, sold to Tyler & Walton.
Priceburg.—John J. Belheimer, sold by sheriff.
Scranton.—Dr. W. E. Lloyd, Parker and Main, new store.
Smethport.—F. R. Foster, moved to Bradford, Main and High sts.
Stewartstown.—J. Lewis Lieb, sold to Henry Mull.

RHODE ISLAND.

Central Falls.—F. H. Jones, damaged by fire.

SOUTH DAKOTA.

Wessington.———St. Marie, new store.

TENNESSEE.

Brownsville.—W. E. Moore, assigned.
Sweetwater.—R. F. Scruggs, sold to A. D. Scruggs.

TEXAS.

Burke.—E. O. Deal, sold to J. M. Fairchild.
Dallas.—Roman & White, burned out.
Hillsboro.—Lewis Bros., failed.
Italy.—Sewell & Pruett, dissolved.
Waco.—Williamson Drug Co., now Palace Drug Store, Harris & Dean, proprs.

VERMONT.

Burlington.—E. A. La Fountain, North End Pharmacy, sold to E. Gosselin & Bro.

WASHINGTON.

Chehalis.—C. W. Johnstone, discontinued.
Everett.—W. Pratt, new store.
Pataha City.—J. S. Denison, burned out.
Starbuck.—Mary D. Dunlap, attached.
Walla Walla.—J. S. Galloway, sold to Oscar Pacius.

WEST VIRGINIA.

Bayard.—S. T. Anderson, burned out; loss, $1,500; insured.
Nydigger's drug store, burned out.

WISCONSIN.

Lake Mills.—Charles S. Heimstreet, new store.
Milwaukee.—C. A. Hennel, of Casper, Hennel & Bro., deceased.
Shell Lake.—M. G. McDermott, sold to W. H. Zwickey.

WYOMING.

Rock Springs.—W. C. C. Freeman, sold to First National Bank Drug Store, W. H. Revell, propr.

ONTARIO.

Coldwater.—C. G. Millard, burned out; insured.

QUEBEC.

Montreal.—W. A. Dyer & Co., 2209 St. Catherine, sold to John Lewis.

——Boardman & Norton are opening a new store in Portsmouth, N. H.

——Richard J. Higgins, who was for years the chief clerk of Alonzo L. Thomsen, manufacturing chemist, in Baltimore, Md., died Oct. 18 at Victoria, N. J. He had been in ill health for the last ten years and two years ago went to New Jersey. He was thirty-three years of age.

——The pharmacy of J. Harry Beckley, 1633 Madison avenue, Baltimore, Md., was almost completely destroyed by fire a few days ago at 2:45 A. M. The blaze originated in the cellar alongside of the stairway leading to the drug room and had gained considerable headway before it was discovered. Mr. Beckley, who slept in a room adjoining the store, had a narrow escape from suffocation. The damage amounts to $1,500 and is covered by insurance.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

LATEST FROM LONDON.

London, Oct. 5, 1895.

The Iodine Combination.

Some few days before the end of last month a rumor spread about that some "reduction clause" was to be offered to buyers of iodine preparations on Oct. 1, but of the details nothing could be learned. On the 1st inst. one maker issued a "private and confidential" circular stating that, "thanks to the support we have received from the United Iodine Makers," a highly-important concession" is henceforth introduced in the shape of a reduction clause on deliveries made within three weeks preceding a reduction in the price of iodine. But this difference is to be refunded "in kind," and an illustration of the working of the plan is given in the circular. Considering the frequent times of late that buyers of these preparations have had occasion to fear a loss on their stocks, owing to the reported shaky condition of the mighty "United," the first feeling was one of relief. Later on doubts have arisen as to whether they are much better off, and they begin to ask each other what is the real meaning of the high-flown verbosity of the circular. For whose benefit was it intended? A very general feeling exists that when the price of iodine has to be reduced the reduction will not be stopped until the price reaches 2s. per ounce. By the aid, therefore, of this "highly important concession," and allowing the inevitable drop to come piecemeal spread over a short interval between each, consumers of the preparations by taking their concessions "in kind" (how "kind" they must fully appreciate) will lighten the load of the United and take it upon their own shoulders. The seat of the United Iodine Makers is in Glasgow, and the whole suggestion is decidedly in harmony with the well-known canny ways of our brothers across the border.

"Lunch des 12 Millions."

"A big lunch" thinks one as, picking up a menu card, this heading is read. Last Sunday, Sept. 29, the popular director of the Pharmacie Centrale de France gave a lunch to his employés and friends to celebrate, as is explained in a letter which accompanied the invitations, the fact that the turn-over of the firm during the past twelve months had reached the large total of 12,000,000 francs. The letter, however, explains that while the turn-over has increased, the profits remain about stationary. This, we can all understand in these days of hot competition, and are content to congratulate ourselves if they do remain stationary; too frequently that's just what they won't do. The guests numbered 439, and tables were laid in the courtyard of the Pharmacie Centrale. Those furthest from the "table d'honeur" must have had considerable difficulty in

DR. AUGUST EMIL VOGL.

hearing the speeches, but they seemed to enjoy themselves notwithstanding.

The Hanbury Medal.

The Hanbury medal has this year been awarded to Dr. August Emil Vogl, professor of pharmacosnosy and pharmacology at the University of Vienna, and at the first meeting of the Pharmaceutical Society this session, held last Wednesday afternoon, the medal was presented to Count Siegfried Clary, an attache from the Austrian Embassy, on behalf of Dr. Vogl. It will be remembered that the last award, in 1893, was made to the late Professor Maisch, so well known the world over by his work in connection with American materia medica.

Prescribing Chemist.

The introductory address of the session before the Pharmaceutical Society and School of Pharmacy was delivered by Prof. Frederick G. Roberts, M. D., F. R. C. P. In the course of his address, which was mainly upon the relations existing between the medical profession and that of pharmacy, he affirmed that there is certainly no inherent antagonism between the medical man and the pharmaceutical chemist in any sense whatever, as a superficial glance at much that is going on might lead one to suppose; on the contrary, there should be nothing approaching want of harmony or discord between them, and they ought to work together earnestly and cordially for the common good. In order to maintain cordial, friendly relations between medical men and pharmacists he presumed it would be generally agreed that it is most desirable that they should keep to their respective spheres as strictly as possible. He discussed the question of dispensing by general practitioners, and regretted that for obvious reasons this long-established custom could not in the meautime be changed, but there was another aspect of affairs which he felt bound to notice, although he recognized that he might be venturing on delicate ground. He alluded to the "prescribing chemist." At the risk of giving offense he declared unhesitatingly and emphatically that for him there is no excuse whatever, not having been edu-

cated or trained in any sense for the position he assumes, and is certain to do infinite harm in a variety of ways. He therefore exhorted those students he addressed to resist from the very outset every temptation to resort to such a practice, which is an unfair and illegal competition with the medical profession. He recognized that there were among a certain class of qualified medical men practices prevalent which are not one whit better than those of the "prescribing chemist," such as "cheap dispensaries," where "advice and medicine" are supplied to all comers without the slightest pretension to "clinical investigation," and the extensive employment by medical men of "unqualified assistants" who are absolutely ignorant and incapable.

Analysis of the Sero-Treatment of Diphtheria

An official report of the Imperial German Government Board of Health has lately been issued, which is of considerable value at the present time as facilitating a clearer judgment on the value of antitoxine in the treatment of diphtheria.

We, in England, have great difficulty in forming an opinion from the individual observations published in our medical papers, for it is to be remembered how widely different in quality and antitoxic value are the serums employed.

In Germany, however, the Imperial Board of Health has taken the control of all serum into its own hands, and all admitted for therapeutic use is required to contain at least 100 units of immunization in each cubic centimeter, and all of inferior strength is destroyed. The approved serum is filled into vials by the examining official, who attaches to each bottle his lead seal.

The antitoxine thus issued to medical men is uniform in strength and composition, and the official report quotes 2,228 cases under observation, which were treated in 191 hospitals, by 232 medical men during the months of January, February and March of this year.

Grouping the cases reported according to the severity of the attacks, the following brief summary is obtained:

Mild cases, 749 (33.6 per cent.) of which 743 or 99.2 per cent. recovered.

Medium cases, 336 (15.1 per cent.), of which 322 or 95.8 per cent. recovered.

Severe cases, 1,076 (48.3 per cent.), of which 722 or 67.1 per cent. recovered.

Unclassified, 67 (3 per cent.), of which 53 or 79.1 per cent. recovered.

In the above classification

MILD includes such cases as exhibit on the first or second day a moderate extent and thickness of membranous growth, while the mucous membrane is not attacked in more than one place, the swelling of the glands is slight, and the general symptoms are only of a feverish nature, without any complications of debility of the cardiac or nervous systems—moreover, the child must be above four years of age.

MEDIUM includes cases where the membranous growth has developed on several places, or where the affection has commenced in the nose, and progressed downward, the glands are swollen, and painful, the pulse is small and frequent, besides fever, the countenance is pale, and the facial expression anxious—moreover, in all cases where the child is between the age of two and four years.

SEVERE includes cases where the membrane has extended over palate and uvula, and the glandular swelling to the angle of the lower jaw, while there is a loss of strength, a very rapid pulse, and weak heart sounds; also all suckling children.

Tables are given which present an analysis of all the cases according to the age of the patients, which is important for a correct appreciation of the results.

In the following table the cases are arranged in the order of the stage of the disease at which the first injection was made:

Injection on	Total.	Recovered.	Died.	Mortality per cent.
1st day of attack	189	173	13	6.9
2d "	632	570	47	7.4 } 10.3%
3d "	472	393	73	15.5
4th "	254	205	46	18.1
5th "	164	102	58	35.4
6th "	97	65	32	
7th "	41	28	13	
8th "	38	28	10	30.0
9th "	43	31	11	
10th "	8	6	2	
11th "	8	7	—	
12th "	5	3	2	
13th "	1	1	—	
14th "	2	1	1	18.8
15th "	12	11	1	
16th "	1	—	1	
19th "	2	1	1	
29th "	1	1	—	
Unknown.....	258	181	75	29.1
Total.....	2,228	1,805	386	17.3

Naturally only the statements of the parents or guardians of the children are available for determining the date of the commencement of the attack, and it can generally be assumed that the actual commencement is earlier. In the majority of cases besides the antitoxine injections other more or less indifferent treatment was also employed; e. g., painting, gargling, etc.

A third table shows that the cases bacteriologically examined are fairly proportional to the total mortality, but the mortality among pure diphtheria cases was smaller than such where a mixed infection was determined.

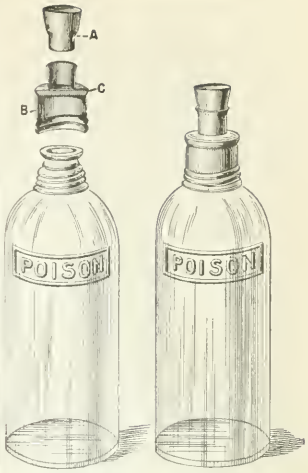
There is strongly shown the necessity of having a fully-developed antitoxine having a capacity of 100 immunization units in every cubic centimeter as giving the maximum of remedial substance with a minimum of objectionable ballast. Of such an antitoxine a single dose of 5 cc. once injected will satisfy all requirements of the ordinary medium type of attack.

NEW POISON BOTTLE.

To the Editor:

I take the liberty of sending you a cut and description of a "Life Saver" in the shape of a patent poison bottle. Its workings are easily understood. Fig. 1.—Glass bottle with screw thread on its base; (a) an ordinary cork; (b) aluminum cap, the non-corrosive metal; it has a short neck at the top to hold cork, a; (c) a cork washer under the shoulder, when the cap b is screwed on the bottle (Fig. 1) it forces the washer down tight on the opening in the neck to exclude the air.

Fig. 2.—Bottle, cap and cork in place.



Should this bottle contain some poisonous preparation of liniment, and be ous preparation or liniment, and be standing among others in a sick room or dark closet, and be taken in mistake for one containing some prepartion of an almost harmless nature to be given or taken internally, and the cork drawn and bottle tilted, there will be no flow. This is the safeguard, and any one will discover at once that he is handling a dangerous preparation. If the contents is wanted, it can easily be got at by unscrewing the cap.

HARRY A. WAAS,
Philadelphia, Pa.

WHAT DRUGGISTS MUST KNOW.

—Whichhayle 5c worth of which hayle
5 cts worth gauseolene
Which hayle like Water for sores
—5 cts worth glicerlm
—Saltz and Send
—pleas send me 5 cent Package of Pennla Roial
—Pleas send me 1 oz Idine Potash
—Please to send me 5 cents worth of Villnellia for cream
—Rob Shelle Sold.
—Suple Sutet
—Balsam Co pedia
—five cents of compondkathotic pills.
—hiss muss
—A bottle of Cyetriate magmesia.
—one baldanna plaster.
—Please Send me a Small Bottle of Smith Ball Beans.
—vanilla for ice cream
—extract of Rute Beer
—Pleas give this girl 5 wirth of Sript of Mixtur sare sls
—One Bot of Browns Bronchil Throughes
—Fever & ager you have troble me, and now I will tie you to this tree. 10 cts worth.

Catalogues, Price Lists etc., Received.

Dodge & Olcott, New York.
J. L. Hopkins & Co., New York.
Schoellkopf, Hartford & Maclagan, New York.
Mallinckrodt Chem. Wks., St. Louis.
Powers & Weightman, Philadelphia.
Rosengarten & Sons, Philadelphia.
New York Quinine and Chemical Works, New York.
Larkin & Scheffer, St. Louis.
The E. L. Patch Co., Boston.

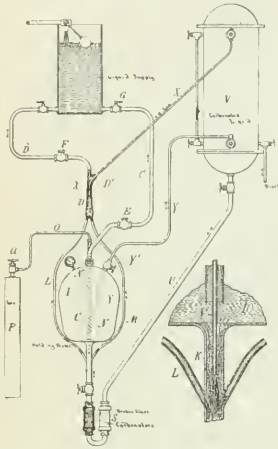
—Joseph E. Harrity, a popular druggist in Clinton, Mass., has just been united in marriage to Miss Mary Cannon, of Charlestown.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS
Issued October 15, 1895.

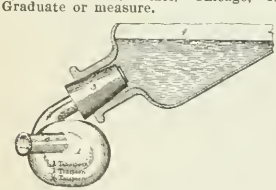
547,763—Edward J. Boyd, New York, N. Y.—Apparatus for applying labels to bottles, etc.

547,816—William Stewart, Brooklyn, N. Y.—Soda-water apparatus.



Claim.—The combination with a supply barrel or vessel for water and a supply of carbonic acid gas under pressure, of a holding vessel, a check valve and supply pipe leading to the same, and a mixing pipe at the lower end of the holding vessel, and a jet tube for carbonic acid gas opening into such mixing pipe for driving the water downwardly by the action of the issuing jet of carbonic acid gas, a carbonating vessel through which the water and gas pass, and a holder or tank for receiving the same, and a second water supply pipe passing at an inclination into the mixing pipe, and a pipe for leading the carbonic acid gas from the upper part of the holder or tank back into one of the water supply pipes.

547,862—Jarvis H. Platt, Chicago, Ill.—Graduate or measure.



Claim.—A graduate or measure, without moving parts, comprising a measuring bulb or chamber, having inlet and outlet necks, that are connected to the sides of the chamber, so that the graduate or measure is adapted to fill or empty itself by change in its position, the inlet neck being adapted for attachment to a bottle or holder, or to a flexible expelling bulb, and the outlet neck adapted for attachment to a nursing nipple.

547,915—Ernst L. Forsgren, New York, N. Y.—Bottle.

547,967—Jacob Schalus, Guntersblum, Germany.—Liquid for removing stains from textile fabrics.

548,044—Bernard A. Evens and M. Vinzelberg, Cassel, Germany.—Syringe.

548,058—Bertram Hunt, Wickenburg, Ariz.—Recovering cyanids.

548,115—Joseph Davidson, Paris, France.—Tubular ball-mill for pulverization of various materials.

TRADE-MARKS
Registered October 15, 1895.

27,151.—Pharmaceutical Products. Farbenfabriken, vormals Fr. Bayer & Co., Elberfeld, Germany. The word "Hemicranin."

27,152.—Certain Named Medicines. Henry Danbeny Brandreth, Birkenhead, England. A device of a hand grasping a hammer, beneath which is a nail and words "Hits the Nail on the Head."

The Amos M. Lyon Co., 20 Park Place, New York, have purchased a large stock of druggists' fancy goods, etc., at assignee's sale, and are offering the goods at a discount of 25 to 50 per cent. for cash. They invite correspondence or visits from holiday goods buyers.

Boehringer & Soehne, New York, are now prepared to fill all orders for quinine, the shortage in their stock being fortunately relieved by the timely arrival of supplies on the steamers Havel and Zaandam last week. The latter vessel was six days overdue.

The easiest thing for people to think of when the season for colds approaches is Ayer's Cherry Pectoral. Most of the present generation has read about it and tasted it as occasion demanded, and it is still popular. The name should be on the want book if the stock isn't up to the usual winter quantity.

Now is a good time to think of a seasonable novelty made by Sharp & Dohme, Baltimore, Md. It is their combined Menthol Inhaler and Cone. It is a beauty, with silver-plated case and attractive design. It costs $2 per dozen and is a great seller. Send for circular describing it fully.

People will buy more toilet paper if it is cheap than they will if it is otherwise. Manufacturers are now making it pretty cheaply, and the profit of the druggist depends upon his buying. There is no better guide in this matter than the catalogue of the A. P. W. Paper Co., Albany, N. Y. A simple request brings it.

The business of making pills and tablets has reached such a development that economy in manufacture is of prime importance. It is now a question of machinery, and the pill and tablet machines made by Arthur Colton, Detroit, Mich., deserve the attention of all manufacturers of such goods.

——F. W. Shumacher is opening a store in Highland Park, Ill. He will be open for business about Jan. 1.

——Messrs. Starling & Beck are fitting up a new drug store at Elkton, Md., which will be known as the Eureka Pharmacy.

——Druggist George S. Schuman, whose pharmacy is at the northeast corner of Ashland avenue and Caroline street, Baltimore, Md., has had a remarkable run of petty misfortunes and is thinking of having an armor plate front put in his store. Several weeks ago a runaway horse smashed the windows. A few days later an equine harnessed to a huckster's wagon collided with the lamppost in front of the store and demolished it and the letterbox attached thereto. On Thursday morning of last week two horses drawing a big hay wagon became unmanageable and upset the vehicle and the entire load of hay on the drug store sidewalk, badly damaging the awning frame.

TRADE NOTES.
(From information furnished by manufacturers and dealers in regard to their products.)

Reserve your decision on corks until the Conestoga Cork Works, of Lancaster, Pa., send in their evidence in the shape of samples and prices. They want your address for this purpose.

Judge a printer by the work which he turns out to advertise himself. Send to Fred N. Burt, Buffalo, N. Y., for a little booklet in which he tells what he can do. The book itself is his best argument.

Ridge's Food has been used for thirty years, and a constant increase in sales during this period is evidence of its value. In buying this staple preparation it is a good idea to take advantage of the discount of 20 per cent. on gross lots. Sizes can be assorted. Address Woolrich & Co., Palmer, Mass.

Every druggist needs a simple and systematic method of keeping his short and transient accounts, and he will find this in the Boston Petty Ledger. This includes billheads printed to order with name and business address, indexed bill-file and ledger, all in one article. An advertisement in this issue explains further.

If in doubt as to the best truss to handle, the opinions of others who have had experience is a good guide. The American Silver Truss Co., 290 Main street, Buffalo, N. Y., have collected a great many opinions upon the Silver Truss, and they have printed them for distribution. They show the success which many druggists are having with this truss.

Fredrick's Sanitary Tooth Brush is something new, the ivory tongue cleaner attachment being an improvement which will attract many customers, especially when they find that the price is the same as for any good brush. A sample will be sent to any druggist for 15 cents. Address Hamburger & Co., 75 Spring street, New York.

Flag Salt is one of the steady sellers, and the plan for introducing it will suit most druggists. The introduction costs the dealer $2, and he receives $4.20 in return. He stands the best show of getting this return, for his $2 purchases one dozen 25-cent, one dozen 10-cent size and seventy-five samples. Address Flag Salt Remedy Co., Savannah, N. Y.

"Rough on Rats" is a phrase so familiar the world over that it is the first thing people think of when rats, mice and insects become troublesome. It is the most extensively advertised article of the kind in the world. Dealers do not have to push its sale—they simply have to see that their stock does not become exhausted.

Beacon No. 1 is a new design of hot soda apparatus recently brought out by Dean, Foster & Co., 14 Blackstone street, Boston, and 120 Lake street, Chicago. It is made under Miller's double wall patent, and is a very handsome affair. The price is $25 net, which includes oil or gas heater and six mugs. Send for descriptive circular.

Cold, raw winds make a demand for antiseptic, soothing and healing soaps. People naturally think of Packer's Tar Soap, and just now it is a good one for the druggist to think of when ordering goods.

Farwell & Rhines, Watertown, N. Y., make a dyspepsia flour and special diabetic food which many druggists might handle as a profitable side line. They furnish pamphlets and samples free. Write to them about these specialties.

The Bay State Mfg. Co., South Framingham, Mass., offers two means for aiding the druggist's cigar business. One is a leather cigar case which the druggist can give away as an advertisement, and the other is a better case which he can sell. A sample of the latter will be sent upon receipt of 25 cents.

A whisky in quarter-pint flasks is a great convenience to both buyer and seller. The former knows what he is getting and becomes acquainted with the brand, and the latter is saved considerable bother in dispensing. Clarke's Pure Rye Whiskey is put up in this manner, and a half-gross case costs $9. Colburn, Birks & Co., Peoria, Ill., control this brand exclusively.

John Lucas & Co., Philadelphia, make many novelties in the paint, varnish, stain and enamel line, and their goods and quantities meet the demands of people who wish to do just a little painting or "fixing up." They might as well purchase these things at the drug store, and they will, if the druggist has them in stock, and uses Lucas's methods of letting people know it.

In figuring upon a hot soda business the question of cost of apparatus is the first to engage attention. Whitall, Tatum & Co., have given some figures in this issue which will encourage the beginner and show him that the entire season's profit does not have to be applied to payment for apparatus. From $15 to $25 will purchase an outfit both attractive and effective.

The excellence of their pills has made a world-wide reputation for William R. Warner & Co., of Philadelphia. This reputation is behind the Little Cathartic Granules which they put up, thirty in a vial, ready for sale with buyer's name and address. These cost but $6.50 per gross, or about 4½ cents each, and it takes the strongest kind of competition to beat the druggist out of a good profit on them.

"Sweet Chimes," as a title, is suggestive of many pleasant emotions, and a perfume bearing that name has an advantage. It is an easy, natural name for customers to remember, and there is no fear of wrong pronunciation. Sweet Chimes costs $4 per pint, and an order now for a pint, through any jobber, includes one dozen 10-cent size free. A request, accompanied with business card or label, sent to French, Cave & Co., Philadelphia, will bring a sample.

One of the requisites for the hot soda fountain is extract of beef, and it should be good and fresh. When it is served from the original container it is apt to become stale, but when Bruce's Beef Capsules are used, the customer comes again and asks for the same as he had before. These capsules keep the extract securely sealed until actually wanted. C. G. Bacon & Co., 218 Greenwich street, New York, will be glad to answer inquiries regarding this seasonable article.

Combinations of antikamnia, codeine, quinine and salol are very popular with the medical profession, and for that reason are of interest to the pharmacist. The literature of the Antikamnia Chemical Co., St. Louis, which is available upon request, explains all the various conditions in which these combinations are indicated.

The John Matthews Apparatus Co., of New York, refer in their advertisement in this issue to fall designs for soda fountains. There is nothing out of place in this reference to seasonableness of design, as the visible portion of such an apparatus is constructed solely for the edification of the public, and it is well known that taste in such things changes. To know what is newest and latest, the catalogue of this firm should be procured.

Lanoline is one of the most easily absorbed fats, and it is therefore one of the best ointment bases. This makes it especially applicable in the manufacture of toilet preparations, and Lanoline Salve, Pomade, and Cold Cream are articles which will give the best of satisfaction. These preparations are now particularly salable, and full information regarding their use, size of packages, prices, etc., may be obtained by addressing Schulze-Berge & Koechl, 79 Murray street, New York.

Judging by the rush of orders to the Low Art Tile Co., of Boston, for hot soda fountains, the druggists of New England have reason to think one of two things—either that it is going to be a severe winter, or that people are going to have a good deal of money to spend. Here are the names of some of the druggists who have lately sent in orders: F. T. Church, Boston; R. H. Billings, Dorchester; E. N. Rolland & Co., Allston; J. F. Cahill, Cambridgeport; W. B. Southworth and J. I. Street, Malden; W. F. Halm, Newton; J. H. Gilmore and F. L. Daggett & Co., Chelsea; Clark & Gay, Arlington; Samuel Highly, West Medford and Woburn; M. H. Plummer, Somerville; Upton & Frisbee, Salem; H. A. Vinton, Braintree; P. F. Leonard and Hanson & Co., Taunton; W. A. Allen, Andover; G. B. Holden, Haverhill; D. G. Hill, Brockton; C. E. A. Cameron, Springfield; W. K. Rice, Pittsfield; J. C. Livingston, Worcester; Landers & Babbadge, Portland, Me.; G. G. Sawyer, Keene, N. H.; Hall & Lyon, B. H. Bronstein, W. R. Potter, E. P. Anthony and Breen & Collins, Providence, R. I.; W. H. Chase, S. E. Batchelder and P. Chestony, Woonsocket, R. I.; E. S. Blumenkranz, Newport, R. I.; Apothecaries' Hall Co., Waterbury, Conn.; W. L. Lloyd, Naugatuck, Conn.; Howland, Stark & Co. and H. A. Dupee, Bridgeport, Conn.; D. A. David, Danbury, Conn.; C. A. Rapelye, Hartford, Conn.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 23 of this issue, in the back part of the journal.

Advanced: Balsam Tolu, Benzoic Acid, Calendula Flowers, Glycerine, Gum Guaiac, Gum Chicle, Japan Wax, Orris Root, Oil Anise, Oil Cassia, Oil Tansy, Oil Wormwood, Oil Wormseed, Santonin, Spermaceti, Star Anise Seed, Potash Permanganate.

New York, Oct. 22, 1895.

In the various branches of commercial industry business is reported better than that of the preceding week, and in the department of drugs and medicinal chemicals the very satisfactory conditions to which we have of late frequently called attention are yet conspicuous features of the market. In addition to the continued steady jobbing movement there has been a further increase in the demand for large parcels, and the aggregate volume of business for October promises to exceed that of last month. According to present indications, November will probably show still further gains, and with only an ordinary trade in the last month of the year, the grand total would undoubtedly reach satisfactory proportions. Orders from interior consuming sections are coming in freely and show that the distribution is general and not confined to any particular locality, but the principal demand has been from the South and Southwest. Druggists' sundries are coming in for a fair share of attention, especially the varieties suitable for holiday trade, but most of the orders thus far received for this class of goods are from the more remote sections, as it is yet rather early for near by dealers to give much thought to the approaching holiday season. Among the more active articles during the week under review is orris root, all varieties of which have been steadily moving upward in price, partly influenced by speculative excitement in the primary market, but chiefly by the anxiety of dealers to be prepared for the seasonable inquiry for sachet powders, which are always in most request during the closing months of the year. Balsam tolu shows a further material advance, and nearly all leading essential oils are tending upward, with anise, cassia, tansy, wormwood and wormseed quoted higher. Other advances are noted in the detailed report below and the exceedingly small number of declines is another indication of the general trend of affairs in the drug trade.

OPIUM.—The position of this leading article seems to be as much an enigma as ever to the trade at large, and the diversity of opinion among dealers is so great that it is evident very few, if any, are sufficiently acquainted with the underlying influences to speak authoritatively. The fact remains that the tone of the market is firm, whether the firmness is natural or artificial, and buyers in want of stock have been obliged to pay a further slight advance in price. The situation abroad continues perplexing, cables reporting a steady increase of stock in primary markets, but no change

in values. The latest rumor current here is to the effect that the larger holders are anxious to break the market and secure additional stock at low prices in order to reduce the average cost of their holdings. Those of a "bullish" turn of mind are convinced that the stock of consumers in various parts of the country is almost exhausted and that they will soon be compelled to purchase fresh supplies. This opinion is based on the fact that since the current large crop was assured trading has been almost entirely of the hand-to-mouth order.

MORPHINE.—There is a good average demand for consumption, but dealers are not inclined to anticipate the future, in view of the peculiar position of opium, and their operations are limited mainly to the current requirements of their customers.

QUININE.—A continued active business is reported in both domestic and foreign brands, with first hands supplying the wants of buyers at the same range of prices which have prevailed for several months past. The tone of the market continues strong, and the rumor is again current that an early advance may be expected, inasmuch as foreign markets are hardening, recent cables from London reporting sales by manufacturers at prices fully 3 cents per ounce above quotations here.

ALCOHOL.—There is no change in the condition of the market for grain, and only a routine business is in progress with buyers still pursuing a hand-to-mouth policy. Wood continues active and steady, with the demand chiefly from manufacturing consumers.

ACIDS.—The only variation in prices this week is an advance of 1 cent per lb in benzoic, but the general market is firm in tone. The recent improvement in tartaric acid and citric is maintained, and the distribution of all leading descriptions is satisfactory to dealers.

BALSAMS.—The chief feature of interest in this department is a further advance of 5 cents per lb in the price of tolu, with a liberal business reported at the higher figure. The London market is cabled correspondingly higher, and the article seems to be scarce and wanted at all distributing centers. Copaiba continues in active jobbing request, and Canada fir and Peru are moving fairly at old prices.

COCAINE—Is without change in price, but the undertone of the market indicates increasing firmness, and an early advance is expected, owing to the fact that some manufacturers have refused to accept orders for future delivery on the basis of current values.

COD LIVER OIL — Continues very active and strong, but without further quotable change, although the general outlook is favorable to holders.

CUTTLE FISH BONE.—A large parcel of Japanese bone which has been held here for a long time was disposed of a few days ago at a private figure, and small lots have since been taken by consumers at about one-half the price of prime Trieste.

OIL OF ANISE.—The strong upward tendency continues without abatement, and values have again been advanced 15 @25 cents per lb, with some holders declining to sell except at the extreme outside quotation.

OIL OF CASSIA.—The better grades have been advanced 5@10 cents per lb, and holders are indifferent sellers, feeling confident that prices will be still higher, owing to the strong position of primary markets.

OIL OF TANSY — Is firmer, with prices 10@15 cents higher.

OIL OF WORMWOOD.—Values show an advance of 25 cents per lb, and the demand has improved.

OIL OF WORMSEED.—The market is stronger, owing to scarcity, and prices are 25 cents per lb higher.

CALENDULA FLOWERS—Are very scarce, and the current crop is said to be a total failure. The small lots in dealers' hands are held at 40 cents, while one year ago the price was 18 cents.

GLYCERIN. — The market is unsettled and higher prices are anticipated. Western manufacturers have already advanced, but local refiners are yet quoting old figures.

CAMPHOR—Is seasonably quiet, but city refined continues firm in price. An outside lot of Japanese in 1-ounce cakes is said to be offering at a shade under the general quotation, but the principal holders decline to meet the cut.

GUM GUAIAC. — The better grades are scarce and 3 cents per lb higher.

GUM CHICLE.—Several large parcels have been taken by consumers, and a firmer feeling has since developed, with an advance of 1@2 cents per lb.

MANNA.—Additional arrivals of new crop have increased the available supply, and with the demand only moderate, values show an easier tendency, and in some instances former quotations are being shaded.

SANTONIN—Has been advanced 25 cents per lb owing to scarcity and higher prices for crude material.

ORRIS ROOT.—A further advance of 2@3 cents per lb has occurred in both Verona and Florentine, and the active seasonable demand has resulted in liberal sales to large dealers, who are stocking up for the coming holiday trade.

IPECACUANHA—Is easier, in consequence of a reaction from the former firm position of the article in London. Values there indicate quite a decline, and while quotations here are nominally unchanged, a lower range is expected.

STAR ANISE SEED — Is ½@1 cent per lb higher in sympathy with the London market.

SPERMACETI. — Values have been further advanced 2@3 cents per lb, but there is none offering earlier than November delivery, the spot stock being exhausted.

JAPAN WAX.—The demand has been active and prices are fractionally higher, partly in sympathy with stronger primary markets.

POTASH PERMANGANATE.—Spot stocks are light, and with a good, steady demand, the tone is firm, with values showing an advance of about 1 cent per lb.

London Market Report.

London, Oct. 12, 1895.

Business continues to improve in both our drug and chemical markets, and many articles were dearer during the week.

ALOES: Cape.—A considerable shipment is just in, which will probably reduce holders' ideas. Socotrine. — The small supply in first hands has been bought up and 90s. per cwt. is now asked for kegs.

BALSAM COPAIBA — Is scarce on the spot.

BALSAM TOLU.—Genuine quality is very scarce and dearer; 1s. 10d. per lb has been paid, but 2s. per lb is now asked.

BUCHU LEAVES. — Some inquiry from America, but holders ask 6d. per lb for yellowish green round; so far no business has resulted at this figure. Other holders are reserving their small stocks for still higher rates.

CIVET.—Genuine is held for 55s. to 60s. per ounce; it is very scarce.

COCA LEAVES.—A very nice lot of Ceylon leaves just arrived; the parcel has a nice aroma and has a greater cocaine value than previous shipments from Ceylon. Holder asks 1s. 4d. per lb to clear.

COLOCYNTH.—Turkey apple of darkish quality has been sold at 2s. 3d per lb; 2s. 6d. per lb is now asked.

COD LIVER OIL.—167s. 6d. per bbl. has been paid for good non-freezing Norwegian; lower grades down to 145s. per bbl., but all qualities are getting very scarce, and there is little doubt higher prices will rule during the consuming season.

IPECACUANHA. — A business has been done this week for America at 5s. 3d to 5s. 4d. per lb.

MUSK. — A good business has been done this week and stocks of Pile I. have been much reduced, and an advance of 10s. per ounce has been established on finest blue skin grade.

OILS (Essential). — Star-Anise dearer at 8s. 3d. per lb for spot. The business in this article is purely between speculators, but the position is strong. Cassia is dearer. Italian essences are very firm and there is little doubt high prices will rule for some time to come. Mitcham Lavender is difficult to get in unmixed quality; holders of genuine ask 110s. to 120s. per lb. Aniseed dearer at 8s. 9d. Cubeb in active demand and 5s. dearer.

ORRIS ROOT—Continues very firm, 80s. per cwt. having been paid for picked Florentine.

QUICKSILVER—Has advanced this week by three stages to £7 7s. 6d. per bottle. Second-hand holders are scarce and Rothschild has it all his own way consequently.

QUININE. — A good business doing. Purchases at present rates will probably prove remunerative, as an advance by makers is not at all unlikely as soon as second-hand stocks are brought down a little more.

SANTONINE—Is much higher; makers do not quote, and "spot" is exceedingly scarce. Quotations from second hands, 6s. 9d. to 7s. 3d. per lb.

SUGAR OF MILK.—Dearer at 67s. 6d. per cwt.

TONCA BEANS. — Angosturas are scarce, but Paras are in large stock.

SCAMMONY ROOT—60s. paid.

THE PHARMACEUTICAL ERA.

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A. PH. A. OFFICERS.

We have just issued, and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the present.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address, The Pharmaceutical Era, New York.

POISONING CASES.

The undesired and unjust notoriety which so often attaches to the pharmaceutical profession in cases of death by poison is a matter with which every druggist is more or less familiar. The daily press gives us enough fiction upon such subjects, and its reckless handling of chemistry and theories usually furnishes no inconsiderable amount of amusement for the chemist. But this hardly compensates for the unpleasant features of such occurrences, and we feel assured that every pharmacist reads the published accounts of such cases in a critical spirit and with mind wide awake to the possibilities which may lurk where the ordinary observer would never think of looking for them. There is really some education in these unfortunate happenings; there is often opportunity for the enlargement of one's technical knowledge through a study of their details, and the presentation in these pages of "The Famous Hollis Poisoning Case," by the well-known writer, Howard Fielding, is an illustration of this fact. The publication of such a story in a drug journal is, we believe, an innovation in this country, but we feel sure that our readers will follow the startling and mysterious developments of the case with great interest and will find in it considerable stimulus to study and investigation upon subjects which certainly need attention.

"'T IS TRUE, 'T IS PITY."

A progressive, representative retail druggist in one of the large cities expresses himself thus: "I have no hesitancy in going on record to this effect, that the A. Ph. A., like the G. O. P., has outlived its youthful usefulness. It now behooves the retail branch of pharmacy to enter a solemn kick. Primarily, the A. Ph. A. was intended for a retail pharmacists' organization; where are we and what are we now? It reminds me very much of a circus; the manufacturers manage the steam engine for the big street organ parade, the college teachers are the brass band, and the retailers are the gallery; they may think they are actors, but they are spectators, if not the suckers. Take away the teachers, the jobbers and manufacturers, and the clowns of the arena, and what is left? And yet no annual address ever fails to ring in the 'raising of the standard.'"

This may all be true, but do not despair, for you and the rest of the retail members will have a chance to set everything straight again, for do you not know you are to have a "journal devoted exclusively to trade and allied interests of retail druggists of the United States?" To be sure, the journal will be conducted by a couple of manufacturers, a possible drawback from your point of view, but—be hopeful—they promise they will do better than "the current pharmaceutical journals, which will not publish facts of great importance to the retail trade on account of the danger of losing advertising patronage." Possibly, and there is a possibility, dear sir, if there is worked as much personal and firm advertising into the pages of the journal as has gotten into the proceedings of the A. Ph. A., the claim that "advertisements will not be solicited or inserted at any price" will seem a trifle ridiculous. The A. Ph. A. hasn't sanctioned the scheme yet, perhaps it will not; but you see there is a probability that there will be no occasion for you to play "sucker" any longer, you can be an actor, with the clowns and the rest, and you can help the manufacturer on the steam engine.

"SCAB" DRUG CLERKS.

A correspondent, who says he is a Ph. G. from one of our colleges of pharmacy, wants attention called to an apparent inconsistency on the part of the colleges. He inquires: "Are our colleges acting just right toward their alumni in canvassing the drug trade and offering cheap student labor, thereby lowering the wages of their former students? I am not favoring a boycott, but I do approve of trade unions asking for better wages."

Our friend little realizes what he is asking when he beseeches us to champion his cause, for it means an attack upon the most cherished tradition and time-honored custom of the colleges, and possibly he himself, when in college, considered a blessing what he now derides as a curse. But we are glad to help him, for he is right in his contention, the colleges ought not to do this thing. The custom originated many years ago, when the college training was but a side issue with the clerk, when he devoted but very few hours daily to his studies, when the colleges were small and struggling, and when their students were those only who wanted knowledge for its own sake, not because it was demanded of them and an absolute necessity. The arrangement for sandwiching store and college work was primarily to assist the student who was too poor to devote his whole time to study. But the custom has survived, acquiring, however, another excuse for its existence, namely, that the combination of practice and

theory is the ideal union, and that he is the better student who works half his time behind the drug store counters, and puts in a portion of the other half perfunctorily and weariedly listening to night lectures at the college. The whole matter is but one phase of the "experience" problem whose discussion has set us all by the ears for a few years past.

There was a time when the store services of the student-clerk were valuable and well paid, for he took his college work in odd hours outside the day's work at the pharmacy, but the proportion of time devoted to each has since been changing till now it is virtually reversed. The colleges are requiring more time and more work from their students, and in some the young men are advised not to take store positions, for they will have no time outside their studies. The university departments of pharmacy require the whole time of students, and a few colleges are pretty close to them in this respect. Though the old night-lecture system persists still, the signs of the times indicate that it is passing, and rapidly, too, and we believe it will be but few years before the college training will be such as to require the sole attention of the student while he is attaining it.

But a few words upon the particular point our correspondent urges, the cheapening of labor occasioned by student-clerks. This journal has many times said that it does not believe the system has one redeeming feature. The young man cannot satisfactorily serve either the college or his employer. In consequence the latter gets his services for little pay, but these services, such as they are, are just enough to prevent the engagement of a full-time clerk at full-time pay. We have the spectacle, then, in many a store, of a proprietor on duty sixteen hours a day and the clerk six or eight, while there are unengaged men anxious to reverse this position, or compelled to work for starvation wages, because the college fills positions with students willing to work all they can find time for, at less than sufficient, ofttimes, to pay their board.

We sympathize with the young men who must work their way, but the college is not an orphan asylum, its only function is to teach. It can do as it will regarding "experience before graduation," but it should not make it so that two years of this "experience" can be gained at the same time the student is receiving its instruction. We believe that our educators and pharmacists generally are gradually coming to this conclusion, and that there will come a day, and soon, when the college of pharmacy will require the whole time of its students, and when the existence of such a condition as now vexes our correspondent will be impossible. Until that time we are glad to help him and join him in his protest, and, at his suggestion, request the ideas of others upon the subject.

Thirty-two pages each week, 52 weeks. 1,664 pages a year of the freshest and most reliable information on matters pharmaceutical is what the Era gives you for $2.

ADVERTISING COURTESY.

The precise effect which the discovery that a person is untruthful has upon a community is hard to determine, but no one has ever suggested anything favorable to the transgressor. The majority of us are, of course, believed under oath, because there is a penalty for speaking other than the truth under such circumstances, but in the ordinary walks of life this courtesy of believing is extended to nearly all those statements where truth is of vital importance. There are necessarily some exceptions, possibly just to prove the rule. There is the politician, also the diplomat, from whom we do not expect too much, and they rarely disappoint our expectations. Those who have access to the public prints are also given some latitude, and the controversialist is allowed to weary with misstatements to prove his point, and the Perkins-Mulhatton type is good-naturedly allowed to flourish. On the other hand, there is another field of activity, that of advertising, in which many are almost positive that there is a tendency to tell the truth oftener than has been customary heretofore, and who would credit the pessimistic spirit of the Tennysonian wail

"But these are the days of advance, the works of the men of mind,
When who but a fool would have faith in a tradesman's ware or his word?"

to some unfortunate minor incident, such as a bad breakfast, the failure of the baseburner to burn upon a cold winter's night, or, perchance, the ill-advised purchase of a pair of all-wool trousers for $3.98.

There is a plausible possibility that a tradesman's word in an advertisement is more highly valued than it was formerly, due quite likely to an apparent sincerity and frankness of style, and the discarding of obviously untruthful statements about selling below cost, etc., and the effect of the possible discovery that even this new departure is but an artful cloak for deception is a matter to which we would direct attention. A writer in a recent issue of Printers' Ink furnishes some illustrations upon this point. Several large New York firms which afford the luxury of paid advertisement writers, and through whose efforts they lay special stress upon their cordial treatment of customers, in fact, invite everybody to come and see their goods for the pleasure to be derived from simply seeing them, were visited and their deeds compared with their published words. The investigation was somewhat discouraging to the investigator. The effort to gratify an æsthetic longing by gazing upon fine furniture and carpets was regarded with too evident suspicion and disfavor. That spirit of independence so characteristic of some phases of American life was found to be painfully apparent in the lofty condescension assumed by some of the salesmen, and in some instances that truly great individual, the floorwalker, seemed to regard prospective customers in much the same light as David Copperfield's aunt did donkeys. And all this in spite of the fact that these firms supplicate daily before the public for visits to their places of business, and in the most convincing language strive to convey the impression that such visits will call forth exhibitions of courtesy which will rival those of the most conscientious follower of Chesterfield.

The deduction to be drawn from such experiences is too obvious. The instances may be exceptional, and it is hoped that they are, as it will only take a few to utterly destroy the growing confidence that tradesmen are growing more truthful in their advertising.

The peculiar nature of this untruthful kind of advertising also excites comment. It has nothing to do with the quality of goods or their prices. There may be honest differences of opinion between buyer and seller upon these points. The former may be a poor judge of quality and may be conscious of the fact, and thus excuse whatever disappointment may result from a poor bargain, or the seller may be charitably excused on the ground that he was himself deceived as to the true nature of his wares. But when courtesy is advertised a shoddy article will deceive no one. The most ignorant intuitively detects the spurious kind.

We believe, however, that courtesy is a good thing to advertise, but it should always be in stock and be of the best quality, better, in fact, than it is advertised to be. People pay for it most willingly when it is of the right kind. No finer tribute to a firm or business man can be paid than the oft-repeated statement by the public that he or they are "such nice people to trade with."

ANOTHER ARGUMENT AGAINST TESTIMONIALS.

It is manifestly a delicate matter to refer to the theft of the jewels of a theatrical person without exciting a suspicion that the press is being successfully worked for some free advertising. But this is one of the perils of journalism which we cannot always escape, and when the opportunity offers to point a moral with such incidents the risk is usually accepted. We were startled some time ago to learn that Mrs. Langtry had suffered the loss of some exceedingly valuable jewels, the exact value of which we have forgotten, and the description of which has refused to linger in our memory. This theft was accomplished by means of a forged order presented at the bank where the jewels were stored, and this circumstance happily points the moral referred to and furnishes the excuse for mentioning the affair. It seems that the thief became familiar with "the Lily's" handwriting through his careful study of her signature as appended to a testimonial praising a toilet soap, the name of which we are utterly unable to recall just now. But this lapse of memory, while it may detract from picturesqueness of statement, will not affect the principle involved.

The incident certainly affords a chance for escape from an affliction which is too plainly recognized, that of being comforted in the public prints with state-

ments, embellished by portraits and signatures, of prominent persons attesting the favorable action of certain medicinal wares upon their external or internal economy, as the case may be. It is admitted that there may be a certain interest attaching to the stomachs, livers, etc., of prominent persons, and it may tickle the vanity of some to imagine that their own organs have symptoms indicating greatness through similarity in pathological conditions, in which case the same pill is of course indicated. But many of us are constituted differently, and the information that a certain soap has cleaned others is somewhat distasteful when it is extended to its logical personal conclusion.

There is some doubt whether this unfortunate Langtry-jewel affair will have much effect upon stage people, as it is a notoriously profitable transaction for them to have their jewels stolen occasionally, but there are others who may profit from it. The dyspeptic or otherwise deranged clergyman who practices benevolence by writing patent medicine testimonials may be warned of the possibility that his signature is making his bank account easily accessible to a certain class of expert penmen, and the fact that this is a poor year for donations should make him extremely cautious in such matters. It is only necessary to drop a hint to the public man or politician that a political campaign is now on, and that his signature, even if executed in the highest perfection of the art of forgery, might do him untold damage if attached to anything about silver, the tariff or excise matters.

The agriculturalist who has for years been paying exorbitant prices for lightning rods, Bohemian oats, etc., will undoubtedly recognize the danger of allowing his signature to circulate about the country attached to a declaration of his belief in the virtues of a new bug killer or a sheep dip.

Other instances might be enumerated, but we are confronted with the fact that stories with a moral should not be worked to death.

CANNOT AFFORD TO BE WITHOUT IT.

J. W. B. Lutz, Akron, Pa.—I can illy afford to be without the Era.

Newton Kennedy, Chicora, Pa.—I find the Era is all it is represented to be, and worth preserving.

Dr. Philander Jacobs, Jackson, O.—The Era is a help that I cannot afford to be without.

W. H. Worley, Iowa City, Ia.—The Era is a great help to me while I am in school. It grows better all the time.

John J. Donai, Orange City, Ia.—I don't like to miss any number of the Era, because it is one of the best journals published.

M. U. Robbins, Boston, Mass.—I would rather miss a meal than the Era. It is the most useful and the livellest pharmaceutical paper in the country.

C. R. Redden, De Leon, Tex.—I passed the examination before the examining board of pharmacy and know that the Era was the cause of it. I cannot afford to be without a single copy.

Ralph Schuman, M. D., Baltimore, Md.—Your journal is invaluable to me, and I think the best thing I ever did was when I sent you $2 for the Era.

Clem L. Katz, Terre Haute, Ind.—In a book like the Era, of which I have bound in solid leather the last seven volumes, I would regret to miss a single number, as I consider it an indispensable adjunct to every drug store and drug clerk.

PRACTICAL HINTS.

——There is such a thing as knowing too much. There are salesmen who would be wiser, so far as impressions upon customers go, if they could forget half they know.

——In dispensing make it a rule to note upon the prescription whatever additions you find necessary. For guidance in cases of repetition these notes are valuable.

——Let a man decide early upon what he wishes to do, and for what his talents fit him. Then, like Benjamin Franklin, let him put his mind continually to it.

——Science, in its popular signification, means knowledge reduced to order; that is, knowledge so classified and arranged as to be easily remembered, readily referred to, and advantageously applied.

——Are you keeping your books in such a manner that you would not be ashamed to have them turned open to the gaze of practical business men, if an inventory were made necessary of your business?

——The attainment of success can be accomplished by almost any one who possesses intellectual ability, originality and the grit of endurance. Remnants, old styles, "hand-me-downs," etc., are not thought of by the merchant who is "making a run" nowadays. To get on in the world now one must be both fresh and phenomenal.

——A pharmacist in this city has "stickers" about an inch and a quarter square, on which are printed his name and place of business, and the words "Business hours 7 A. M. to 10 P. M." These he places on articles he sells, like mineral waters, syphons and various classes of goods manufactured by others than himself. He thinks it is a good ad, and it informs people just where and when his store is open.

——Said a retail druggist: "I take more real enjoyment in the work I do in the back room of my store than I do in the rest of my business. In fixing up the front part of the store I have, of course, to conform to conventional arrangements in the way of shelfware, show cases, shop furniture, etc. But in the back room I have more latitude and can fix up things in just whatever way ingenuity can suggest and I do enjoy it. Here is a waterbath I have improved with the aid of the tinsmith. There is a rack I made for carbonated mineral waters in bottles. It is fixed, you see, so that the bottles may lie on the side. That row of large tin cans on that shelf are those in which I purchased quinine in 100-ounce lots. I saved them as they were emptied, soaked off the labels, lacquered and relabeled them and put them where they now are. As containers for light crude drugs like buchu leaves, uva ursi, hops, chamomile, American saffron, etc., they cannot be beaten. They are uniform in size, look well and cost practically nothing more than the effort necessary to fix them up. I can show you a number of other things I have improvised if you care to see them."

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

The sale of hot water bottles should be pushed—pushed by the retail druggist—and he should not let up until every man, woman and child in his neighborhood has one. There isn't enough of them used. They have been considered articles of luxury, but the price, convenience and comfort have changed this idea. They are now necessities. The druggist had better get the idea spread abroad that the drug store is the place of all places in town where hot water bottles can be purchased. Our sample advertisement suggests a means for calling attention to these goods.

(No 37.)

We don't claim that the Esquimo uses a hot water bottle, as the picture suggests—but he would if we were running a drug store in Greenland, because we would call his attention to our complete line of these goods at 88 cents, $1.00 and $1.50. We are liable to have some Arctic weather this Winter—cold enough to make people think they're on an iceberg. It will be a good time then to think of our hot water bottles.

KNIGHT & DAY, DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

E. B. Patton, Waupun, Wis.—I am very much pleased with the Era, and when you publish the articles (The Study of Pharmacy), as I suppose you will do, I want a copy for my own use and the clerks', too. Have most of the copies since January, 1895. A few were burned with my stock in March.

Charles H. Bowersox, Columbus, O.—I do not want to miss any of the numbers of your valuable journal. The Study of Pharmacy is a splendid feature. The essays under that heading are both interesting and instructive, and if any of the Era readers fail to peruse that part of the journal, they are missing a good thing.

C. T. Easterday, Wellston, O.—I failed to receive my Era of Oct. 10, and you will please send me that issue, as I can't possibly miss it. When the Era comes I have a feast, and when it has been studied, then a famine until the next number comes. The Practical Hints are good, and the lectures are worth a mint of money to any pharmacist.

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[Continued from page 518, October 24.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXIV. BOTANY.

[*Continued.*]

By Henry H. Rusby, M. D.
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CLASSIFICATION OF FRUITS (Continued).

The Berry (Figs. 242 and 266).—A fruit with a pericarp fleshy throughout, with the exception of the epicarp. Good illustrations are the grape and the belladonna. In these the fruit contains no cavity and the seeds are imbedded in a soft pulp. This is the typical form, from which we see a variation in the tomato, in the direction of a central cavity which in the capsicum becomes complete. The latter is frequently called a capsule and connects the berries with the latter class, but it is more properly grouped with the berries. A similar modification, though more slight, is found in the gaultheria and the cranberry. The term has also been applied to the pomegranate and similar fruits, but these, however soft within, possess a distinctly hardened exocarp and are not true berries. As will be seen farther on, comparatively few of the fruits which are designated as berries in common parlance are really such. The berry may be one or more celled.

The Hesperidium (Fig. 285).—A berry-like fruit with a soft, but tough rind. The term has never been applied to other fruits than those related to the orange and lemon. They are several celled.

The Pepo (Fig. 286).—A berrylike fruit in structure, usually hollow and with an indurated rind. It is one celled. Good illustrations are the pumpkin and melon, and the application of the term is by most authors restricted to the fruits of that family (the Cucurbitaceae); but it is entirely proper to extend it to such entirely similar fruits of other families as the Calabash (in the Bignoniaceae), and the Papaw (in the Papayaceae).

The Drupe or Stone Fruit (Fig. 287).—A fruit with a sarcocarp and epicarp and a single thick bony putamen. Although typically one celled and one seeded, the term is applicable to similar fruits with several cells enclosed in a single sarcocarp, but each seed possessing its own putamen. Each putamen with its own seed is then called a Pyrena or Pyrene. Familiar illustrations of the typical drupe among medicinal plants are the prune, sumach and pepper, and of the several celled form that of the Rhamnus. As in most other classes of fruits we find here a gradation into other classes, most commonly into the Schizocarp. A peculiar fruit, in its general structure related to the drupe, is the so-called legume of the tamarind, which possesses an exocarp similar to that of a pepo, a distinct edible sarcocarp and a crustaceous endocarp or putamen containing several seeds.

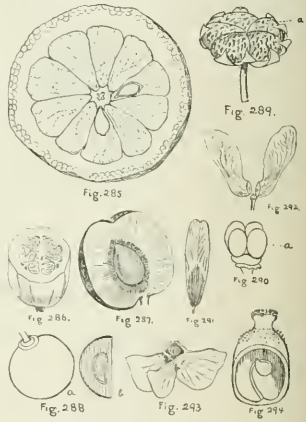
Pyrena (Fig. 288).—(Already considered under drupe).

The Drupelet (Fig. 263, a).—Differing from the Pyrena in that it possesses not only its own separate putamen, but sarcocarp as well. It is one of many small drupes belonging to an aggregate or multiple fruit.

The Pome (Fig. 264).—A fleshy fruit with a thin chartaceous or cartilaginous putamen. It is several celled. The term is commonly restricted to fruits related to the apple.

The Schizocarp (Figs. 247, 289 and 290).—The typical schizocarp should be defined as a fruit which divides septicidally at maturity into one seeded carpels. Because, however, schizocarps frequently vary in the constancy and completeness with which they undergo this process, they are defined as "divisible," rather than "dividing." There are, moreover, cases in which they divide into one seeded parts of carpels. The comprehensive definition, therefore, should be fruits septicidally divisible at maturity into one seeded parts. Schizocarps are commonly provided with appendages for wind transportation or for transportation by mechanical adhesion to passing bodies. Those forms which, as above stated, are intermediate toward drupes are to be classed in one or the other class, according to whether such appendages for distribution or that of an edible pericarp is the more pronounced. Even schizocarps which are not cremocarps may possess a carpophore, as in the geranium, though commonly they do not.

The Cremocarp (Fig. 247).—A di-carpellary schizocarp, the carpels attached toward their summits to a slender carpophore, from which they usually only incompletely separate at maturity. The term is restricted to the fruits of the Umbelliferae. They are commonly provided with appendages for fixation to passing bodies, frequently for wind transportation, and not rarely combine these two methods of distribution. (Conium, Celery, &c.). There is no class of fruits which possesses a greater importance in pharmacy, and hardly any whose histological features are of greater interest. The plane of separation is called the Commis-



sure, a term applicable to a similar plane in other fruits. (See Mericarp.)

The Coccus Nucula or Nutlet (Figs. 289 and 290, a) is one of the divisions of a schizocarp, and its nature has been explained in considering that group. The term nutlet is commonly applied when the pericarp is hard and close to the seeds.

The Mericarp (Fig. 247, a).—One of the halves into which a cremocarp is divisible. Occasionally they are self-separating at maturity, but usually only incompletely so. They are one seeded and possess a completely adnate calyx and disk. The pericarp almost uniformly possesses external appendages in the form of five or nine ribs. When nine, they are commonly of two forms, alternating with one another. A part or all of them are much subject to extension into variously appendaged wings. Internally the mesocarp is almost uniformly traversed upon both the faces and the backs of the carpels by tubes called Vittae, commonly with suberous walls and filled with volatile oil. The

dorsal vittae alternate in position with the ribs. Upon thin transverse sections these oil ducts or vittae appear as perforations, and as to their number and position serve the most important purposes in diagnosis and identification, as do also the ribs. Mericarps are of three classes:—(1) The Coelospermous, characterized by the possession of a concave face; (2), the Campylospermous, characterized by the possession of a longitudinally grooved face, and (3), the Orthospermous, possessing a plane face

The Silicle.—(See Silique.)

The Samara.—An indehiscent fruit with a winged pericarp. They are commonly one seeded, as well as one carpelled, but may be more. Typically, it is the ovarian wall or the tube of an adnate calyx which develops the wing, but there is no reason why the term should not be extended to include similarly transportable fruits with wings consisting of the accrescent limb of a calyx (Figs. 247 and 248), or corolla (Fig. 251), or a surrounding alate bract (Fig. 252). Commonly the samara possesses but a single wing, unilateral, as in the ash (Fig. 291), or circular, as in the elm (Fig. 246), but not rarely more than one wing is present, as in the maple (Fig. 292), or many Malpighiaceae (Fig. 293).

The Utricle (Fig. 294).—A one seeded indehiscent fruit, the seed enclosed in a thin, bladdery or inflated pericarp. It is commonly one celled, but occasionally several celled. Ordinarily they eventually become irregularly ruptured, but in a few forms there is a regular ventral opening, approaching toward dehiscence.

The Akene or Acheninm (Figs. 61 to 67 and 296).—A small, indehiscent, one seeded, seedlike fruit, the pericarp somewhat thickened and entirely distinct from the enclosed seed. The akene varies in many directions toward other fruits. In many cases the pericarp is inclined to be fleshy and in a few it tends toward dehiscence, thus simulating a follicle. Some forms of the akene are distinctly winged, so that they might but for the relationship of the species yielding them to akene producing species be with equal propriety classed as samaras. They are in nearly all cases provided with some means for securing wind transportation or for attaching themselves to passing bodies, and yet there are numerous cases in which all such appendages have become entirely obsolete. For these reasons it becomes a matter of extreme difficulty to frame a definition at once comprehensive and delimiting for this group. The inferior akene is sometimes distinguished by the term Cypsela (Figs. 61 to 67).

Note should here be taken of the fact that the latter is characteristic of that largest of all families, the Compositae, in which the akenes of the head are massed and partially, or sometimes completely, surrounded and enclosed by an involucre, the whole constituting a multiple fruit to which the name Hypanthodium (Fig. 295) has been applied. The Hypanthodium varies greatly in its characters. Although usually multiflorate, it is commonly few, or even in rare cases one flowered. In those cases in which the involucre completely encloses the achenia it is commonly appendaged for distribution in an entire condition, as in the burdock. This condition connects the Hypanthodium with the glans and the contained achenia with the nut. Indeed, it is almost impossible to distinguish structurally between the fruits of the Xanthium and that of the Fagus.

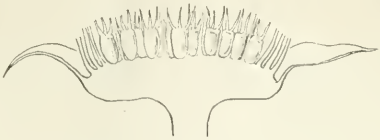


Fig. 295.

Fig. 296.

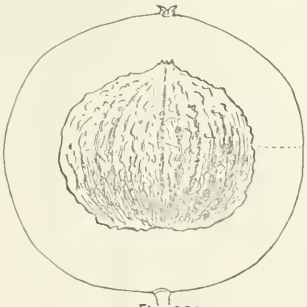


Fig. 298.

Fig. 297

The Glans (Fig. 297 and 298).—A fruit consisting of an accrescent and partially or (commonly completely) enclosing involucre containing one or more nuts. The involucre may be dehiscent as in the chestnut and hickory nut, or indehiscent, as in the Brazil nut and black walnut. In some of its forms, moreover, the involucre of the glans tends to become fleshy. Inasmuch, however, as the design of such pseudo-fleshy pericarps is not that of subserving transportation by their food properties, they are more appropriately regarded as non-fleshy. While depending like the grasses upon their gregarious habits for perpetuation, nut-yielding plants apparently in many cases are distributed by the rounded form of their coats and the readiness with which they are transported by flowing water.

The Nuca or Nut (Figs. 297 and 298 a).—The relationship of the nut and its glans to the akene and its hypanthodium has already been pointed out. The nut is in all cases much larger than the akene and its pericarp commonly much thickened and very hard.

The Spikelet (Fig. 299).—A fruit posessing a glumaceous involucre and pertaining to the Gramineae (grass family) and related orders. This class of fruits, like the glans and nut, connects those fruits which are adapted to transportation with those which are not. Although in general these plants depend for their perpetuation upon a highly gregarious habit rather than upon provisions for distribution of their fruits, yet the spikelets of some grasses are unmistakably so designed, and are transported with the caryopsis enclosed in the glumes.

The Caryopsis or Grain (Fig. 299 A).—A seedlike fruit produced in a spikelet, the ovarian wall and the seed coats closely adnate.

The Follicle (Fig. 300).—A monocarpellary fruit dehiscing by one suture only, except in rare cases the ventral.

The Legume (Fig. 301).—A monocarpellary fruit, non-fleshy and dehiscing by both ventral and dorsal sutures. Notwithstanding the definition thus given, we have to record the fact that in accordance with a different principle and construction, the title includes all fruits of the natural order Leguminosae. It therefore becomes necessary to point out that the fruits of this family are extremely variable, and this in directions which frequently carry them widely away from the structural characters of the legume. The peculiarities of the tamarind have already been pointed out. In the fruit of the Inga the dehiscent legume is filled with a large amount of juicy pulp, in which the seeds are embedded. In other species this pulp is replaced by one of a powdery consistency, while in others it is fleshy or subcorneous. A great many legumes of his family are not only indehiscent, but winged and one seeded, and thus are true samaras. The fruit of the Dipteryx is one seeded and tardily dehiscent, but the pericarp is enormously thickened and woody or corky. That of the Cassia Fistula has its seeds enclosed in a pulp and partly separated from one another by transverse septa. It is thus apparent that many legumes pertain to our first, rather than to our second, division. Two distinctive forms of the legume have become

dignified by the application of special names, as follows:—

The Loment (Fig. 301 A, B) is a leguminous fruit which may or may not be dehiscent, but which is separable at maturity by transverse divisions into one-seeded parts. In the Desmodium these parts are adapted to fixation to passing bodies, or occasionally much flattened and expanded to act as samaras. In the sophora the joints are smooth, hard and rounded, and highly elastic, so that in falling upon the stony soil they are adapted to bounding and rolling to a considerable distance. The term loment has also been extended to include those siliques which display a similar character.

The Cochlea (Fig. 302) is a legume which is spirally coiled.

The Silique (Fig. 303) is a di-carpellary dehiscent fruit, the two valves separating from the margins of the placentae at maturity, leaving the latter attached to the torus and to a false septum, which divides the silique into two parts. The principal modification of the silique proper is into the lomentlike form which we have already considered. This class of loment-producing plants are commonly found in the vicinity of water, and their fruits are adapted to transportation by this method. A more important modification is into the

Silicle (Figs. 304 to 306), which differs from the silique not only in being short and broad, but in possessing ordinarily some form of adaptation to wind or other transportation, thus belonging in our first class.

The Capsule (Figs. 240, also 271 to 283).—The typical capsule is to be defined as a di to polycarpellary longitudinally dehiscent fruit. From the typical form, however, it varies in several directions to such a degree as to render it impossible to frame a perfect definition. The capsule of the poppy (Fig. 307) opens by a number of small pores at the summit and this is true of many other forms. In other cases the mode of opening is by various forms of irregular dehiscence intermediate between the longitudinal and the circumscissile. Finally, we must note that many fruits, like those of some species of Passiflora, which possess no regular or natural method of opening are still classed as capsules by systematic botanists.

The Pyxis (Fig. 308).—A circumscissilly dehiscent fruit.

The Syconium.—A fruit consisting of a hollow branch, becoming fleshy, its inner surface the receptacle for many small, one-seeded akene-like fruits.

The Aeterio (Figs. 262 and 263).—An aggregate fruit, with an accrescent fleshy torus and many crowded pistils.

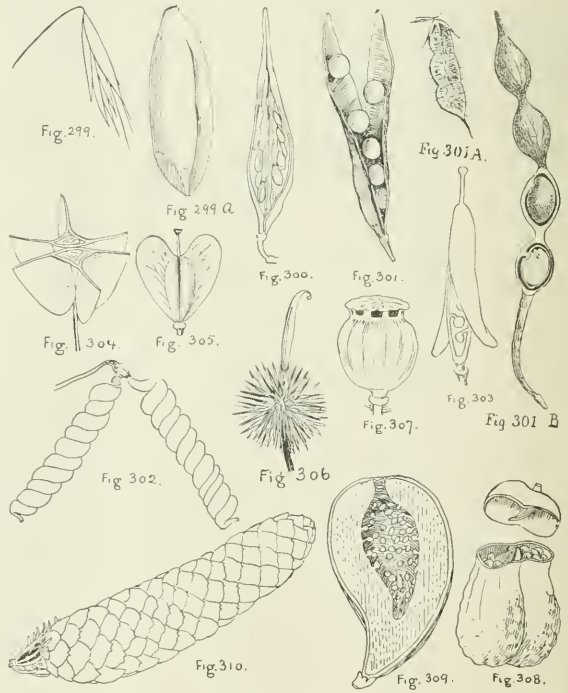
The Strobile (Figs. 310 and 311).—A multiple dry fruit, its elements in the form of imbricated scales.

The Galbalus (Fig. 312).—A fruit similar to the last, but the scales fleshy or much thickened above, so that the form becomes more or less globular.

In conclusion it may be remarked that to assign a name to a fruit is insufficient in most cases, especially those of aggregate and multiple fruits, to designate its character. The title must be supplemented by more or less of a description.

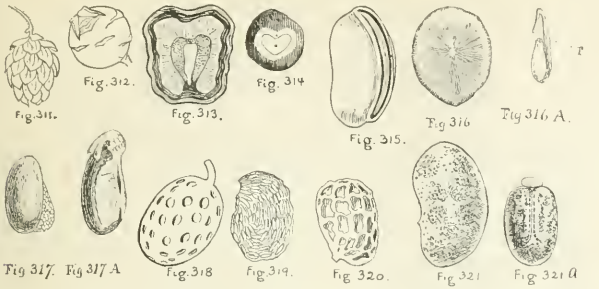
CHANGES IN THE OVULE.

As in the case of the parts entering into the formation of the pericarp, so in that of the part forming the seed—namely, the ovule—it is well to precede our study of the changes which it undergoes by consideration of the objects to be attained thereby. The essential feature of the seed is the possession as one of its parts of a more or less rudimentary plant, developed from the fertilized oosphere, and known as the Embryo. During the period intervening between the beginning and the completion of seed-formation the embryo requires nourishing, and provision for this constitutes the first requirement of the process. The further development and growth of the embryo between the time of germination and that of absorption by it from the external world calls for additional nourishment. This can be met only by the storage as a part of the seed



of an additional food supply. Protection of the seed contents during its development is only partially afforded by the pericarp, and this office is supplemented by the coverings of the seed itself, while its self-protection between the periods of maturity and germination is a manifest necessity. The transfer of the mature seed to the point of germination, or its Dissemination, and its fixation in a favorable site have already been referred to. We have seen that in many cases these offices are not provided for by the pericarp, and we must look for such provision to the seed itself. The parts of the seed by which these several offices are performed we find to be as follows:—The food supply during the germination of the macrospore and development of the gametophyte we have seen to be the portion of the nucellus external to the embryo-sac. Usually more or less of this material remains during at least the earlier period of the development of the embryo and contributes to the nourishment of the latter. Occasionally it persists even in the seed condition. It is known as the Perisperm. Inside the embryo-sac a further store of nutriment is caused to develop as a result of fertilization, this constituting the chief supply of the growing embryo. More or less of this also may persist, and usually does, upon the maturity of the seed. It is known as the Endosperm. As the embryo develops it stores within its own body more or less nutriment. At maturity we may find that the entire store of nutriment has thus been transferred to the body of the embryo, and the seed is said to be Exalbuminous, or we may find more or less endosperm or perisperm, or both, when the seed is said to be Albuminous, and this nourishment is known as the Albumen. In only a few seeds used in medicine does the albumen consist in any part of perisperm. The chemical nature of the albumen is ex-

tremely variable. Protection to the embryo may be afforded by the albumen when that is of the required consistency or composition, the conditions of the latter being a mere parallel of those already



considered under the subject of the pericarp. More frequently, however, it is secured entirely through the coats of the seed. These may correspond to the coats of the ovule, though usually the primine is found to have disappeared. When it persists it takes the name of Tegmen, or Endopleura, the secundine becoming the Testa, or Exopleura. Rarely the secundine also disappears and the seed is Naked. The seed will also be naked when produced from a naked ovule. When one or both of the coats persists, the point where the foramen existed becomes the Micropyle. Frequently the development of a new coat external to the others is induced by fertilization, and this is known by the general name of Aril. If it develops from the chalaza or a lower point it is called an Arillus, or True Aril; if from the micropyle, an Arillode, or False Aril.

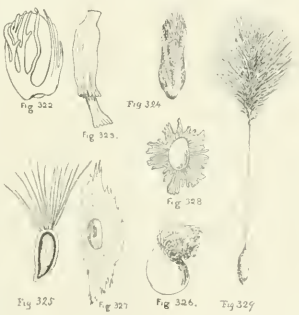
The provisions of the seed for securing dissemination are in most respects comparable with those affecting the pericarp. Wind distribution is pre-eminent; that by fixation to passing bodies is frequent, and that by means of an edible coat is rare.

The fixation of seeds disseminated without the pericarp is favored by their small size, enabling them readily to enter crevices and cavities, and by peculiarities of surface which favor the same process.

The large number and importance of medicinal seeds lend great importance to their study by the pharmacognosist, and this is especially true of the histology of all their parts. Inasmuch, however, as the subject of histology has been referred to a separate portion of the work, we shall here consider only such characters as can be distinguished by means of an ordinary lens.

The hilum is in most cases readily perceptible, but is occasionally found only by minute examination. It is to be studied as to its position, size, form, surface and color. Its position is sometimes fixed with reference to the form of the seed, as at the larger or smaller end, upon the broad side or on the edge, as well as with reference to the micropyle, adjoining it, at the opposite end or at some intermediate point. It is the last mentioned character which determines the class of seed as to its tropism. In size the hilum may be a slight point or covering a considerable portion of the surface. Its form is frequently characteristic as heart-shaped (Fig. 314) or linear and channeled as in Fig. 315. Its color frequently differs markedly from that of the remainder of the seed.

The rhaphe, extending from the hilum to the chalaza when these do not coincide,



is ordinarily not perceptible upon the surface. When it is so, as in Figs. 316 and 316A, its appearance is of great diagnostic value and must be closely scrutinized. The chalaza in its simple form calls for no especial attention. If, however, an enlargement appears at this point (the Strophiole, Fig. 317), it must not be overlooked. The strophiole may develop into the arillus (Fig. 317A), a partial or complete covering, and its characters call for the same attention which is requisite for the testa.

The testa is not wanting in any medicinal seeds. In general it is not closely adherent to the underlying tissue, and it can be readily removed. In its thickness, consistency, surface, color and appendages it yields important pharmacognostical characters. It may be pitted (Fig. 318), tuberculate (Fig. 319), reticulate (Fig. 320) or hairy (Fig. 316), and the minute characters of its pits, tubercles, ridges or hairs must not be overlooked. It may be dull or shiny, and its color may be uniform or variegated (Fig. 321). Its lustre or shade of color is frequently of the greatest assistance in determining the age, freshness, mode of preparing or preserving or other conditions on which the comparative medicinal quality of the seed depends. The enlargement at the micropyle (the Caruncle, Fig. 321A) calls for the same scrutiny as the strophiole. It may be variously appendaged (Fig. 323), and like the latter it may extend into a partial or complete covering, the arillode. The arillus, or arillode, may be partial, as in Fig. 322, or complete, as in the seed of the Euonymus.

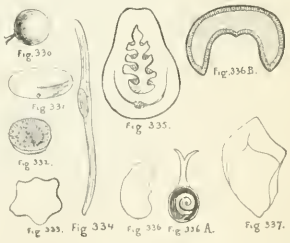
Appendages to the seed do not always take the form of an aril of either class, nor is their origin confined to the points from which the aril develops. Either as aril or appendage from the general surface it exhibits a great variety of form, of equal importance with those which characterize the pericarp. Forms of especially frequent occurrence are exhibited by Figs. 324 to 329. Important distinctions sometimes exist between seeds bearing similar appendages, as regards the points from which the latter originate, as in the case of strophanthus, false and true.

The general form of the testa is, of course, that of the seed, and calls for terms applicable to the forms of solid bodies (Figs. 330 to 337).

The tegmen when present is extremely thin and tightly adherent to the nucellus, following closely all inequalities upon the surface of the latter, and occasionally having its intruded folds caught between the forming masses of the albumen and discernible upon section of the latter as slender veins, giving us the so-called Ruminated Albumen (Fig. 338).

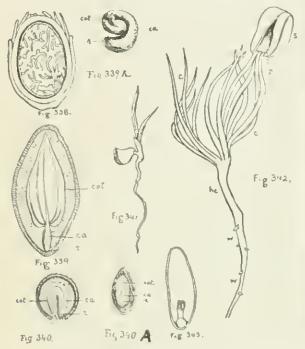
The albumen is characterized chiefly by its consistency, being bony, as in the ivory nut and date; horny, as in nux vomica; oily, as in the castor oil and cacao; fleshy, mealy, etc. In sectioning the seed note should be taken of the presence, number, position and forms of any cavities which may exist in them.

The embryo calls for the most thorough and minute study as a basis for systematic work, though for the pharmacognosist only the more important details of its general structure need be considered. It has already been stated that it consists of one or more phytomers. The part first



formed is the internode, which becomes the Caulicle (Figs. 339 to 340A, ca.), in old works denominated the "Radicle." The Radicle (in the last named figures) is the extreme tip of the caulicle, which points always in the direction of the micropyle. From this point the root is to

be developed. The embryo may consist of nothing further than the caulicle, and even this may be of the most elementary character. Ordinarily, however, there develops at the node (the point opposite to the radicle) one or more Cotyledons, or Seed-leaves (cot. in the figures). Most seeds which possess but a single cotyledon (Fig. 341) are grouped together in a division of the Angiosperms, which for this reason are called Monocotyledons, those with two in the Dicotyledons. A few plants, mostly Gymnosperms, are polycotyledonous (Fig. 342). The highest plants of their respective groups develop a second phytomer lying between the coty-



ledons, or if there be but one cotyledon mostly enwrapped by it. This is the Plumule (Fig. 343 pl.) which shows the same variation in the degree of its development as that which characterizes the lower. When its leaves are developed they bear a closer resemblance, as in the figure, to the mature leaves of the plant than do the cotyledons, following out the law referred to in our introduction. The plumule commonly pertains to exalbuminous seeds among the dicotyledons.

Terms used to indicate different directions of the radicle refer to its direction with relation to the fruit, its direction in relation to the micropyle being, as has been stated, always the same. It is Ascending when it points toward the apex of the fruit, Descending when in the opposite direction, and Horizontal when intermediate. The latter form is Centrifugal when pointing toward the periphery, Centripetal when toward the axis.

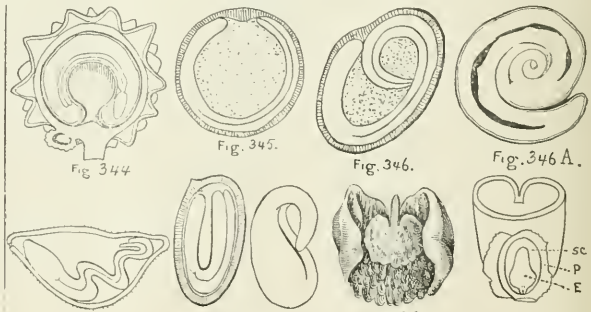
The position of the embryo with reference to the albumen is always highly characteristic. It is Axile or Centric when in the centre of the albumen (Figs. 340 and 340A), whether straight or curved; Eccentric when within the albumen, but outside of its centre (Fig. 344); Peripheral when lying upon the surface of the albumen. In the latter position it may be straight or simply (Fig. 345) or circinately (Figs. 346 and 346A) coiled. The relative sizes of the embryo and the albumen vary from those in which the former is a mere speck in a large mass of the latter to that in which the proportions are reversed, or in which the albumen is entirely wanting. The embryo should in all cases be dissected from the contiguous parts and the relations of its parts to one another made out. It may be straight, variously curved, crumpled (Fig. 347) or variously folded. In the latter condition the radicle may be brought into juxtaposition with the edges of the cotyledons (Accumbent, Fig. 348) or with the face of one of them (Incumbent, Fig. 349). One cotyledon may enwrap the other (Fig. 350). When a single cotyledon partly encloses the greater portion of the remainder of the embryo it is sometimes called the Scutellum (Fig. 351). Some of the terms applicable to the consistency of the albumen are also applicable to that of the cotyledons.

Finally, the pharmacognosist will find it of importance in the case of seeds possessing a characteristic taste to inform himself as to the part, if any, to which such taste is restricted.

With the production of the seed, containing a distinct living individual separated from the parent and fitted for independent existence, reproduction can strictly be considered as completed, although the progeny is still in its infancy and its form not yet perfect. Its analogy to the bud is apparent. Each consists of one or more vegetative units ready to develop under proper conditions into a perfect semblance of the parent, and each is provided with a store of prepared nourishment to sustain it until able to manufacture such for itself. The distinction is in the radically different modes of origin and in the structure, leading to different powers of reproduction.

GENERAL STRUCTURE OF ROOT AND STEM.

The development of the embryo commences with the division of the fertilized oosphere into two cells, each of which grows and becomes capable of itself dividing similarly. The result of such cell propagation is the production of a tissue and of a body which becomes elongated



through successive transverse divisions of its cells, or certain of them, and broadened by their longitudinal division. So long as the cells produced are the same in kind the body consists of but one tissue; but through differentiation and specialization among them different tissues are soon developed. The power of cell-division and growth is lost by most tissue after a time, while in other parts it persists permanently. Any tissue or portion of tissue which possesses such power is called Meristem or Meristematic Tissue. Tissue may cease finally to exert meristematic power, or it may resume such power after a time. All meristematic processes cease upon maturity of the seed, recommencing with germination. The point reached in the development of any plant-body in the embryonic condition—that is, at the maturity of the seed—does not depend in any degree upon the amount or kind of tissue or tissues developed, but altogether upon the habit of the particular plant. In some embryos tissue differentiation cannot be seen to have taken place at the time of separation from the parent, while in others it has progressed very far, though never (unless germination has occurred) to the production of a true root. It is impossible, therefore, to fix upon any particular developmental stage of stem structure as distinguishing the ungerminated embryo from the germinated plantlet. In the following sketch of its development, then, no note is taken of the resting period in the seed state, but the process is followed as though it were continuous from fertilization into the mature condition of the plant. The phenomena of germination are not important from the standpoint of pharmacognosy, and a mere outline of them is here given.

Animation is probably not entirely suspended during the resting period of the seed. That is, there is an apparent interchange of substance, due to vital action, between the seed and the surrounding atmosphere, although extremely slight, so long as the former possesses its vitality. Germination depends upon (1) a specific temperature, varying for seeds of different species and for those of the same species when they have become habituated to essentially different climatic conditions; (2) a specific saturation, also varying with different seeds—that is, the absorption of an amount of water bearing a fixed ratio to the weight of the seed; (3) a partially fixed degree of light exclusion; (4) the presence of free oxygen. Under these conditions ready prepared nutriment is dissolved, other forms become

digested by special vegetable ferments (Enzymes) present, heat is developed, cell propagation and cell growth take place and the development and growth of a plant from the embryo commence. By the growth of the embryo the radicle is protruded through the micropyle, the rest of the body soon following. The radicle, if it does not already point directly downward, turns in that direction and develops into a root. The opposite end of the embryo, if it does not already point upward, turns in that direction and develops as the apex of the stem. The stem above the cotyledons is called the Epicotyl, that below them the Hypocotyl.

The cellular nature of development and growth demands a general knowledge of histology for their understanding, so that we shall here consider, so far as possible, only the gross results of the processes, or such characters of the root and stem as can be demonstrated by other than histological methods. Such references to cellular structure as are here necessary are given rather figuratively than technically. The mode of growth in root and stem, and the structures resulting, are sufficiently different to require separate treatment. Although the forms of structure here considered as applying to the root concern only flowering plants and the very highest of the cryptogams, yet the description is applicable to all roots used in medicine.

STRUCTURE OF THE ROOT.

Upon examining a transverse section of the root in its rudimentary condition (Fig. 352) it is possible to distinguish three bodies of tissue exhibiting characteristic differences in their cellular elements. The central portion is occupied by a solid cylinder called the Plerom (a). Outside of this there is a hollow cylinder called the Periblem (b), and still outside of this and upon the surface of the root a second hollow cylinder, the Dermatogen (c). The last mentioned develops a primary covering called the Epidermis. The epidermis consists in its earliest stage, and therefore at the very tip, of a number of layers of cells which protect the apical growing point of the root, and is therefore called at that point the Root-cap. Toward the summit of the root-cap the outer layers successively wear off or are cast off, so that the epidermis becomes reduced to a single thickness of cells. Here it frequently develops a dense covering of Root-hairs which adhere tenaciously to the soil and perform various processes connected with absorption. For this reason the epidermis of the root is known as the Piliferous Layer. Still further up these hairs have fallen away and the single layer, after slight modifications, becomes converted into the epidermis proper. This has a variable duration in different plants and is consequently found covering the root for a greater or less distance upward. Almost always its duration is very short. It either disappears altogether, being replaced by a structure (Periderm) developed from the periblem, or in rare cases itself develops into the periderm.

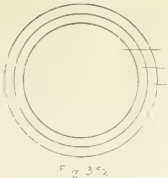


Fig 352

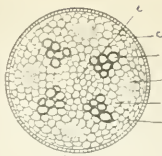


Fig 353
Diagrammatic

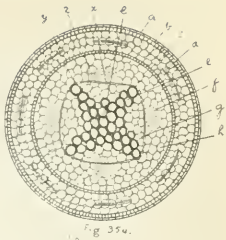


Fig 354.
Diagrammatic

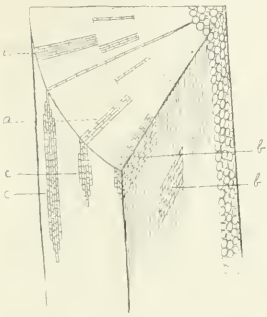


Fig 355. (Diagrammatic)

The periblem of the root develops into the Cortex, consisting of a number, often a large number, of layers of cells. Its outermost portion, usually of one layer of cells, presents a different appearance from the subjacent layers, and is the Hypodermis (Fig. 354b), in the case of the root becoming the Exodermis. The hypoderm lies against the inner face of the epiderm (a), while that persists, becoming afterward the superficial layer, and persists for a longer or shorter period. Its characteristics are of great importance in histological determinations. The innermost layer of the primary cortex is even more distinct in appearance than the hypoderm, and is the Endodermis (c). It lies in contact with the outer surface of the structure developed from the plerom. The production of primary cortex is quickly completed. If then the growth inside of it continues indefinitely it, in most plants, involves the destruction and disappearance of the primary cortex, which must be replaced by some other covering. A new meristematic region must then be established for the purpose of manufacturing such a covering. This almost always arises in some part, and it may be in any part, of the primary cortex. It is the Phellogen. The phellogen may be in the form of a continuous circle or in that of blades or plates (d), variously placed and directed. Upon its outer surface the phellogen develops corky tissue, the Periderm, and upon its inner a secondary cortex, the Phelloderm. Occacasionally it will produce only periderm or only phelloderm. As the periderm becomes impervious to the nourishing fluids it, and all tissue exterior to it, must die, and may be cast off, a new phellogen then appearing further toward the interior to form a new periderm, so that we may have successive periderms—the primary, secondary, and so on. This process is comparatively rare in the case of the root, very common in that of the stem. In such case the corky layers which become successively superficial constitute the Bork or Rhytidoma. Bork is called Ring-Bork when it forms a cylinder, Scale-Bork when it occurs in detached plates. It must be noted that the origin of the bork, and, as will be shown later, its structural nature dependent thereon, will depend upon the depth at which the phellogen develops. The same feature will also determine the amount and character of the tissue, if any, existing between it and the structure developed from the plerom. No tissue developed directly or indirectly from the periblem is in the form of distinct and regular bundles of vessels, though irregular and isolated or anastomosing tubes are frequently developed by it.

The essential characteristic of the body developed from the plerom of the root is that it is invested by the endodermis and is free from any other endodermal development in any part. It therefore constitutes a Stele (all inside of c), which in the root is always in the form of a Central Cylinder. The plerom exhibits at first only slight differences in the appearance of its cells (Fig. 352a), and a transverse section of it viewed with the microscope might be figuratively compared to looking down upon a honeycomb built in a cylindrical tin box, the latter representing the endodermis, and in longitudinsection to a longitudinal section through the same. Further away from the tip, however, it would be found that groups of its cells (Fig. 353 e and f) had elongated in a longitudinal direction and these, to continue our illustration, might be compared to bundles of pencils or quills set in the honeycomb. Mingled among the elongated cells of the bundle, however, are many which have not elongated. These bundles would be arranged in a circle, separated from one another by more or less of the honeycomb tissue, these separating portions corresponding to the Medullary Rays of the Stele (g). From the endodermis they would be separated by one or more continuous circles of the honeycomb cells, corresponding to the Pericycle, or "Pericambium" (h). For a time there would also be left a central portion (i), consisting of unchanged

cells. The elongated cells, which constitute the important elements of the bundles, are joined end to end with other similar ones still further up in the older part of the structure. At first the end walls of these abutting cells separate their cavities from one another, but later they disappear in some, becoming perforated in others, so that the cavities become more or less continuous, forming the Vessels, extending throughout the root and into and through the stem above. The bundles thus formed are seen to be of two kinds, alternating in the circle. Each of those of one kind (Fig. 354e) extends gradually toward the centre by the successive conversion of the original cells left there into vessels or into cells associated with the vessels of the bundles. Upon meeting there, they of course cut off the previously existing central communication between the medullary rays, which are now left as isolated plates or wedges between the bundles. These bundles, which meet at the centre, are known as the Xylem-bundles, or Wood-bundles, constituting the woody portion of the root. In a few plants which we have to consider, the Gymnosperms, no series of cells lose their end walls as above described so as to become converted into continuous tubes, the Ducts, though some of them connect by perforations.

The other bundles (Fig. 354f) which have been described as alternating with the xylem, or wood-bundles, possess as their important element those cells which become connected by perforations in the form of sieves, and are known as the Phloem-Bundles. Collectively they form what is known as the Sieve-tissue, or Cribrose-tissue, of the plant, and their intercommunicating tubes are the Sieve-tubes. This tissue characterizes the Gymnosperms as well as the Angiosperms. The phloem-bundles do not extend toward the centre, as do the xylem-bundles, but stand isolated, each between two medullary rays which separate it from the xylem-bundle upon either side. In connection with the ducts, or their equivalents in the gymnosperms, and the other tissues of the xylem-bundles, develop strong fibres, the wood-fibres, while in connection with the sieve-tubes and other tissue of the phloem-bundles usually develop very similar fibres, the Bast-fibres. The phloem-bundles therefore ordinarily become Bast-bundles. Vascular bundles in which fibres develop are known as Fibro-vascular bundles.

The condition now reached by the root constitutes the completed primary structure of its stele. With the production of the primary structure growth and increase in thickness may cease (Monocotyledons), in which case the periderm changes which we have recorded will not occur. On the other hand, secondary growth may take place, in which case those changes are more or less completely induced. In such case the cells touching the phloem-bundles upon their inner faces and upon their sides become meristematic and proceed to produce xylem-tissue upon their inner faces and secondary phloem upon their outer, in contact with the primary tissue of that kind. Each such arc of meristem (Fig. 354x) becomes the Cambium of that bundle. At the same time the cells lying in contact with the outer surfaces and with the sides of each xylem-bundle similarly become a cambium for that bundle (y), and sometimes produce secondary xylem, upon their inner faces, in contact with the primary xylem there, and secondary phloem upon their outer faces. By these processes each bundle, previously consisting of one kind of tissue, therefore an incomplete bundle, comes to consist of both kinds of tissue and becomes a complete bundle. Connecting the cambium arcs of the adjacent bundles a cambium arc (z) forms in the intervening medullary ray, and this produces secondary medullary ray tissue on both its inner and its outer face. There is thus formed a continuous cylinder of cambium (x, y, z), though a somewhat irregular and wavy cylinder, standing between the zone formed within by the primary and secondary xylem-bundles and their intervening portions of the medullary rays, and the outer primary and secondary phloem-bundles with their intervening portions of the medullary rays. Although this cambium forms a cylinder, as stated, it is usually referred to as the "Cambium-ring," or "Cambium-circle," because it presents this appearance in transverse section. Provision is now made for the growth of all portions of the stele. Additional complete fibro-vascular bundles are now developed in the medullary ray spaces between the others, fed by a portion of the cambium in a similar manner. New medullary rays also develop in the substance of the bundles. We thus have developed upon the inside of the cambium-cylinder a cylinder of xylem, solid except for the blades of medullary ray tissue penetrating it nearly to the centre, and outside of the cambium-cylinder a hollow cylinder of phloem tissue or bast tissue, continuous except for similar but of course much shorter medullary rays. It has been said above that the portions of the cambium circle opp s te to the primary wood-bundles "may" produce secondary wood upon the inner face and secondary phloem upon their outer. While this does take place in some roots, it usually does not, only medullary ray tissue forming at those points on both the inner and outer faces of the cambium. This constitutes the secondary structure of the root-stele, and any further growth which may occur is merely a continuation of the process described as secondary growth. When an annual resting period in growth occurs the ducts of the xylem produced toward the close of the year's growth will be conspicuously smaller than those produced at the beginning, so that conspicuous Annual Rings are produced in many woods.

After a tree has attained a certain age the wood at the centre dies, and becomes dryer and harder and of a different color from the living wood outside of it, and this dead portion becomes thicker year by year. It is called the Duramen, or "Heart-wood;" the outer is called the Alburnum, or "Sap-wood." It is the duramen only which yields the most of our colored cabinet lumber.

The effect of secondary growth upon the structures external to the bast cylinder is extremely variable, according to the extent of such growth and the relations of the phellogen and its structures and the individual habit of the plant. It has been stated that the phellogen may develop in any part of the cortex. It may now be stated that it may, and, in fact, usually does, in the root, develop in the bast cylinder itself, so that all the parts external to it, and even portions of itself, will belong to the periderm, or in the rare chase of Bork-casting by the root will be cast off.

In all the classes which yield our medicinal roots the branches start from the pericycle outside of a xylem-bundle at the point h in Fig 353, as it is first developing and grows through the surrounding tissue to the surface. If a root-section has passed through branches these will appear upon the older part as mature secondary roots, which are successively less developed downward, appearing at length upon the younger portion as not having made their way through the overlying tissues to the surface. As the root first formed is called the Primary, so its branches are called Secondary. Their structural development is a repetition of that of the primary.

The continuity of growth in the root is uniform—that is, there is no division of it into joints or phytomers. There are hence no regular distances at which it branches, and when buds are produced upon it, as they are in rare cases, their points of origin are not so regulated.

(To be Continued)

IRON IN FOOD.—Professor Bunge, in the course of a paper on iron in medicine, read before the German Congress of Internal Medicine (Food & Sanitation), has been ventilating some ideas which are as much matter of general science (and therefore extremely important) as they are details connected with the physician's domain. He is strong on the point that iron should reach our blood through the medium of our food rather than through the druggist's specialties. Iron, as everybody knows, is a food element absolutely essential for the proper constitution of the body. It is as rigidly demanded by the plant as by the animal; and it is from plants that Profesor Bunge shows we should chiefly receive our iron supply. Spinach, he tells us, is richer in iron than the yolk of eggs, while the yolk contains more iron than beef. Then succeed apples, lentils, strawberries, white beans, peas, potatoes and wheat, these substances being given in the order in which they stand as regards the plentifulness of their iron constituents. Cow's milk is poor in iron, but, as balancing this deficiency in the food of the young mammal, it is found that the blood of the youthful quadruped contains much more iron than the adult. Thus, in a young rabbit or guinea pig one hour old, four times as much iron was found as occurs in these animals two and a half months old. These are interesting facts, showing that nature probably draws on the original store of iron in the young animal for its nutrition during its milk-fed period.

(Written for the Era.)

THE FAMOUS HOLLIS POISONING CASE.

Being a Detailed Account of the Tragedy and of Druggist Ayer's Connection with it.

By HOWARD FIELDING.

(Continued from p. 521 Oct. 17.)
This story was commenced in the October 10th issue.

IV
A QUESTION OF CONSCIENCE.

The cogwheel in the human mind which regulates doubt is a lovely piece of machinery. It would be hard to instance anything of which a man is so sure that he could not be led to doubt it. Often the seeming impossibility of a theory works in its favor by exciting the wonder of the mind, and prompting the ever-recurring question: Can this be true?

When fear lends its aid to shake the foundations of judgment, such a doubt can easily obtain mastery. In Dr. Ayer's case, there were enough facts to suggest the idea that he had made an error. The incredible nature of that error was an element of the interest that kept him thinking about it. He said to himself, over and over again, that such a theory was utterly impossible; he knew that he had made no such blind and maniacal mistake. And as soon as he had settled that satisfactorily in his mind, the same foolish doubt rose up and assaulted him anew. Presently he began to invent theories to account for his having done it, as if he were a detective upon the trail of his own misdoing.

As to the consequences, if the thing were true and should become known, there was, unhappily, no doubt whatever. The only chance that could save him from being utterly cast out and rejected by Dr. Mallory was that the doctor should die of a fit when he heard of it. Remembering what the reputation of his store was to Dr. Mallory, such a tragical event seemed not unlikely to Ayer. The affair would be very nearly the ruin of the young pharmacist, who was just getting a foothold on the ladder that leads to success. It would certainly delay his marriage, and he was of the opinion that calamity could hardly go further than that.

While these and equally cheerful thoughts were passing through his mind, he stood staring at the prescription book in an attitude suggesting the most intensely interested perusal, though as a matter of fact, he did not see the book at all. The objects which he did see could not have been discerned by another, for they were the creations of his own brain.

Some one rapped him smartly on the shoulder, and he jumped as a criminal might have done at a touch of an officer of the law. Turning, he faced Dr. Stanley, who stood there with his usual sapient and somewhat sardonic smile.

"Stanley," said Ayer, cautiously, yet with great earnestness, "I believe that I have found out who poisoned Hollis!"

It was Stanley's turn to jump.

"Why, what the devil," he began. "Have you gone over to the ranks of the enemy? Haven't I told you that the man died a natural death?"

"You have," replied Ayer, "and I believed it till I read this."

He passed the newspaper to Stanley. The physician ran through the story in less than a minute.

"Confound that man, Barker," he exclaimed. "What do you suppose he's after? Of course, he inspired this."

"I should think that was probable.

"And do you really believe, on the strength of all this rot, that young Hollis murdered his uncle?"

"No," said Ayer slowly. "I don't believe there was any murder in the case. It was an accident, but the work could not have been done half so well by design."

Stanley naturally demanded to know what he meant, and Ayer enlightened him. Their relations had long been confidential. It was without the slightest hesitation, but rather with a sense of relief that Ayer told his story to his friend.

"There are two principal points in this yarn," said Stanley, when Ayer had finished, "which strike me as especially well calculated to relieve your anxiety. In the first place, you couldn't have made such a break. In the second place, if I understand the conditions, you wouldn't have killed him even if you had put eserine into that solution instead of liquor strychniæ. Let me look at the prescription.

He refreshed his memory by a glance at the record.

"Suppose you had done it," he continued, "you would have put just a grain of eserine into the solution. Hollis would have got a little smaller dose than he would have had of the strychnine. It was a four-ounce solution. Hollis would have had one thirty-second of a grain. That ought not to have killed him."

There was just a trace of hesitancy in Dr. Stanley's last words. Ayer detected it.

"The point is just here," said the druggist; "the man was sick. He had a chance of recovery. Did not my error turn the scale?"

"I don't think it did. At any rate, don't think about it any more. Just keep still."

"I shan't be likely to say anything about it," said Ayer gravely, "but just now I feel like having it out with myself. I suspect that I was responsible for that man's death."

"And I say that you were not, even granting that you made the error."

The words were encouraging, but Stanley's manner was greatly the reverse. It was painfully evident that he had been impressed by the theory of poisoning with eserine; that he was strongly inclined to suspect Ayer of having made the error in question, and that he was expressing his opinion in the character of a consoling friend, and not as a physician.

"You take my side of it, old man," said Ayer, with feeling, "because your sympathies are that way; but let me ask you a question: What would you think of yourself if you had prescribed eserine for Hollis by mistake?"

Ayer rubbed his head doubtfully.

"Personally," he said, with his peculiar smile, "I never make mistakes. If I heard that another physician was using eserine in a case of that kind, and professional courtesy permitted me to do so, I should suggest a change of treatment."

"Yes, I guess you would," rejoined Ayer. "In short, by denying Hollis the remedy prescribed, and by substituting another drug of contradictory action, I killed the man."

"You are not in a proper frame of mind for argument, my friend," said Stanley calmly. "Having convicted yourself of this crime, what are you going to do about it?"

"I have not decided."

"Then let me decide for you," said Stanley, earnestly. "Just keep dark about it. Don't ruin a live man for the sake of a dead one. I hope there's nothing unprofessional about me. A patient is a patient, in my mind, always. And yet, as a matter of common sense, I can't help reminding you that Hollis was an old man, who would never have been well, whose life was worth next to nothing to him, and could not have been greatly prolonged by any exercise of medical skill. You are a young man with every chance of a long and successful career. Don't let the suspicion that you slightly accelerated Hollis's departure drive you to any foolish action. The case will never be cleared up, if it stands as you think it does. How is anybody going to prove that Hollis was poisoned? You don't suppose that one thirty-second of a grain of eserine is going to be found in him, do you?

"I suppose not."

"Then what are they going to do?"

"The medicines he used may be subjected to tests."

"That's so," Stanley admitted, "and we'll take measures to guard against that. Make me up a solution on that prescription, quick. Make it look just like the other—as to the bottle, and all that. I'll go over to Hollis's house and make some excuse to get at the medicines. They are probably still in the sick room. I'll change the bottle you give me for the one that's there. Then we can examine the contents of the original one, and satisfy ourselves that it was all right."

"Stanley, you're a friend in need," said Ayer. "This is bad business, and I don't suppose we're doing the right thing. But I'm going to do it just the same. If we don't find eserine, of course that settles the matter, so far as I am concerned. If we do, I shall still have the power to lay the case before the police."

"You wouldn't do that?"

"I would rather than see an innocent man accused. If Edward Hollis gets into trouble on account of my error, I shall certainly get him out of it, at whatever cost."

"But he won't. They can't arrest him on any evidence they have. What have they? Absolutely nothing but newspaper gossip."

While they were speaking Ayer was putting up the original prescription. When it was ready he handed the bottle to Stanley, who hurried away with it.

He was gone half an hour. When he returned his usual calm demeanor was considerably ruffled.

"Hollis is under arrest," he said.

"You don't mean it!" cried Ayer. "Well, that shows what I must do."

"Don't be in a hurry. Let's be sure of our ground first."

"Did you change the bottles?"

"No."

He hesitated. There seemed to be something which he was concealing. Ayer felt his hair stir at the roots.

"You don't mean to say —," he began.

"But I do," rejoined Stanley, divining his meaning. "The bottle is gone."

"The police have it!"

"I don't know that. It may be somewhere in the house. I'm going over again to look for it. Keep a stiff upper lip, my boy; you'll pull through this yet. There's somebody asking for you outside. For heaven's sake brace up! Here, take some of this."

He made Ayer drink a little brandy. Then the druggist went out into the store, and encountered Dr. Gordon, the oculist.

There seems to have been some mistake," he said, "in that eserine solution."

"Why, what —." gasped Ayer.

"Oh, nothing serious," said the doctor, "at least I don't suppose so. It was short in quantity, that's all. You know I was to use it in experiments. Well, I separated it into equal parts of an ounce each, or tried to do so. There was about two drams less than there ought to have been."

"Dr. Ayer," called Stanley, sharply.

It saved the druggist—as he declared afterward—from falling on the floor. That was Stanley's object.

He came forward quickly, and greeted Dr. Gordon, engaging him in conversation while Ayer got his breath.

It had been a shock of the first magnitude. Two drams missing? The exact amount that would have gone into the solution, if the mistake which the druggist feared had really been made.

(To be Continued.)

TO MEASURE TEMPERATURES.—A new method for measuring temperatures has been devised by which the temperature of an inclosed space can be ascertained without the intraduction into it of a thermometer. The method is founded on the examination of a luminous ray traversing the space whose temperature is desired to ascertain. The examination of the ray of light at its points of entry and exit gives the necessary data, and enables the temperature of blast furnaces, the electric furnaces, etc., to be fixed with certainty.

DRUGGISTS' ADVERTISING.

By Chas. G. Kline, Harriman, Tenn.

A few days ago a customer brought in a bottle wrapped in an old newspaper to be filled. After waiting on him I glaced over the paper, as is my custom, looking for drug ads. I found two; one of the old stereotyped sort "dealer in pure drugs, etc.," and this one:

ALCORN'S DRUG STORE,
South Side West Seventh St.
R. C. GANT'S OLD STAND.

Finest line of PERFUMES in Columbia.
Palmer's Extracts.
Toilet Waters, Etc
All odors 50c. per oz, except Frangipanni, $1.00 per oz, and OUR OWN COMBINATION of some of PALMER'S choicest odors, . .

BLENDED -:- SWEETS,
Only 65c. per oz.

ICE CREAM SODA WATER.
flavored with FRUIT JUICES and our special flavor, . . .
Blended Sweets, (flowers and fruits.)

Get our prices on PARIS GREEN before purchasing.

☞Paint your house while the weather is fine and the price of a Lead, Zinc and Linseed oil paint is $1 10 per gallon.

ASK FOR
Tenney's
New York.
FINE -:- CANDIES
In sealed packages
At **Geo. S. Alcorn's.**

Which I considered about as good an example of how not to advertise as the first mentioned.

Brother Alcorn used over six inches of space in a choice position, top of column, between reading matter, where two or three inches with border would have attracted attention just as quickly.

He mentioned five separate lines of goods, each worthy of an ad. for itself. I don't know, but I presume that ad. ran in the paper several weeks without change. Suppose, now, he should cut down his space, and what he saved in cash that way he should pay somebody to write a new ad. each week, if he didn't have time to do it himself. His advertising would cost no more and certainly would do more good.

I don't know Mr. Alcorn, but he lives in a good town, and must have a nice trade, else he wouldn't be handling such high grade candy; and such a class of customers appreciate good advertising and would respond to it.

As suggestions I submit the following:

Nothing Kills Potato Bugs

quite so easily as Paris Green. We bought a large quantity this season, and if you need any we can save you money.
Blue Stone, Sulphur, London Purple and other insecticides always on hand.

If you get Hungry

for good Candy, don't forget that I sell Tenney's fine candies in sealed packages.
Some candy looks nice, but don't taste right; that isn't the way with Tenney's—it looks nice and tastes nicer. Try it.

We are Serving

Ice Cream Soda Water now, and doing it just right. Plenty of ice, pure water, fruit juices, syrup, pure gas and the "know how" make good soda water. We use all these, and want you to say what the result is.

Blended Sweets,

the new perfume, sweet and lasting, a bouquet of choice odors, our own combination — only 65c. an oz.
We carry a line of Palmer's Extracts and Toilet Waters, none better made, 50c. an oz., except special odors.
Come in and judge for yourself.

A Good Time

to paint your house, barn or outbuildings now, while the weather is good. We are selling a pure Lead, Zinc and Linseed Oil paint for $1.10 a gallon, and if you have any idea of painting we want you to come in and talk it over with us.
Our stock of brushes complete, and prices right.

These "suggestions" could all be written in dozens of styles; no two persons could or would write them alike. The main object in writing an ad. is to get one that will pay.

When our colleges commence turning out the kind of men that Mr. Jacobs, of Atlanta, is looking for, I will think the millennium has dawned. Very few men can do so many things and do them all well. The tendency is rather the other way—specialization. Know everything of something, and something of everything."

Helium.

The announcement made several months ago of the discovery in the mineral "clèveite" of the gas which produces the line D_3 in the spectrum of the solar chromosphere, naturally excited widespread interest. The following data have been abstracted by Am. Ch. Jr. from a paper read by Professor Ramsay before the (London) Chemical Society, and will give some idea of the present state of the work of investigation.

Palmieri states that a lava-like substance ejected from Vesuvius gave a spectrum showing the line D_3; he made no further examination of the substance to prove the identity of its constituent with the solar helium. Hillebrand examined a number of uraninites from which gas was evolved; this gas he took to be nitrogen simply, whereas that element was present to the extent of only about 10 per cent.—a quantity sufficient, however, to mask many of the characteristics properties of helium. In the search for substances which would combine with argon, Ramsay was led to examine the gases given off on heating clèvite and certain related minerals, and has been able to prove that they consist, in great part of helium.

About thirty minerals were examined; of these about half gave gas-mixtures in which the quantity of helium ranged from a mere trace to the point where it was practically the sole constituent.

Many of these minerals contain uranium as an essential constituent—one, pitchblende, being practically pure uranium oxide—but by no means all; yttrium and thorium are frequently constituents of minerals yielding helium under the influence of heat. The manner in which the gas is held by the mineral is unknown. Experiments in which uranium oxide was heated in contact with helium or uranium itself in a mixture of helium and oxygen, and the apparatus allowed to cool, gave only negative results; helium was not absorbed. Similar experiments are still to be made with the oxides of thorium and yttrium, and with a mixture of these with uranium oxide.

The helium evolved from these minerals was frequently mixed with hydrogen; this was removed with the aid of hot copper oxide, or of metallic palladium—the latter reagent being used in certain cases to decide the question whether the hydrogen was or was not in combination. Nitrogen was also a usual constituent; it was removed, as in the case of the purification of argon, with hot magnesium, or by sparking with an excess of oxygen over a solution of caustic soda, the oxygen residue being afterward removed with the aid of potassium pyrogallate. The densities of the several specimens of the gas, obtained from different sources or by different methods, averaged 2.18, the density of hydrogen being taken as the unit; after being mixed and submitted to further processes of purification, the density, determined with the aid of a larger bulb, was found to be 2.218. After circulation over hot magnesium and copper oxide the density was finally reduced to 2.133. Determinations of the wave-length of sound in the purified gas gave, as the ratio between the specific heats, the figure 1.632, and, finally, with the gas whose density had been found to be 2.133, the figure 1.652, the theoretical figure for a monatomic gas being 1.66.

"In the case of argon the purest specimen obtained gave for the ratio 1.659, and, as remarked, not much dependence can be placed on the accuracy of the last figure.

"The result of these experiments goes to prove that the density of the gas named helium is not less than 2.13, and that it has the same claim to be considered a monatomic gas as mercury gas; or if it is a mixture, it must be a mixture of monatomic gases."

One volume of water was found to be capable of dissolving only 0.0073 volume of helium, the lowest coefficient on record. Alcohol and benzene do not dissolve gas at all. Professor Olzewski is at present engaged in experiments to determine the critical constants of pure helium. The refraction-coefficient has been determined by Lord Rayleigh.

The study of the spectrum of helium by Crookes has led to some very interesting results, a notable one being, that "at least two of the lines in the spectrum of helium, seen with a wide-dispersion prism, are coincident with two of the argon lines. These occur in the red, and comprise one each of the two pairs of characteristic argon lines. This observation has been frequently repeated, using for the purpose spectroscopes of different dispersive powers, and throwing into the field both spectra at the same time, with an exceedingly narrow slit; and we may say that if not absolutely identical, the lines are so near that it is not possible, with the means at our disposal, to recognize any difference in position. But the relative brilliancy is by no means the same. One of the argon lines, rather faint, is coincident with the prominent red of the helium spectrum, and one of the strong red argon lines is coincident with a faint red line in the helium spectrum."

In concluding this paper the author says "It cannot be doubted that a close analogy exists between argon and helium. Both resist sparking with oxygen in presence of caustic soda; both are unattacked by red hot magnesium; and, if we draw the usual inference from the ratio between their specific heats at constant volume and at constant pressure, both are monatomic gases. These properties undoubtedly place them in the same chemical class, and differentiate them from all known elements."

"How does argon happen to occur in the air and helium only in minerals? Why is helium not present in air?

"A satisfactory answer to this question is, we think, contained in a paper by Dr. Johnstone Stoney (Chem. News, 71, 67). He there shows that were hydrogen to be present in air (and it might be present, in spite of the oxygen with which it would be mixed, for a small quantity would surely escape combination), it would, in virtue of the velocity of its own proper molecular motion, remove itself from our planet, and emigrate to a celestial body possessing sufficient gravitational attraction to hold it fast. Dr. Stoney suggests this explanation to account for the absence of an atmosphere and of water-vapor on the moon, and for the presence of an atmosphere of hydrogen on the sun. It would also account for the absence of helium in our atmosphere, and for the presence of the chromopheric line D_3. Of course, if an element can form compounds, or if it is absorbed by solids, as helium appears to be, it will, like hydrogen and helium, be found on the earth."

Finally, the authors suggest, as the only explanation of the facts known to them, that argon and helium are both mixtures, and that they contain a common constituent. Experiments having for their end the determination of this question are already in progress.

PHARMACY.

CHRISTIAN PAGANISM.—Under this caption the New York Press writes trenchantly as follows: "When the infant Viking pined, the Norse mother made sacrifices to Freya; when the son of the Greek fell ill, the Athenian matron burned costly incense to the family Penates; when the little child of the East Indian sickens, the mother beats her breast and places banyan fruit before her bone fetish; when the little child of the modern 'Christian Science' believer is smitten with typhoid fever, the mother kneels before the absurd and canting egotism of her own belief, and makes sacrifice in the life of a child."

SUGAR IN URINE.—Allen recommends (in Analyst, Ph. Jr.) the following procedure for the detection of small quantities of sugar in urine: Seven to eight cc. of the urine are heated to boiling point in a test-tube, and 5 cc. solution of copper sulphate, as used to make Fehling's solution, is added. This precipitates nearly all the uric acid, xanthine, hypoxanthine, phosphates, etc. When nearly cold, 1 to 2 cc. of a saturated solution of sodium acetate is added, which will render the precipitation complete. Filter, and add 5 cc. of the usual alkaline tartrate solution, then boil the mixture for fifteen to twenty seconds. In the presence of more than 0.25 per cent. of sugar, separation of cuprous oxide occurs before the boiling point is reached, but with smaller proportions precipitation takes place dur-

ing the cooling of the solution, which becomes greenish opaque, and suddenly deposits the oxide as a fine orange-yellow precipitate. The best qualitative test for traces of sugar is, however, the phenylhydrazine test.

KILLING GERMS IN MILK.—The latest method of freeing milk from germs or impurities, namely, by electrical sterilization, is believed to possess important hygienic possibilities, while the Soxhlet and some other methods have been pronounced not only useless, but even noxious. Of all the various systems, only one has exhibited the capacity of killing all microbes and germs, the process in this case being that of sterilizing the milk by subjecting it to the passage of an alternating electric current—an operation by which all micro-organisms taken up by the milk from the air, etc., are permanently destroyed without any injury to the milk.

A NEW AND IMPROVED BAKING POWDER.—G. Weddell, Newcastle-upon-Tyne, England, has taken out a patent, in which he claims the preparation of a baking powder, which contains some of the mineral salts found in cereals. A mixture is made of calcium phosphate, 300 parts; magnesium phosphate, 180 parts; sodium phosphate, 180 parts; potassium phosphate, 18 parts. Occasionally a further addition is made of some phosphates of iron and manganese and a little calcium fluoride. Of this compound, 2 parts are added to 7 parts of ground rice or flour, bicarbonate of soda 15 parts and tartaric acid 14 parts. The proportions may be varied.

THE ETHICS OF COCA WINE.—The author of an anonymous paper read by Mr. Payne at a meeting of the Pharmaceutical Chemists' and Apothecaries' Assistants' Association of Ireland, said that chemists throughout the country were cultivating a sale for coca wine without considering the demoralizing effect it might have on some of those who took it. (Br. & Col. Dr.) He pointed out the similarity in results of taking opium with taking coca wine, and said that it was acknowledged that the cocaine habit was even more pernicious than that of opium, and in encouraging the sale of coca wine indiscriminately chemists were helping to combine the effects of alcoholism with those of cocaine taking.

COMPARATIVE VALUE OF DIFFERENT FOODS.—Professor Atwater's exhaustive studies and experiments in this line have led him to the conclusion that the greatest nutritive value in any kind of food of the same specific cost is to be found in cornmeal. He finds that in ten pounds of the latter there are slightly over eight pounds of actual nutriment; in eight and one-third pounds of wheat flour there are over six and three-fourths pounds of nutriment, in five pounds of white sugar there are four and one-half pounds of nutriment, in five pounds of beans there are four pounds of nutriment, in twenty pounds of potatoes there are three and three-fourths pounds of nutriment, in 25 cents' worth of fat salt pork there are three and one-half pounds of nutriment—in the same value of wheat bread there are two and one-fourth pounds, in the neck of beef a pound and three-fourths, in skimmed-milk cheese the same as the latter, in whole-milk cheese a trifle more than one and one-half pounds, in butter one and one-half pounds, in smoked ham and leg of mutton about the same, in eggs at 25 cents a dozen about seven ounces, and in oysters at 35 cents a quart about three ounces.

THERAPEUTICS OF SALT.—This has been presented by Dr. Wyeth in an urgent manner, advocating especially the injection into the circulation, through a vein of hot salt solution to take the place, in part, of the volume of blood which has been lost as a result of accident. The solution which he himself has employed—running in as much as five pints in a single operation—is composed of clean water, boiled and cooled to 110 or 120° F., or just as hot as the hand can bear, to every pint of this a teaspoonful of common salt being added; the pulse has been observed to go from 140, in cases of tremendous hemorrhage, steadily down to 70, to the minute, within two minutes of the injection of a pint of this solution. While it may be used cooler than 110° F., and in some cases this may be necessary, Dr. Wyeth regards it as safer to give it as hot as above mentioned, because the cold solution robs the body of its heat, while the hot solution carries heat with it, thus adding to the maintenance of the normal temperature. A metal or glass pipette goes into the vein, and a rubber tube three or four feet long and an irrigator bag or vessel are used.

POISONOUS CONTAMINATIONS OF VANILLA.—A number of serious cases of vanilla poisoning having occurred in a Cologne hotel, a local newspaper investigated the subject closely and publishes the following interesting information, condensed from the Pharm. Zeitung: The cholera-like intoxication of several individuals, caused by eating dishes containing vanilla, is only too familiar to science, but the precise cause is not known. The poison probably gains access to the vanilla in its tropical habitat. In order to impart a brilliant black luster to the harvested fruits they are covered with a fatty oil. In Columbia the oil of the seed of Anacardium occidentale, the so-called West Indian elephant lice, is used for this purpose. The shells of these seeds contain a very corrosive substance, cardol, with which the skin can be blistered as with a Spanish-fly plaster. Very minute quantities introduced into the human intestine produce a most violent choleraic irritation. A casual admixture of cardol with the oil may cause poisoning. On the island of Reunion the vanilla is caused to twine about the trunks of Jatropha curcas, and is thus brought in touch with the corrosive milk juice of this plant. Casualties from the consumption of vanilla cannot be guarded against, and it is amazing that they have been so rare. The only protection is to eat no vanilla dish. Artificial vanillin is said not to cause intoxications of any sort.

OLD-FASHIONED SHOP RECIPES.—The recipes for simple workshop manipulations, which are given in some of the old books on mechanical arts, furnish ample proof of the love for mysticism which all classes possessed. For example, John Bate published in 1635 a book entitled "Mysteries of Nature and Art," in which he gives the following valuable instructions for making iron or steel very hard: "Quench your instrument seven times in the blood of a male hog, mixed with goose grease, and at each time dry it at the fire before you wet it, and it will become exceeding hard, and not brittle. Approved." The process was no doubt efficacious, but why the hog, particularly the male hog, was specially honored does not appear; perhaps it is one of the mysteries. A more complicated process is described in the same book for making iron as soft as lead. "Take black flints, powder them very finely; then put the powder in an iron pan, and make it red hot, then cast it on a marble stone till it be almost cold; then make it red hot again, and grind it as it were clay; then put that in a glass, and set it under the eaves of a house, where the sunne cometh not nigh in the day, then the night after take out the water that you shall find in the glasse above the powder and grind it with the water, and put it in a stillatory, and let it still out the half; afterward pour the water again on the said powder, and stil it again with a soft fire; then take and seethe tha water till the half be wasted, then take some iron blade of a knife that is new broke, and put it together, and hold it so for a little while; then take of the water which was sod to the halfe, and with a feather lay it first to the one side of the blade, and when the water is cold lay it on the other side, and it will soder saft with this water; and with this water you may make steel as soft as lead. It is likewise a soveraigne water to help the gout, being anointed where the grief is, for it giveth ease very speedily." This must have been a truly invaluable compound. The older the book the more ridiculous the receipts in it, as a rule. In a book entitled "On Various Arts," written in the eleventh century by a monk named Theopolis, the following method of tempering files is explained: "Burn the horn of an ox in the fire, and scrape it, and mix with a third part of salt, and grind it strongly. Then put the file in the fire, and when it glows sprinkle this preparation over it everywhere, and, some hot coals being applied, you will blow quickly upon the whole, yet so that the tempering may not fall off, and quickly withdrawing it, extinguish it equally in water and then, taking it out, dry it slightly over the fire. You will in this manner temper all things which are made of steel." Another process requires the grease of an old hog and straps cut from the skin of a buck goat among other ingredients.

WANTED, A SALESMAN.

Manufacturers and jobbers when in need of good salesmen will find that a "Want Ad." in the Era will bring them many good replies. There are plenty of bright, active and capable drug clerks seeking such positions, and thousands of drug clerks are constant readers of the Era "Want Ads."

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(J. S. S.) Look at the rules at the head of this department.

Bead Oil.

(T. P. A. K.) See Aug. 8, 1895, Era, p. 176.

How to Mould Cement Into Sticks.

(X., Washington.) You fail to state the nature of the cement and what it is to be used for. Give fuller particulars and we will try to help you.

Some More Rattlesnake Oil.

(Subscriber.) In farther reply to your query in the Oct. 10, 1895, Era, page 462, John C. Reid, Clarion, Pa., says he has a friend who has some rattlesnake oil, which he knows to be genuine. His friend rendered the oil himself.

Coloring Kerosene Oil Red.

(McL., D. C.) Alkanet has been recommended. We suggest, however, you try some one of the oil-soluble anilines. Almost any aniline manufacturer will furnish you with a list of his products if you ask him.

Foam for Condensed Milk.

(C. C. M.) wants to know what can be used to make unsweetened condensed milk foam when beaten.

We believe confectioners use a strong mucilage of gum arabic, tragacanth or Irish moss. A concentrated solution of gelatin would probably answer also. Sometimes flour or starch is added to give the desired "body."

Carbon Paper.

(T. P. A. K.) The following is from the Era Formulary:

Lard .....6 parts
Yellow wax .....1 part
Lampblack .....1 part

The melted fats are gradually poured into the warm mortar containing the lampblack, triturating well all the time. While still fluid apply with a brush to the paper and wipe off any excess.

Syrup Hypophosphites of Lime and Sodium.

(F. D. C.) We cannot give you the formula for the proprietary article. A satisfactory preparation under this title, however, is that made by the formula No. 335, National Formulary. Here is another formula:

Calcium hypophosphite .....320 grains
Sodium hypophosphite .....320 grains
Water ..... 10½ fl. ounces
Sugar ..... 12 av. ounces

Rub the salts to a fine powder and dissolve in the water, filter and dissolve the sugar by agitation in the filtrate. This syrup may be flavored by using 1 ounce of extract of vanilla, orange or lemon in place of 1 ounce of the water, before filtering.

An Incomplete Prescription.

(M. H. K.) asks how to compound the following prescription:

Dilute phosphoric acid..... 25%
Cod liver oil..... 5%
Q. S. ..... ℥viij

Teaspoonful after each meal.

No method can be outlined, for the prescription is incomplete. The prescriber fails to indicate his wishes and any attempt to compound the prescription without knowing them would be but to work from a guess.

Emollient Preparation.

(C. W.) We cannot give you the formula for the proprietary preparation; the following, however, will probably answer your purpose:

Quince seed .....½ ounce
Borax, powdered ..... 1 dram
Glycerine ..... 3 ounces
Cologne ..... 2 ounces
Hot water .....12 ounces

Crush the quince seed and macerate with the hot water for 1 hour, stirring occasionally. Then strain through muslin, without pressure; add the borax and glycerin, and afterward the cologne.

Elixir Glycyrrhiza and Quinine Sulphate.

(C. C. M.) Quinine sulphate is frequently exhibited in aromatic elixir of glycyrrhiza, the glycyrrhizin of the latter quite effectively disguising the bitter taste of the former. However, the quinine is not dissolved in it, merely rubbed up with it. Upon standing the quinine is deposited, though not usually, as you have reported, in a "cakey precipitate." The peculiar precipitation you describe may have been caused by an excessive amount of ammonia derived from the fluid extract used in making the elixir. Such mixtures should always be sent out bearing a "shake" label.

Ink Stains on Carpet.

(McL. D. C.) It is said ink stains on carpet may be removed by placing cold milk on the spot, taking it up with a spoon, and repeating until the ink is not colored, or but slightly tinged with black; then wash with cold water and absorb with a cloth without much rubbing.

(2) If the color of the carpet will admit of it the following may work satisfactorily: Add ½ pound chlorinated lime to 2 quarts of water. Allow to stand 24 hours, strain and add 4 ounces acetic acid. Apply this liquid to the blot without rubbing. When the ink has disappeared absorb the fluid with blotting paper.

Elixir of Strontium Salicylate.

(M. D. K.) There are several combinations prescribed under this title. The following is a typical preparation, although, according to Dr. Wood, strontium salicylate is best administered in capsules, not in solution:

Strontium salicylate ..640 grains
Tincture cimicifuga .. 8 drams
Tincture gelsemium .. 4 drams
Glycerin ..... 2 ounces
Aromatic elixir ..... 8 ounces
Water, enough to make 16 ounces
Prepared talc ..... 2 drams

Dissolve the strontium salicylate in 4 fluid ounces of water, add the glycerin and the tinctures previously mixed with the aromatic elixir; add the water and talc and filter through a wetted filter.

Dr. Agnew's Eye Water.

(T. & R.) In response to your query in the Oct. 17, 1895, Era, p. 493, W. G. Garver, Ph. G., Philadelphia, Pa., sends in the following formulas. You can take your choice:

1.) Boracic acid ..... 8 grains
Rose water ..... 1 ounce
2.) Silver nitrate ..... 2 grains
Distilled water ..... 1 ounce
3.) Zinc sulphate ..... 1 grain
Distilled water ..... 1 ounce
4.) Mercuric chloride ..... 2 grains
Distilled water ..... 1 ounce

J. N. Henderson, of Walder, Tex., sends in this one:

Sodium borate .....15 grains
Tannic acid ..... 6 grains
Glycerin ..... 2 drams
Water ..... 1 ounce

To be used on the everted lids with an eye atomizer, once a day.

Elixir of Pepsin and Bismuth and Hydrochloric Acid.

(De L.) Can a clear mixture be made from the following?

Tincture nux vomica....2 drams
Dilute hydrochloric acid.3 drams
Elixir pepsin and bismuth, enough to make.3 ounces

No; hydrochloric acid is incompatible with the citrate of bismuth and ammonium, a partial solution and partial separation of basic bismuth oxychloride ($BiOCl$) taking place. Then, too, the menstruum of the elixir is pharmaceutically incompatible with the alcoholic menstruum of the tincture; the water of the dilute acid is also incompatible with it. By omitting the acid a passably fair mixture may be made, though a much more satisfactory method would be to omit also the tincture, substituting for it an equivalent of strychnine sulphate, as is done in the preparation of elixir of pepsin, bismuth and strychnine of the National Formulary. No such change should be made, however, without the consent of the prescriber.

Marking Ink for Bales.

(F. D. C.) Shellac 2 parts by weight, borax 2, water 25, gum arabic 2, Venetian red sufficient to color.

Boil the shellac and the borax in the water until solution is complete, add the gum arabic, and take the vessel from the fire. When the solution has become cold, add sufficient Venetian red to bring it to a suitable consistency and color. This ink must be preserved in a glass or earthenware vessel.

If a color other than red be desired, substitute for it lampblack, ultramarine blue, or a mixture of ultramarine blue and chrome yellow.

2.) Cochineal, pulverized fine.2 ounces
Cream of tartar.....2 ounces
Mix, and add
Boiling water .....8 ounces

Let stand for a quarter of an hour, then neutralize by adding

Carbonate of potash....1 ounce

After the neutralization add

Alum (powdered) .....1 ounce
Gum arabic (powdered).1 ounce
Starch .....2 ounces

Mix.

Iron Tonic Bitters.

(C. A. C.) The Bitter Wine of Iron of the Pharmacopœia would constitute an efficient bitters; here are some others:

1.) Gentian ....2 ounces
Bitter orange .....1 ounce
Calamus ....1 ounce
Tincture citro-chloride of iron ....1 ounce
Rectified spirit .....4 ounces
Water ....8 ounces
Dextrin syrup .....4 ounces

Exhaust the vegetable drugs with the spirit and water previously mixed, adding sufficient of a menstruum of the same alcoholic strength until 12 fluid ounces are obtained. To this tincture add the iron, and mix with the dextrin syrup.

2.) Citrate of iron and quinine soluble ..580 grains
Tincture of sweet orange peel ..... 4 fl. ounces
Stronger white wine 16 fl. ounces
Water, enough to make .... 2 pints

Dissolve the citrate of iron and quinine in about 1 ounce of hot water and add the solution to the tincture; then mix with the syrup and wine, and lastly add the water. It will be noticed that this formula is similar to that given in the Pharmacopœia for the Bitter Wine of Iron. Fenner gives this formula for Iron Bitters:

Bitters extract.
Columbo, in coarse powder .... 8 ounces av.
Cardamom seeds, in fine powder ..... 2 ounces av.
Caraway seeds, in fine powder .....1 ounce av.
Coriander seeds, in fine powder ..... 2 ounces av.
Juniper berries in coarse powder ... 2 ounces av.
Nutmeg, in fine powder .... 1 ounce av.
Oil of cassia (cinnaman)... ....10 minims
Oil of orange, fresh 40 minims

Alcohol and water, each a sufficient quantity.

Mix the powders and prepare the extract by cold percolation, with a menstruum consisting of 2 measures of alcohol and 1 measure of water until 2 pints of extract are obtained. From the above extract the following preparations are made:

3.) Bitters extract (see above).... ..... 2 fl. ounces
Citrate of iron and ammonium .....512 grains
Sugar .... 16 ounces av.
Cologne spirit (deodorized alcohol.... 20 fl. ounces
Water .... 6 pints

Mix, dissolve the sugar, and filter.

4.) Bitters extract (see above) ..... 2 fl. ounces
Citrate of iron and ammonium .....512 grains
Sweet white wine... 3 pints
Cologne spirit ..... 12 fl. ounces
Sugar .... 16 ounces av.
Water ....3½ pints

Mix, dissolve the sugar, and filter.

This preparation somewhat resembles Bitter Wine of Iron.

5.) Sulphate of quinine.... 40 grains
Sulphate of cinchonidine ..... 80 grains
Citrate of iron and ammonium .....512 grains
Elixir .... 5 pints
Water .... 3 pints

Mix, dissolve and filter.

The dose of the iron bitters is from ½ to 1 wineglassful, after meals.

Liquid Fire Extinguisher.

(F. W. M.) Here are several formulas:

1. Make the following solutions: (1) Ammonium chloride, 200 parts; water, 20,000 parts. (2) Alum calcined and pulverized, 350 parts; water, 10,000 parts. (3) Ammonium sulphate, in powder, 3,000 parts; water, 500 parts. (4) Sodium chloride, 2,600 parts; water, 40,000 parts. (5) Sodium carbonate, 350 parts; water, 5,000 parts. (6) Liquid water-glass, 4,500 parts. Mix the solutions in the order named, and to the mixture add 20,000 parts of water.

2. Crude calcium chloride 20 parts, salt 5 parts, dissolved in water 75 parts. Keep at hand and apply with a hand pump.

3. Solution for hand grenades: Fill thin, spherical bottles of blue glass with a solution of calcium chloride, salammoniac or borax.

4. The "hand grenade" known as Hayward's is said to be charged with a solution containing calcium chloride, 18.4; magnesium chloride, 5.7; sodium chloride, 1.3; potassium bromide, 2.2; barium chloride, 0.3; and water, 72.2 parts. Whether the solution is made by dissolving the separate salts, procured as such, in water, or whether some liquid waste product of some chemical factory is made the basis of it is not stated. Another is said to be composed of ground marble, sulphuric acid and water. The acid and water are mixed in the proportion of two parts of acid to six parts of water, are put in the bottles, and then about 8 ounces of ground marble to each pint of the liquid put in and the bottles instantly corked and tied down; when thrown into a fire the bottles are broken or burst by the heat, liberating the carbonic acid and thus extinguishing the fire.

5. A good fire extinguisher that may be conveniently kept in ordinary one-headed barrels around buildings is prepared as follows: Sixty pounds salt, 30 pounds alum and 10 pounds sal-soda are dissolved in 13 gallons of water. This preparation acts by generating carbonic acid gas and by forming a non-fusible crust over the burning timbers as soon as it is thrown into the fire. In preparing the solution all materials used should be pulverized and the water should not be above lukewarm. By heating the mixture to hasten the solution a considerable part of its fire-extinguishing properties would be lost. Sulphate of ammonia is also an excellent fire extinguisher, because it will melt at a low degree of heat and produce a crust over the burning materials. At higher temperatures it will be decomposed and give off vapors of superior fire-extinguishing properties. It is advisable to also have handy any substance that may be used to choke the fire. A material far better adapted than water to smother an incipient fire is ordinary sand. For instance, if oily waste or other material saturated with oil should catch fire a few handfuls of sand will do more to extinguish the fire than several pails full of water. Another advantage of sand is that it will do no damage itself like water to materials it is thrown upon. It is necessary to often change the water kept in barrels for fire extinguishing; this is avoided by using sand instead.

6. The Techno-Chemical Receipt Book gives the following formula for "cartridges" for extinguishing fire: Make the shells of parchment paper or sheet lead and fill them with 4 parts of a salt obtained by mixing 343 parts of sulphate of aluminum and 142 parts of sodium sulphate with 432 of water; and 1 part of sodium sulphide, separated from the 4 parts of the salt by a disk of parchment paper. The cartridge is broken and its entire contents are poured into the water to be used for extinguishing the fire.

IONONE FOR VIOLET EXTRACT. —Schimmel publishes the following information in the Report: This preparation has quickly grown in favor with perfumers, whom it has enabled to bring into commerce violet scents, especially a violet extrait, of a quality formerly unattainable by the best efforts of art and imagination. During the past season this violet extrait has been the rage in perfumes, and as violet is not one of the perfumes that are mere fashions of the hour, but has always been one of the favorite and most salable scents, it may be taken for granted that ionone will remain an indispensable adjunct to the perfumer. The preparation of a really high-class ionone scent nevertheless remains an art in the true sense of the word, and none but expert perfumers should therefore attempt it. We often hear the opinion expressed that a good violet extrait can be obtained by simply diluting an ionone solution with alcohol. This is quite a wrong view. To employ ionone successfully, it is above all necessary to know its peculiar characteristics and to take them into account. Non-experts complain that ionone has no odor at all, or that it smells unpleasantly—complaints which they usually retract shortly afterward. Such objections as these are simply due to a blunting of the olfactory nerves, or, to express it more precisely, to an olfactory delusion which may also be observed more or less acutely in the case of other flowers, and which is notoriously caused in a special degree by the odor of fresh violets. The principal necessity in the employment of ionone is to find the proper measure of dilution. In its pure state ionone is so highly concentrated as scarcely to remind one of the odor of violets, and for this very reason it has been placed upon the market in a 10 per cent. solution, instead of pure. This mode of bringing ionone into commerce was a happy thought, for the alcohol acts as an excellent preservative of the body. In scenting powders, sachets, and the like, the solution requires to be further diluted before it is sprinkled upon the goods. In this case the use of a spray is recommended. Up to the present ionone does not appear to have been used to any appreciable extent in the manufacture of violet soaps.

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ALCOHOL TEST CASE.

Baltimore, Oct. 25.—It is expected that the application of Sharp & Dohme, for a refunding of the internal revenue tax paid on alcohol used in medicinal preparations, as provided for in the Hoar amendment to the Wilson Tariff bill, will be taken up before the U. S. Court of Claims in Washington for argument some time next week. This has been made a test case. If the claim of Messrs. Sharp & Dohme is allowed, all other manufacturing pharmacists using alcohol may come in under the decision and ask for a rebate. Some additional testimony was taken last week in the establishment of the firm here by Assistant Attorney General Joshua Eric Dodge, who came over to Baltimore with a commissioner and stenographer. Mr. Alfred Dohme and other members of the firm were under fire for some hours. A minute inspection of the premises was made and Mr. Alfred Dohme was requested to explain how, in what manner and for what purposes the alcohol was used. The party afterward returned to Washington. The testimony taken will be added to that previously heard and submitted to the court.

Wanted.

From inquiries and reports received from several firms connected with the drug trade it seems that information regarding the Eagle Chemical Co., formerly doing business at 794 Lake street and later at 245 Randolph street, Chicago, is badly wanted. In lieu of such information, however, anything regarding the present whereabouts of James Gardner and W. Russell, who constituted the "Co.," will perhaps be just as satisfactory. There are several matters of business which these parties transacted with the firms referred to which have not as yet reached that satisfactory termination so much desired by the latter.

C. G. BACON & CO STIR THINGS UP.

C. G. Bacon & Co. have certainly stirred up the trade by their advertisement in last week's Pharmaceutical Era. Their four-page announcement was eagerly read in every drug house in town, whether the firms were in the same line as the advertisers or not, and there was no hesitancy on the part of the heads of houses to express their opinion of Bacon & Co.'s move. It must be said, however, that these expressions were on the general topic, whether it is or is not a wise move to dispense with the traveling salesman. As to the amount of gain to the house and to the retailer by the saving of salesmen's expenses there was a wide differeuce of opinion. Some said, "It's only a bait to draw away customers from other firms;" others, "The retailers may like the scheme of doing business direct with the firm and may save a little by it." But the majority looked wise, and intimated that C. G. Bacon & Co. would soon find out that salesmen are "necessary evils."

"I will meet the prices named by C. G. Bacon & Co. on all the patent medicines they name here, and go them one better," said a jobber, as he put his finger on the list of articles and prices in the Bacon & Co. ad. "However, that is perhaps not the point. There are some prices named there on which I believe Bacon & Co. will not make a cent in profit, and they must necessarily look to increased sales of other articles in order to make a gain. Perhaps the retailers may like the idea. I do not. A customer of mine told me he did not believe the retail druggists would think of turning their trade away from the houses they had been dealing with for years just because they could get better prices on certain articles. Then the fact that you can only get these reduced prices on one-third of the total amount of your order shows plainly enough that the offer is only a bid for trade. As such it is legitimate, and I realize that C. G. Bacon & Co. have shown their enterprise and secured a first-class advertisement."

A gentleman, who was for years a salesman for a big New York house, said: "I regard salesmen as a benefit to both seller and buyer, and a promoter of business. That method of getting and keeping trade has the merit of long experience, and it is the popular mode. Progress is the law of life, and our business houses know that the employment of salesmen is one of the results of progress. Salesmen have proven their usefulness, and that is why they stay. To do business direct with the buyer and through the mail by way of weekly price lists may be a good way, but it has yet to be so demonstrated."

Several gentlemen in the trade were willing to be quoted on the general question of employing or not employing salesmen. A few of the opinions are here given.

W. H. Wickham, of McKesson & Robbins, said: "I don't know that I care to be quoted. I will only say that I believe the salesmen keep a house in close touch with the customers and for that reason, if for no other, they are of advantage. In our house we have so many special lines that we realize it is necessary to send men out who can talk to our customers about these specialties, as the customers cannot come in to see the goods for themselves."

John McKesson, Jr., replied to the interviewer's questions as follows: "It is nothing new. They have tried the same or a similar plan up the State. I think traveling salesmen are a necessity. Given a firm without salesmen and another with, I should say the one having salesmen would do more business. Which would do the more profitable business depends on the men and on how the business of each firm is managed."

W. S. Mersereau, of Schieffelin & Co., gave it as his opinion that salesmen are indispensable.

E. G. Wells, of the C. N. Crittenton Co., said: "It is my opinion that the retailer who deals with a firm through a salesman has the advantage over one who does not. The salesman will become the friend of the customer, both to the customer and the firm's benefit."

One prominent wholesale druggist looked at the Era man quizzically when asked to speak on the subject and answered: "I don't care to advertise C. G. Bacon & Co., but I would like to have them answer one question. If, as they say, the retailer is to receive a percentage of what is saved on salesmen's expenses, what proportion of the cost of advertising this scheme does the retailer pay?"

Mr. Albert Plaut, of Lehn & Fink, said that there was nothing new in this so-called new departure; for over twenty years several prominent wholesale druggists, notably one each in Boston, Syracuse, N. Y., and Chicago, had conducted their business without the aid of travelers. The only difference is that these houses had employed the mails instead of the trade journals for soliciting orders. In Mr. Plaut's opinion these firms had succeeded (for they are all three successful), not because they had employed no drummers, but in spite of that fact; hard work, frugality in expenditures, close personal attention to details, ample capital, etc., etc., are certain to beget prosperity with or without traveling salesmen. "There can be no doubt," continued Mr. Plaut, "that the most successful trading nations, from the Phœnicians of old to the Englishmen of to-day, achieved their success by personal solicitation. They sent their emissaries to the remotest corners of the earth, with samples of the products they desired to sell. And that which holds true in the case of nations applies with still greater force to individual merchants. There are but few lines of business in which samples are of as much interest and value as in the drug business; mere price and description are not enough."

Mr. Plaut further gave it as his opinion that the temporary slaughtering of prices, for so limited a period as one week, was bound to prove demoralizing; to charge a price within 1 to 3 per cent. of actual cost one week, and the next

week to attempt to sell the same article at a legitimate advance on cost, was contrary to all sound business principles, and certain to result in claims, dissatisfaction, and ultimate estrangement between buyer and seller. To be sure Macy, Ridley, Bloomingdale and all the rest of the original cutters advertise periodically that on a certain day they will sell Carter's Liver Pills for 5 cents, Allcock's Plasters for 7 cents, etc., etc., but only the ignorant and foolish are allured by such transparent devices.

Peter R. Lance said: "The N. W. D. A. at almost every meeting has heard the report of the Committee on Traveling Men. The opinion has always been expressed by these chairmen that traveling salesmen are necessary, 'necessary evils,' perhaps, and I take that view of the matter. We all know that the scheme of doing away with salesmen has been tried, both in this State and in a Kentucky city, but we have yet to hear that it is wholly a success. Given a town with fifteen drug houses, perhaps eight of the proprietors are under obligations to some large drug house and five are totally independent. If the large drug house takes off its travelers the eight retailers will still continue to do business with it, because their accounts are carried by the jobber, but a traveler from another jobbing house will sell to every one of the five independent retailers probably, and the trade of those five may be worth as much as or more than that of the eight. All other things being equal, the house with travelers will do a larger business than the house without, I believe. Then, again, how can a house without travelers expect to draw away trade from another firm that carries year in and year out the accounts of hundreds of retailers? Great inducements, indeed, would have to be offered. Salesmen are not always necessary to sell goods, but the retailer gets so that he looks forward to their coming—it is a reminder to send his check, and in time he profits by the friendship of the salesman."

That Rumored Plaster Combine.

Every little while somebody starts a rumor about a combination of plaster manufacturers. Last week the rumor broke out again, but it was impossible to trace it to its source. There is undoubtedly a basis for the report, but a combination in that line seems a very remote possibility. One gentleman in the trade, who speaks from a knowledge of the subject, says: "I have known of efforts being made for the past three years to form a combination of plaster manufacturers. Proposition after proposition has been made, but they all come to nothing. The reason seems to be that the interests of different houses are so conflicting, so diversified, and, you may say, so antagonistic, that I do not see how a combination could possibly be made. The words 'plaster manufacturers' are about as indefinite as the idea. Such a combination would have to be one of general interests. A combination would be a very sensible thing, as unscrupulous manufacturers and jobbers have so thoroughly broken up the business that there isn't a fair return on investment for anybody."

Mr. Lillard and the O. P. & D. Reporter.

The case of the People, etc., vs. Bell was called on Tuesday morning before Justice Barrett, of the State Supreme Court, but was postponed. This is the case concerning which the following information is presented:

"I cannot say anything about my suit against the Oil, Paint and Drug Reporter," said Benjamin Lillard to the Era representative, when asked to give the facts relating to the mandamus proceedings just begun in his name. "My lawyers have told me I must say nothing at all about the case. I have had many persons come in and ask me for information about the suit, and to all of them I have given the same answer. Of course, you understand, I should be only too glad to tell you all about it, but for my lawyers' instructions. You see just how I am placed. But I will say that I did not give out the information that the proceedings were about to be started. That story printed about the case contained several inaccuracies; yes, several misstatments, which I regret. But I did not give them out. I am very sorry not to be able to oblige you."

However, the facts in the case are as follows: Mr. Lillard was the vice-president and manager of the Oil, Paint and Drug Reporter and the Druggists' Circular. Some months ago his connection with those publications as an officer ceased, although he retained his stock interests. A notice of this severance of relations was published in the Reporter, and the rumor followed that the ex-manager had also disposed of his stock.

When Mr. Allison, publisher of the two journals mentioned, was about to leave this city for the Denver conventions of the A. Ph. A. and the N. W. D. A., he had a hint that some legal action was about to be taken by Mr. Lillard, but he had made all his plans, and left New York. On his return he spent a week or two in this city, and then sailed for Europe, where he is at present. He had only been gone a short time when this mandamus proceeding was begun.

In his affidavit Mr. Lillard sets forth that he is a director of the West Virginia corporation which owns a great part of the stock of the two drug papers. The latter are New Jersey corporations. He says that in order to do his full duty by the company it is necessary for him to have access to the books, papers and correspondence of the Oil, Paint and Drug Reporter. He also avers that he is fearful that the concern is being so conducted that the assets will be wasted, because they do not, it is alleged, compare favorably with the assets at the time he was in charge of the concern.

In reply to Mr. Lillard's affidavit, the counsel for the other side say that Mr. Lillard's claim that he cannot do his duty by the West Virgina company unless he sees the books, etc., is all nonsense, and that his purpose is simply to harass the Oil, Paint and Drug Reporter people. In reply to the statement about the assets, it is true, the answer, says, that the assets may not show so favorable a comparison, but a certain amount of money or property has been set aside as a surplus, and is in the custody of one of the down town trust companies. But the great point is made that the courts of this State have no jurisdiction at all in this matter, for the reason that the defendant corporation is organized under the laws of the State of New Jersey. They add that Mr. Lillard, if he desires, may bring the case before the Chancellor in New Jersey, but the answer that will be made there will be the same as that to be used in this State, which is outlined above, with, of course, the exception of the argument about jurisdiction.

The Oil, Paint and Drug Reporter people say they cannot talk for publication in the absence of Mr. Allison, so that the only statement on their side must come from their lawyers. They regret the publication of the matter made last week, only because of the tone of the article. They have not sent word of the suit to Mr. Allison.

Whitney Glass Works Fire.

Philadelphia, Oct. 26.—Early this morning the Whitney Glass Works at Glassboro, N. J., were almost entirely destroyed by fire. The loss was appraised at $175,000, and it is nearly covered by insurance. The plant was being run night and day with two sets of workmen. It was shortly after 1 o'clock this morning when a small flame was seen creeping along the roof between the blacksmith shop and lead furnace. As soon as it was seen the employees made efforts to extinguish it, but as the buildings were dry the flames soon were beyond control. Glassboro is without fire protection, and an appeal to Camden for help brought a chemical engine and several firemen, who rendered valuable aid in saving property adjoining the glass works. The fire soon wrapped factory No 1 in flames and the mould room adjoining caught fire. The wind blew a burning shingle across the street to the packing house, where 150 tons of hay were stored, and this was also soon ablaze. From this the ware sheds caught fire, and the nearby buildings, including the company's office, store, and two other stores adjoining. In the sheds there were stored 15,000 cases of glass, principally for the Wells, Richardson Co., Burlington, Vt.; W. E. Garrett & Son, Philadelphia Lehn & Fink, New York, and the Mana Nova Co., Boston. Most of this glass was amber ware, and worth from $3 to $4 a case. The mould room, which contained thousands of dollars worth of private moulds and tools, is probably the greatest loss. There was $19,000 insurance on the store and contents, $4,000 on the big factory, $4,000 on the tools, $600 on the building and $3,000 on the moulds. The furnace of the factory stands in good condition and contains almost a full melt of glass, and the fire was kept up to keep it from spoiling. A temporary structure is to be built around it and blowing commenced at once. About 300 people are temporarily thrown out of employment.

CONDITION OF THE DRUG TRADE IN CHICAGO

Chicago, Oct. 25.—The following interviews were obtained from a number of the most prominent drug men in the wholesale and retail lines in Chicago, and reflect the conditions prevailing in that city as well as the opinions of these gentlemen upon vital questions affecting the drug trade. These views cannot fail to be of interest to pharmacists generally, coming as they do from men of such established standing and reputation. The ground covered is indicated by the questions appended.

1. What, in your opinion, is the most feasible plan that has yet been proposed to remedy price cutting?
2. Until such a remedy is devised, are not down town druggists virtually compelled to cut in order to save themselves?
3. Do you think a drug store could live if it did not sell patent medicines?
4. Is it not true that it is more difficult for a druggist to keep up his stock than for almost any other storekeeper?
5. Do you know of any new developments in the trade?
6. Do you think that price cutting is going on here to the extent it was a year ago?
7. What are the leading features of this month's trade? Is trade better than during previous months of the year, or only fairly up to the average?
8. Do you find collections easier or more difficult than last year? To what cause do you attribute this change?
9. What, in your opinion, are a few of the ways in which a drug store may advertise and in other ways commend itself to its patrons?
10. Do you believe in drug store advertising? Are not druggists liable to get into ruts?

Mr. Mathews, of the Chicago house of Sharp & Dohme, was the first of these gentlemen seen. He said: "I cannot give you the per cent. of gain in the volume of trade for the month of October, as our tables for this month are, of course, not yet made out; but the rate of gain with us for the month of September was 12 per cent. over the corresponding month of last year. I would say that collections are a little better than at this time last year. They are better than during the past few months on account of the season—the opening up of the fall trade."

"Is it not a fact that druggists find it more diffcult to keep their stock complete than almost any one else?"

"I do not see why it should be more difficult. Druggists are not stocking so heavily now as they have formerly."

"You know that druggists—wholesalers and retailers, as well—are inveighing against those who cut prices. Do you think price cutting is going on here to the extent it was a year ago?"

"No, the cutting of prices is not, in my opinion, such a flourishing industry as it was a year ago, except in certain patent medicines and unstandardized pharmaceutical products."

"What, in your opinion, is the most feasible plan that has yet been proposed to remedy indiscriminate price cutting?"

"Well, I do not know that I can answer that question. It is a hard question to answer."

"Until a remedy is devised, are not down town drug stores virtually compelled to cut in order to save themselves?"

"Yes, perhaps, but only in a limited way."

"Do you think a drug store could live if it did not sell patent medicines?"

"That would depend entirely on its location and the character of the business done. For instance, a man owning the ordinary drug store must keep what its patrons call for, whether that be postage stamps or blood purifier. I can easily conceive, however, of a drug store located in a large office building and catering to the physicians' trade exclusively, that would not find it desirable to keep patent medicines."

"What, in your opinion, are a few of the ways in which a drug store may advertise and in other particulars commend itself to its patrons?"

"People buy what they see, and, in some cases, what they don't want, and are attracted by window displays. Proper window displays favor up-to-date enterprise, and indicate no departure from the ethics of a well-regulated drug store."

Mr. Peter Van Schaack was found at his desk enjoying a fragrant Havana. "The volume of trade is undoubtedly in excess of last year—the trade takes hold with more confidence in the future. Though we have only two outfits so far this month, we are having more inquiries in that direction than heretofore. Territorial trade is heavier than any month since the early spring. Collections are better than a year ago, though somewhat kept back by farmers holding on to their crops looking for better prices, but this is only history repeating itself. Decidedly, the druggist has more difficulty in keeping up his stock than other merchants. The multiplicity of articles carried by the jobber is of rapid growth, entailing a demand for more room and more capital. So many new chemicals, patents, etc., are a tax both on the jobber and the pharmacist. I long for the good old times when Godfrey's Cordial and Bateman's Drops were about all the patents on our shelves, and they were not very 'patent,' surely. The newest developments in the trade and the most encouraging ones are to see the values on the upgrade and not a continual shrinkage as in past years. 'Cut prices' seem to be the order of the day. The system was imported from London and Paris. Crossing the Atlantic, it soon found a strong foothold in Philadelphia. The Alleghanies were no barrier; it rapidly crossed the Rockies, and now holds with strong tentacles the golden shores of the Pacific. Every effort in the old countries to stem the current has been of no avail, and I fear this will prove to be the case in our own. Whatever restrictions the jobbers may make against the evil, the cry goes up, 'This is a free country,' 'It is a restraint on trade,' 'Infringement of personal rights,' etc., etc. As to the best method yet proposed for remedying the evil, ask me something easier. The best efforts of the trade and manufacturers to remedy price cutting have thus far proved ineffectual. The new rebate plan to take effect about Jan. 1 will, it is hoped, be of good service in that direction. In any event, the pharmacist is bound to save himself, and the blame for cutting falls back upon the poor jobber. This state of affairs recalls to my mind an epitaph on an old tombstone in a Kentucky cemetery:

"Here the remains of Mary Ann rest,
She has gone to slumber on Abraham's breast.
'Tis very fine for Mary Ann,
But rather rough on Abraham."

"Down town druggists seem compelled to cut. As a matter of self-protection, they cannot allow their trade to drift away. No one can blame them for fighting what they esteem a pronounced enemy, as our homeopathic friends say, 'similia, similibus, curantur.' Only in very large cities, and under certain circumstances, I think, can a druggist do without patent medicines. I believe Mr. Fraser, of Fifth avenue, New York—an old Chicago boy, by the way—has accomplished it. I admire his nerve in undertaking, and his ability in successfully carrying it out. The locality of his pharmacy, near a large number of prominent hotels and physicians' offices, renders it possible for him to be a pharmacist in the true sense of the word. The best advertisement the pharmacist can employ is his ability to convince physicians that he only handles the best of goods, and is never guilty of substitution. He must never allow himself to be placed in the position of a certain druggist I once heard of, who, upon being questioned by a customer as to the genuineness and freshness of a certain drug, frankly said, 'Don't ask me. I have joined the church.'"

The next gentleman seen is one equally prominent in drug circles. He requested, as a condition precedent, that his name be not used, saying that he was averse to appearing in the newspapers. "There have been several advances recently, namely, camphor has advanced 5 cent a pound, glycerine 4 cents. Oil of anise has advanced rapidly, the market price being 50 cents higher; oil of cassia has advanced at about the same rate, with a number of minor advances; borax has declined slightly, but the tendency is to an advance. Trade is an average one, neither better nor worse than last year. There is no particular boom. On the average, collections are more difficult this year than last year. There is not so much money in the hands of the laboring classes as there was a year ago. The strike threw hundreds of men out of work who were out of work last winter, and ate up about what they had saved. All kinds of labor this year have not been fully employed, building is slow and wages low.

"Wholesale druggists have to carry a greater variety of goods of all kinds than any other class of business men that I know of. Outside of the legitimate drug business, the retail druggist has to carry an enormous variety of patent medicines, pills, fluid extracts, tablet triturates, etc., of the different manufacturers' make all over this country.

"Your question about what has been the best remedy yet proposed to stop cutting is a poser. If all the wholesale trade and the manufacturers were square and honest; the matter would solve itself. But so long as dry goods stores and others can get the goods they want, other people in the legitimate drug trade are compelled to cut. I doubt if a drug store could carry on a successful business without patent medicines.

"A vital thing in advertising is to keep a neat and attractive store, nice goods, well arranged and displayed, always keeping everything clean and in order, prompt attention and fair prices, and by using every mode of reaching families by circulars, attractively written, keeping them constantly before the public. I believe in advertising always in an attractive and judicious manner."

Mr. J. G. Peters, of the Fuller & Fuller Drug Co., in answer to your correspondent's questions, said: "The leading features of this month's trade are the greater number of buyers from interior cities who have come in to look over holiday goods and to purchase for especial holiday sales. Trade is up to the average of the previous months of this year, and ahead of the average for last year. Country collections are better, but city collections are about the same.

"No, I do not think that it is more difficult for a druggist to keep up his stock than for others. There is no greater variety than in hardware or in groceries. A grocery store has a thousand and one things to keep in stock, and it is the same in hardware. The druggist has his stock systematized, and possesses a much better knowledge of what he wants.

"The only trade developments of moment that I recall now are the failure of several small jobbers at interior points—evidently the result of unbusinesslike methods.

"There is not much difference in the extent of price cutting. There is no material change from the conditions prevailing in that matter a year ago. The present situation is indicative of the fact that there has been no feasible plan as yet put into operation to remedy the evil."

"Until a remedy is devised, are not down town druggists virtually compelled to cut in order to save themselves?"

"The history of the down town druggist would indicate that they think so."

"Some druggists could live without selling patent medicines and some could not, the same as with individuals—one could live on $1,000 a year, and another could not.

"A drug store can best advertise itself by the purity of the products used, by accuracy in service and courtesy to its patrons. Yes, I believe in judicious drug store advertising."

Mr. J. T. Plummer, of Morrisson, Plummer & Co., was very much to the point in his replies. He said: "The leading feature of this month's trade is the movement of holiday goods, which is quite encouraging. Trade is improving, as compared with earlier months. Collections range about the same as last year.

"Yes, price cutting is going on here to just about the extent it was a year ago. We are unfortunately not acquainted with any feasible plan to remedy it. It seems to us that down town druggists are compelled to cut in order to save themselves.

"A drug store could not get along without selling patent medcines until the number of stores was largely reduced or other line of merchandise were added.

"A drug store may advertise by circulating attractive printed matter, by displaying goods that will attract attention, and by exhibiting pleasure in greeting customers. We believe in drug store advertising."

The following interview was obtained from President Wooten, of the Retail Druggists' Association: "I see no reason to doubt that price cutting exists in this city even to a greater extent than a year ago. More articles are involved in the cutting, and a greater number of druggists are engaged in it. The time when full prices may be obtained for those patent medicines now being manufactured, as well as for staple drugs, like quinine and borax, has gone by forever. The best plan yet suggested to prevent cutting is to give into the hands of the department stores entirely the sale of patent medicines. Let the druggist cease absolutely to countenance their use. Let him refuse utterly to have anything to do with advertising them. Let him put their calendars, picture cards and circulars into the furnace as soon as received, and let him devote his time to advertising medicines put up by a corporation of druggists, and in which he himself is financially interested. Such time to advertising medicines put up by a corporation composed of druggists, and in which he himself is financially interested. Such a corporation is now in process of formation in this State, and by it will be manufactured a full line of household remedies and toilet preparations which can and will be kept out of the hands of the cutter. The retail druggist realizes at last after he has built up the business of the nostrum vender, that individual turns a deaf ear to all his appeals for protection in obtaining full prices. Let the patent medicine manufacturer go to the place Colonel Ingersoll says doesn't exist. I would not recommend throwing out patent medicines. Let them be kept to meet the demands of those not willing to take and pay for a remedy the druggist is willing to back up with his personal recommendation. The druggist has made the nostrum vender, he can unmake him. How long would it have taken this man to build up his colossal business by dealing entirely with department stores? It couldn't be done in a thousand years. The retail druggist is coming to his senses. An empty stomach brought the prodigal son to realize that he had made an ass of himself. The experience is being repeated. The thing to guard against in these co-operative schemes is a repetition of cutting. There is no reason why the druggists should sell their birthright for a mess of pottage—and a low grade of pottage at that."

Mr. William A. Dyche, of the firm of D. R. Dyche & Co., retail druggists, said: "I never have done much advertising, except by window displays, signs, etc. In regard to the cut-rate matter, I think it has come to stay. We have only seen the beginning. I think that there will be a change some time. There are too many drug stores down town here. Many of them must eventually move to other parts of the city. I suppose a drug store could get along under certain circumstances without selling patent medicines; in fact, I have been tempted to try it here, but I kept a record for ninety days once, and found that about 40 per cent. of all my prescriptions called for proprietary articles. Physicians nowadays frequently prescribe them, though the kinds they prescribe are not usually those we see advertised. No, I don't know how to answer your questions. A man may theorize for hours, but when you come right down to the facts in the case you can't get a definite answer. We have had to cut on sundries as well as on other things. Take, for instance, this Java powder. We used to sell it for 50 cents a box, but the dry goods stores got hold of it, and now they sell it for 20 cents, so that I have to do likewise, or not sell it at all. It doesn't stand to reason that a lady will pay 25 cents for it here, when she can get it of Marshall Field for 20. I only make a cent on a box of it, but I like to keep my customers."

Mr. John Myers, on the corner of Western avenue and West Madison street, said: "Yes, it is more difficult for a druggist to keep up his stock than for almost any one else. Doctors prescribe according to the manufacturers, and we have to keep getting new things. It takes more stock to run a drug store than it used to. There is more cutting than ever. It has come to stay. No drug stores can cut prices and live, but the department stores can. Barnum said that the American people like to be humbugged, and I don't know but what that is so. The only way to regulate cutting is to impose a tax on a man for each business he runs.

"In country towns druggists incline more to get into ruts than in the cities. I have been into country stores where you would see the same old arrangement the year around. In the city druggists are studying the mercantile side of the business more than the professional. The pharmaceutical part is more or less neglected, because everything is being manufactured. Druggists, instead of making their own paregoric or tinctures much better than they can be manufactured otherwise, prefer to buy, because it is a little cheaper or a little less trouble."

Mr. Henry Goetz said: "In my opinion, the Hayes plan was the most feasible scheme to remedy cutting, provided the manufacturers would have consented to it, and Mr. Hayes could have been gotten out of it. Indeed, druggists are compelled to cut. Whether a drug store could get along without selling patent medicines or not, would depend wholly on the location of the store. Many could.

"Newspaper advertising is the best for

down town stores, but do not make use of the advertising columns of the newspapers unless you have some specialty to push. A mere business card does not amount to a row of pins."

Mr. Louis K. Waldron said: "Yes, one of the best qualifications of a first-class drug store is to keep up its stock. This is a matter that ranks next in importance to a first-class pharmaceutical education.

"There is not so much cutting as was going on a year and a half ago. It is not so difficult to get our prices now. The more price cutting is agitated and written up, the worse it will become. Agitation keeps the matter before the public, while if it were allowed to rest in statu quo the people who buy would, to a certain extent, lose sight of the matter, and buy their goods at the most convenient place. Selling drugs or patent medicines is not like selling groceries or dry goods. People purchase the latter every day, and the item of cost is a serious affair; but perhaps a man won't want more than two or three prescriptions filled in a year, and will not buy more than two or three bottles of patent medicine in that time. This gives him a chance to forget price cutting, and he will buy his goods at the most convenient place.

"October and November are our two dullest months. This soft Indian weather is not productive of much sickness, though this year has been somewhat exceptional in the fact that there has been more or less of diphtheria and scarlet fever in town. But trade will not begin to pick up much until the cold weather comes.

"Here in Chicago I do not believe a druggist can advertise at all to any advantage in the newspapers. We are located in conspicuous places, most of us being on the corners. In such a position, window advertising is the best. This refers only to the retail drug business, of course. If a druggist has a specialty he wants to put on the market, there is nothing like printer's ink."

What a Shame That a Doctor Should Do This!

Boston, Oct. 25.—In a recent issue of the Era copious extracts were given from the annual report of the State Board of Registration in Pharmacy, but now that the document has appeared in print, an examination shows twice as much might have been presented, of a most interesting character. There is at least one case which should receive attention. It is stated that at one hearing a druggist testified as follows: "I have to pay from 20 to 50 per cent. to doctors out of my profits. The doctor would come around the 1st of the month, look up his prescriptions, and I would deduct the cost and then give him from 20 to 50 per cent. of the profits; and my belief is that I have lost a great many prescriptions by not paying as much as my neighbor druggist. One of the leading doctors told me himself, and showed me his books, that he was getting the most profit from his prescriptions sent to such and such a place. He said: 'I think more of you as a druggist than of those parties, but I am in it for money, and they pay more than you are willing to pay.' For this reason I have lost lots of trade. This is under oath, and I insist that it is true."

Buying Liquor in Maine Drug Stores.

Saco, Me., Oct. 26.—At a meeting of the York County Enforcement League, held here Oct. 20, the "Spotters" who have been spying about this and other cities made a report of their doings, incidentally paying their respects to some of the druggists. They spoke of one apothecary shop where, they said, they could not get a simple prescription filled, but had no difficulty in obtaining whisky. Now, what makes their testimony particularly interesting is the declaration that they are temperance men, coupled with the admission that, when they had been served with liquor, they drank it—that is to say, they make this confession so far as it relates to lager beer. Naturally there will be some curiosity to see how much weight their testimony will have after this admission.

Big Fire in St. Louis.

St. Louis, Oct. 25.—The laboratory of the Allan-Pfeiffer Chemical Mfg. Co., at 617 North Main street, together with the buildings on either side, was completely destroyed by fire at an early hour this morning. The blaze was a stubborn one and two of the fire laddies were seriously injured in their endeavor to put out the fire. The total damage is estimated at about $65,000. J. E. Allan, president of the Allan-Pfeiffer Chemical Mfg. Co., says his loss will amount to over $20,000. The insurance is $12,000. Fifty employees of the company are thrown out of temporary employment, but Mr. Allan says the company will make immediate arrangements to resume business as soon as possible. The fire is believed to have originated in the second story of the laboratory from unknown causes.

Ginseng Diggers Killed.

Sunday night, Oct. 20, three persons were killed instantly and another so badly hurt that he died afterward, by a very peculiar accident in the woods on Dry Fork, about ten miles from Elkins, West Va. John Carr and his wife and two sons, one seventeen and the other twenty years old, went into the woods on a ginseng digging expedition. Sunday evening they made their camp near a big dead oak tree. During the night the tree took fire and burned rapidly. About 3 o'clock the tree was burned so nearly through that it would not support its own weight.

The tree fell fairly in the midst of the sleeping family. Mrs. Carr's head was mashed to a jelly; the husband's body was crushed out of all human semblance and the eldest son was mashed flat from his chest to his knees. The other boy's injuries were less severe and more scattered, receiving them from a branch. He crawled through the woods to John Long's cabin, a mile away. A doctor was sent for, but the boy had died from internal hemorrhages before his arrival.

Sudden Death of a Chemist and Inventor.

Boston, Oct. 26.—Joseph Davis, a retired oil manufacturer, died suddenly at a hotel in Leominster on Sunday afternoon, Oct. 20. On entering his room, immediately after a carriage drive, he complained of feeling ill. Medical aid was summoned, but Mr. Davis expired, sitting in his chair, before a physician arrived. Mr. Davis was quite a noted New England inventor and chemist, among his best efforts being the mailing case sanctioned by the postal authorities for sending liquids through the mail and a popular disinfectant. He was born in Northboro, Feb. 29, 1828, and was a lineal descendant of "Honest John" Davis. His early life was passed at Templeton, as clerk in the village tavern, of which Capt. Joseph Davis, his father, was proprietor. Thomas W. Davis, for many years city surveyor of Boston, is a brother of the deceased. Mr. Davis passed his summers at Sunapee Lake, N. H., and usually spent the cold weather at Boston. Two weeks ago he went to Leominster, with his wife, and engaged a suite of rooms for the winter.

List Prices and Discounts on Flint Ware.

The trade in flint prescription ware in this country is controlled by two associations of manufacturers, the Eastern and the Western. The latter does the greater part of the business in druggists' flint bottles, although the reverse used to be the case. Since the Western manufacturers started up, about the middle of September, there have been two advances in price. They first adopted a new list, which was to be subject to a discount of 60 and 10 per cent., for the quantities which the retailer would be apt to buy, making the net prices more than they were under the old list. About Oct. 15 they took off the 10 per cent., reducing the discount to 60 per cent., which is now in effect.

Chicago Phenacetine Cases.

Chicago, Oct. 26.—The United States Court has denied the application of the defendants in the phenacetine suits now pending, for permission to file a cross bill to show who are the real owners of the patent. This, I understand, will not materially affect the standing of the defendants in the case.

It may be said incidentally that there is a good deal of phenacetine in Chicago now. From whence it comes has not been determined.

How Antitoxin Cuts Down the Death-Rate.

Boston, Oct. 25.—Investigation as to the result thus far of the use of antitoxin by physicians in cases of diphtheria shows that the new remedy has proved of the greatest value. Careful records have been kept, as far as possible, and by these it appears that the mortality is materially reduced since antitoxin was introduced. At the City Hospital there has been a reduction of about 50 per cent., and the statistics from other official sources are of the most gratifying nature. In the neighboring city of Newton the house physician of the cottage hospital states that

out of seventy-four cases treated in the last few months, only four resulted fatally, and he thinks that even these lives might have been saved if attention had been called to them more promptly. Before antitoxin was used, 50 per cent. of the diphtheria patients died.

Philadelphia Items.

Philadelphia, Oct. 27.—The Proprietary Rebate Committee has not yet got down to work, owing to Mr. M. N. Kline's inability to leave the city, as he has been chosen as a juror in the United States Circuit Court. Mr. Kline has been, however, excused for one week, and during this leave of absence he has sent out letters to the various manufacturers, asking them to consent to and join the plan. Their replies are waited for with considerable interest, for it depends upon them whether the plan will be successful or not. The following additional members of the committee have been elected: Frank A. Faxon, for Nebraska, Kansas, Iowa and Missouri; R. W. Powers, for Maryland, Virginia, West Virginia and North Carolina; W. A. Hover, for Idaho, Montana, Wyoming, Utah, New Mexico and Colorado; Daniel R. Noyes, for North Dakota, South Dakota, Minnesota and Wisconsin; D. D. Phillips, of Nashville, for Louisiana, Tennessee, Alabama and Mississippi; George H. Kalteyer, of San Antonio, for Texas, Arkansas, Oklahoma and Indian Territory; I. S. Coffin, of San Francisco, for Washington, Oregon, California, Nevada and Arizona.

Some time ago the Philadelphia Drug Exchange sent out a circular letter to various members of the trade, asking them to contribute toward furnishing rooms in the Bourse building. The replies have been so numerous and the subscriptions so large that the officers who have this matter in charge have considerably more money on hand than was needed. Great interest is being taken in this new venture by the old organization, and it seems that members who for years have not been in attendance are now coming around, and it is thought there will be many more new members.

Chas. E. Keeler, who conducted the drug store at Fortieth and Locust streets, has made a number of improvements to his place, which places it among the finest pharmacies in the city. Mr. Keeler has always been of the opinion that the druggist should be seen at his work, and for years impressed his remarks upon the various druggists at their different meetings. He has fitted up his store with a prescription counter made with plate glass, so that a customer coming in can see the clerks at work behind it, and he also has new bulk windows which extend from the ceiling to the floor, and the various fixings of the interior have been made to correspond. The store is well lighted, and the improvement is admired by all.

For the last few weeks the Philadelphia Drug Co., Limited, has been put to considerable trouble and inconvenience by the tearing down of the west wall of its building, which was found to have been too weak to support the building which is now going up adjacent to it. The office part has been boxed in, and now looks like a box office in a theatre, where Mr. Rohrman and his assistants are now confined. It is hoped, however, that within a few weeks the new building will be so far progressed that there will be no interference with the general business of the drug company's store.

W. A. Shannon has removed his business from Seventh and Spring Garden streets to Eighth and Spring Garden streets.

H. R. Cushen has sold his business at Eleventh and Somerset streets to W. Maddock, and will spend several months rusticating.

F. Rhyan, class of '94, P. C. P., who is now filling a position in New York, paid a visit here recently to friends.

E. D. Heine, P. C. P., '94, has entered the employ of the Belle Alliance Sugar Co., of Louisiana, as assistant chemist.

Apostolic Atoms.

St. Paul, Minn., Oct. 25.—Two free excursions have recently been given Iowa business men to St. Paul and Minneapolis under the auspices of the Commercial Clubs of these cities. Among the Hawkeye druggists who came were these: Mr. Nelson (Corinth Drug Store), G. W. Mason, Corinth; Koto Bros., E. A. Pinckney, Forest City; L. B. Nerby, Hanson & Massey, Helgeson & Stensrud, Lake Mills; H. C. Pinkham, Livermore.

E. H. Cutler, of Noyes Bros. & Cutler, has returned from a four months' tour of Europe.

Injunction proceedings were instituted against five druggists at Aberdeen, S. D., yesterday, and an effort is being made to close their places of business under the State law. The movement created quite a stir, and there was a running to cover of "blind piggers" and "boot leggers." In consequence beer is at a premium. Mrs. Emma Titus also instituted suit against several druggists, claiming $5,000 damages of each for selling liquor to her husband and contributing to an accident which disabled him for months.

Max Wirth, one of Duluth's oldest and leading druggists, has just returned from a three months' visit to friends in Germany, and his brother, who had in the mean time been visiting in Duluth, has returned to Germany.

Peter Constantine, who has been prescription clerk for L. M. Ellingson at Red Wing, Minn., has resigned his position and will enter the employ of Mr. Finkelson at Northfield, Minn.

N. Sylvander, formerly with Charles Towne at Albert Lea, is now employed at T. R. Bjorngaard's drug store at Red Wing.

——Druggist E. N. Lacy, of Mt. Clemens, Mich., died suddenly on the evening of Oct. 25, of paralysis of the brain.

——Druggist Louis Storz, of Royal Oak, Mich., is recovering from a long and serious illness.

——Frank W. Blair, clerk for Frank Hagerman, of Birmingham, has bought out the drug stock of the George L. Childs' estate, of St. Louis, Mich., and is meeting with marked success in his new field.

NEW YORK AND VICINITY.

——F. L. Wiswall, of Shelburne Falls., Mass., was in this city a few days ago.

——The sheriff has taken charge of the drugstore of C. E. Stanson, at Bayport, L. I.

——B. T. Fairchild, of Fairchild Bros. & Foster, returned home from the West last week.

——E. A. Bigelow, of the J. C. Ayer Co., who was here for a few days, has returned to Lowell.

——Hamburger & Co., dealers in druggists' sundries, will move to 20 West Third street on Dec. 1.

——W. B. Van Vliet, of Johnstown, N. Y., was a visitor in the drug trade section a few days ago.

——Mr. Barton, of the Robinson-Pettit Co. of Louisville, Ky., was among the welcome callers last week.

——C. A. Briggs, of Waterbury, Conn., is about to go into his new store in that city. He is now at 900 Bank street.

——John Hoge, of the Lamar & Rankin Drug Co. of Macon, Ga., has been in town purchasing goods for the holiday trade.

——Walter Carrow, formerly of Riker's, has gone to Youngstown, O., in the interests of the Fraser Tablet-Triturate Mfg. Co.

——Two Cooperstown, N. Y., druggists visited the drug trade section the latter part of last week, Messrs. Fenn and Church.

——Vice-President Charles F. Dill, of the Pharmaceutical Club, has taken the management of Kinsman's new store in Williamsburgh.

——Perry's Sun Pharmacy is fairly ablaze with light at night now. The "doctor" has had a score or more electric lights put in.

——L. D. Wells, of R. D. Packard & Co., a very popular man, has been in town for several days. He makes his headquarters in Indianapolis.

——Mr. Earnshaw, of Cundall & Earnshaw, East Greenwich, R. I., was in this city on the 24th making arrangements for the sale of three tons of bay wax.

——Several members of the firms of Rosengarten & Sons, of Philadelphia, and Blanding & Blanding, of Providence, R. I., have been in the city for several days.

——The owner of a vacant store on West 145th street, desires a druggist for a tenant, and will offer special inducements to one. The location is a good one.

——Arthur D. Miles, formerly at the well known Trenton, N. J., pharmacy of Dr. C. P. Britton, is now at Frank E. Hatch's Park Pharmacy in Rutherford, N. J.

——Chas. Miller Mersereau, of Schieffelin & Co., has returned from his wedding trip and has had his arm well shaken by the troops of congratulating friends.

——Thomas Murphy, one of Dr. Charles Perry's force, is regarded as a budding journalist by his co-workers, owing to the acceptance by the daily press of a number of Mr. Murphy's contributions.

——E. P. Montague, of the fancy goods department of Schieffelin & Co., has been ill with pneumonia at his home in

Brooklyn. All his many friends will be glad to hear that he is now much better.

——The drug store of Julius Richter, at Columbus avenue and 125tu street, was entered by burglars recently and robbed of $25 in cash, besides cigars and fancy articles. There is no clue to the burglars.

——William M. Kerr, formerly with David Masters, Jr., corner of Flatbush and Sixth avenues, Brooklyn, has accepted a position with the Douglass Pharmacy, corner of Fulton and Pearl streets, in the same city.

——Peter E. Zahn, N. Y. C. P., '92, who was with Kress & Co., Fifty-second street and Sixth avenue, has been suffering for weeks with typhoid fever, but is now convalescent. He expects to resume his work shortly.

——The new officers of the Drug Trade Club assume office on Nov. 1. The popular monthly dinners will begin anew. Last year's spreads were very enjoyable and the members expect that the new series will prove even more so.

——Charles Henry Case, a prominent druggist of Jefferson, O., has just made his first trip to New York, and besides transacting business took the opportunity of visiting various points of interest in town. He went to Philadelphia before returning home.

——J. M. Solomons, of Solomons & Co., Savannah, Ga., was in town for a few days recently. He has been spending some weeks at Clifton Springs for the benefit of his health, and will visit the Cotton States Exposition at Atlanta before reaching home.

——Hugnes-Guezet, having decided to retire entirely from the American branch of their business, have transferred it to Pilar Freres, Grasse, who will be represented in this city by E. Marchi, 23 Cedar street, as general agent for the United States and Canada.

——"The C. N. Crittenton Co. is getting high toned. We have just installed electric lights and put in swinging ladders, but we still speak to people. We are not here to make money, but to help the sick." Nobody can guess who said this, but there is an old saying that deals with "truth" and "wells."

——Work is progressing rapidly on Merck & Co.'s new building, corner of Clinton and University place. The framework is now up to the fourth story. It is expected that the moving will take place between the 1st of February and the 1st of March next. Merck & Co. will occupy the entire building.

——Joseph F. Talson, the druggist at 481 Sixth avenue, has been sued by Herman Harris for $1,000 damages, the plaintiff claiming that he was given insect powder instead of licorice powder, and was made sick. The druggist through his counsel has filed an application before Judge Geigerich for a bill of particulars. No decision on this application has yet been made.

——Merritt Parse, a young drug clerk of Flemington, N. J., went to Jersey City a few days ago to take a place in a store in that city. He left the house where he was stopping and did not return. Friends telegraphed to his home, but he had not been seen there. It is feared that the young man became demented and has met with some accident. No word had been received as to his whereabouts up to a few days ago.

——It was reported in the trade this week that Lehn & Fink had renewed the lease of a building adjacent to their William street quarters. It is almost certain, however, that that firm will not remain in their present building for more than two and a half years, when the lease expires. Although that is a long look ahead, the firm is anxious to get out into more commodious quarters. The need of more room has long been felt.

——The changes and repairs necessitated by the fire in McKesson & Robbins' annex on Ann street have just been completed, the electric plant having been in working order only a week. The amount of repairing was much more than one would suppose, as the roof of the building was almost entirely cut away to allow the stream to be directed into the structure. No further information has been secured in regard to the origin of the fire, but it has been satisfactorily demonstrated that the fire was not caused by any improper care of cotton waste.

——A reader of this column says he doubts very much if anybody can name a drug store in this city that has, up to September, 1895, been sold for $25,000. He knows of four that have been sold for $20,000, and in almost every case the impression was conveyed that the price was $5,000 more. He does not doubt that there are many stores in the city which could not be bought for $25,000, because they bring in a big profit on an investment of even more than that sum. The trade is likely to hear soon of a sale for $25,000, however.

——The Pharmaceutical Club has for some time talked of moving from the present quarters at 37 East Nineteenth street. Now a suitable house has been found near the New York Athletic Club, and a circular has been sent around to the trade calling for more members. If these are secured there is no doubt that the house will be taken. The advance in rent over what is now being paid is not unreasonable. A bowling alley, which is much desired, can be put in the basement, and many other advantages secured which would make the club more attractive.

——There is at least one druggist running for office in Brooklyn. He is William P. Wuest, of the drug firm of Carl Wuest & Son, corner of Ewen and Siegel streets. He has received the regular Democratic nomination for coroner. Mr. Wuest is thirty-one years old, has always lived in Brooklyn, and has been in the drug business since 1880. In 1891 he took entire charge of the firm's large business, and has been very successful. While never a candidate for office before, Mr. Wuest has long been a prominent member of several political clubs in Brooklyn. He is also a member of the German Pharmacists' Society.

——C. W. Dorn, one of the best known Columbus avenue druggists, died on Monday, Oct. 21, after an illness of over a year. He had been in the drug business in this city for twenty years, being formerly located in Bleecker street. When the upper west side began to attract residents Mr. Dorn saw the wisdom of establishing a store near Ninety-sixth street, and was one of the first to open a pharmacy there. His wife owns a store a few blocks away, and will look out for the interests of both establishments for the present. Mr. Dorn had a wide circle of acquaintances in the down town drug district.

——Henry J. Schlaepfer, of Evansville, Ind., is one of those druggists whose goings and comings, so far as New York is concerned, are regulated as if by clockwork. Mr. Schlaepfer has just been here on his twenty-seventh annual visit, and he always times his trip so he will be in town the second or third week in October. When Mr. Schlaepfer located in Evansville in 1858 there were just four stores in the place; now there are fifty-five. He was then in the residential quarter, now he is in the heart of the business section. He is a very welcome visitor, and the trade wishes there were more like him.

——Tsheppe & Schur have sold their store at 1010 Third avenue to H.M. Wasself. The price is said to have been over $10,000. Mr. Wasself until recently was the owner of two stores, one on Madison street and the other on Seventh avenue, above 125th street. He sold the Seventh avenue store to A. S. Horn, a few weeks ago. This sale of Tsheppe & Schur's store is noteworthy because it was their original store. From it they branched out until they owned four splendid drug store properties in the city. The cause for the sale of the store in which they made their start is the ill health of Mr. Schur, who will go to Germany soon for rest and recuperation.

——It will be remembered by the Era's readers that this journal interviewed John T. Lyons, the indicted phenacetine smuggler, while he was in Ludlow Street Jail. He then said he was entirely innocent of the charge brought against him, and considered his arrest an outrage. Lyons's subsequent action did not seem to bear out his statement, for as soon as he secured bail he left town, and hasn't returned. Now, Richard F. Downing, of Rye, N. Y., a well known Custom House broker, has been obliged to pay $2,500, the amount of Lyon's' bail, to the Government. The case of the United States against Downing was called in the Circuit court before Judge Lacombe a few days ago, but there was no trial, as the cash had been paid. Lyons is subject to arrest the moment he sets foot in the United States.

The Astor House Drug Store.

The facts concerning the sale of W. G. Moffit's Astor House Drug Store are that Mr. Warner stands in precisely the same position that Mr. Moffit occupied, so far as nominal ownership is concerned. George J. Seabury is the mortgagee of the property. It is with regret that the friends of Mr. Moffit learn that he has again been sent to a sanitarium. After visiting this city two weeks ago he went to Pike County, but his old affliction came back again.

HERE AND THERE.

——John Miller, clerk in a drug store at Millersburg, Ia., shot and killed a gambler during a quarrel.

——Antitoxine was tried Oct. 19 for the first time in Amesbury, Mass., in two far-advanced cases of diphtheria, with excellent results.

——A visitor to the drug store of the Wm. H. Barr Drug Co., of Milwaukee, fell down a stairway in the rear, and was instantly killed.

——E. E. Hyer, druggist at Wellsboro, Pa., was a caller at the Era office Oct. 17. He was in the city looking over stock for the holiday trade.

——The Royal Soap Mfg. Co. has bought the plant in Canton, Mass., formerly used for making oilcloth, and will use it for the production of its goods.

——G. C. Fisher has opened at the corner of College avenue and Seventh street, Indianapolis, Ind., one of the handsomest pharmacies in that city.

——About fifty drug stores in and near Boston have been made agencies for the receipts of advertisements for two of the leading newspapers of that city.

——H. L. Day and D. H. Moon, who were burned out in the fire which destroyed the greater part of Blanchester, O., will rebuild at once. Both have purchased new outfits.

——Papers relating to the organization of the X-Zalia Co., formed for the purpose of buying and selling drugs, medicine, etc., have been filed at the State House, Augusta, Me.

——It is expected that a stock company will be formed to carry on the business of Charles E. Haley & Co., dealers in druggists' sundries, Franklin street, Boston, who recently went into insolvency.

——Geo. W. King, of Muskegon, Mich., who was accused of burning his drug store, but was released, assigned his insurance claims over to his attorneys, who are now suing the companies for $4,600.

——At Tacoma, Wash., Oct. 12, customs officers captured eighty pounds of smuggled prepared opium. There was a scrimmage with the smugglers, who, by liberal use of their revolvers, succeeded in escaping.

——Theodore H. Hinchman, Jr., son of John Hinchman, wholesale druggist of Detroit, was married on Oct. 24 to Miss Ballantine, of Port Huron. Many of the society people of Detroit witnessed the ceremony.

——A few years ago a drug clerk in Boston, named William Joy, committed suicide by taking chloral. Now a woman who was a companion of his for some time has ended her career in exactly the same manner.

——Wm. A. Reinhardt, a drug clerk at Peoria, Ill., was found dead in his room above the store where he was employed. He suffered from consumption, which disease the coroner's jury gave as the cause of his death.

——An important decision was given on Oct. 21 by the Supreme Court of Massachusetts in a suit against the Cochrane Chemical Co., under the employers' liability act, for heavy damages. The court decided in favor of the company.

——James A. Johnston, a drug traveler employed by C. D. Daniels & Co., Toronto, Ont., had an exciting experience with highwaymen near Myrtle, in that province, recently. He travels on his bicycle, carrying his sample case on the handles.

——R. C. Rhode, druggist at North Clark and Goethe streets, Chicago, on Oct. 22 was charged with selling liquor without a license, upon complaint of the North Side Liquor Dealers' Association. Consideration of the case was continued to Oct. 30.

——A colored boy in the employ of druggist M. H. Shearer, Baltimore, on Oct. 15 spilled a gallon of sulphuric acid over himself, and was very severely burned. A bystander saved his life by turning a hose on him and dashing a bucket of oil over his body.

——At Des Moines, Ia., the grand jury has indicted and served warrants against one druggist on the two charges of keeping a gambling house and maintaining a nuisance, and two other so-called druggists have been served with warrants on the nuisance charge.

——The temporary injunction obtained by the Solvay Process Co., Detroit, against the Michigan Alkali Co., for alleged infringement of a patent on a cool-apparatus used in the manufacture of soda ash having been dismissed by the court, the case has been appealed.

——Mr. Theron Ball, cashier and chief bookkeeper of the Blumauer-Frank Drug Co., of Portland, Ore., died recently of an illness of a few days, the direct cause of his death being apoplexy. He was well known in Portland, and stood high in the estimation of business men.

——On the evening of Oct. 1 all of the ten drug stores in Waterloo, Ia., closed their doors at 8 P. M. by agreement, this to last till April 1, 1896, except during the last two weeks of December. Two trials were all one dealer could stand, so the early closing movement came to an early end.

——On Sunday night, Oct. 20, a fire broke out in the drug store of Lunnen & Co., in Housatonic, Mass., and it spread so quickly that a service in a church near by was suddenly closed in order that the worshippers might give the firemen their aid. For a time several of the largest buildings in the town were threatened. The druggists' loss is heavy.

——At Anderson, Ind., A. M. Oswalt has sold his store at 138 Locust street, to Emil Schwartz, late of Indianapolis. Dr. J. O. Lowman & Co. have removed their drug store from corner of Twelfth and Main streets to the New Opera House Block, Eleventh and Main streets, and S. Cook & Son have put in a stock of drugs in the room vacated by them.

——After a big fight for it, Druggist Jas. Vernor, of Detroit, did not get the nomination for mayor. About 15,000 votes were cast, of which Mr. Vernor received over 2,000. The defeat doesn't seem to affect him at all unpleasantly, and he is dispensing drugs and manufacturing ginger ale with his usual complacency

——Last July, at Sedalia, Mo., O. M. Brooks sold his drug store to J. R. Myers, and was later arrested on a warrant sworn out by Myers, charging him with obtaining money by false representations. The grand jury has carefully investigated the case, and found that the arrest was made without foundation, and Mr. Brooks has been acquitted of the charge.

——By a vote of 26 to 17, the Hampden County Conference of Congregational Churches, in session at Holyoke, Mass., has decided that it is out of the question to enforce a prohibitory law in the cities of the Bay State, and a committee has been appointed to appear before the Legislature to urge the adoption of the Norwegian system of controlling the traffic in liquor.

——Charles J. Thompson, an insurance adjuster, has brought suit through his attorneys, Messrs. Randall & Flaherty, for $25,000 damages against Robert Smith, a West Philadelphia druggist. In his statement Mr. Thompson says that he was married in April, 1890, to Emma May Thompson, and they lived happily together until the defendant appeared and alienated her affections, causing her to leave and abandon him and desert her home and family.

——The retail druggists of Philadelphia are somewhat exercised over the stand taken by the National Retail Liquor Dealers' Association in regard to the law pertaining to the sale of liquor by the drug stores. This association has for some time past been trying to prevent drug stores from supplying liquor except in medicines, and at the meeting which was held last week in Washington a resolution was presented advocating enforcement of the law against the illegitimate sale of liquor.

——Alvin H. Douds, manager of the drug house of Durbin, Wright & Co., at Canton, Ohio, and a very popular and much esteemed man among his business associates, met a horrible death on Oct. 16. He was driving through Mineral Point, near Canton, when he was struck by a freight train which was backing up, and was found horribly mangled beside the track. On the day of his funeral the Canton Druggists' Association closed their stores and attended in a body.

——A few days ago it was hinted to the chief of police of Medford, Mass., that it was easy to get liquor at the drug store of Walter F. Nelson, near Mystic Park, in that city. The chief sent an unknown officer to see if this could be done, and as that man said he had no trouble, a second test was made, with a like result. Then the chief himself went there and took all that was left, incidentally arresting the clerk who made the sales.

——The inspectors recently appointed by Michigan's dairy and food commissioner are busy serving dealers in all parts of the State with copies of the law. The plan of the inspectors is to personally visit the dealers in the larger cities, explain the law and ask for their co-operation in the work of enforcing it. This will especially be the case with the liquor dealers, the law requiring that all packages containing liquid refreshments shall be labeled "pure and without drugs or poison."

——A suit to recover $20,000 has been brought at Richford, Vt., against Dr. W. S. Manuel, under whose supervision a resident of that town fifteen months ago began to take a well-known cure for the liquor habit. It is alleged that the patient gradually became paralyzed under the treatment, and that his death was due to it. Eight physicians were called together for a consultation in regard to the case, but their advice—whatever it may have been—appears to have been of no avail, as a fortnight later death ensued.

——N. J. Pritzker traded his drug store, located at 395 S. Halsted street, Chicago, some time ago to one N. K. Eikoos, a real estate dealer, for property valued at $4,000. Eikoos claimed it was incumbered to the amount of $2,000. Immediately after the trade Eikoos filed another mortgage of $800 and then disposed of the drug store and all the rest of his real estate. The mortgage was foreclosed and Pritzker discovered that he was defrauded out of every cent of his money. He has had Eikoos arrested on the charge of fraud.

——The American Soda Fountain Co. has declared its regular quarterly dividend of 1½ per cent. on its first preferred stock, 2 per cent. on its second preferred and 2 per cent. on its common stock, all payable Nov. 4 to stock of record Oct. 25. Transfer books close Oct. 25 and reopen Nov. 5. So far this year the gross earnings have been $300,000 over the same period of last year. The net earnings, owing to the company's credit system, cannot be ascertained until the year's accounts are made up, but they are expected to show a proportionate percentage of increase.

——The following is a true story, and illustrates some of the difficulties attendant on the practical side of the pharmacist's life as a Chicago druggist finds it. A few days ago, one night, as our friend Pat would say, a woman considerably the worse for liquor, entered the store of this particular druggist, who is in every way a man of the most exemplary character. She had engaged in some kind of an altercation, and her lip was cut and bleeding. She wanted the druggist to fix it up. The rest is best told in the pharmacist's own words: "I'm not afraid of a drunken man, but I am a bit chary in dealing with a drunken woman; I was alone in the store, and there was no doctor near by whom I could call, so I fixed the cut on her face as best I could. Then she said: 'I'm drunk, and I can't get my money. It's in my stocking. You get it.' I told her to come in some time when she wasn't drunk and pay me, but she objected, and wanted to pay me then. Under the circumstances, I did not ardently wish to be paid, and finally prevailed upon her to go and promise to come in some other time when she had her money in her hand. I got her out after some trouble—but," added the druggist, "she hasn't been in yet to pay me."

——A successful raid for liquor was made last Sunday at Collins's drug store in Olneyville, near Providence, R. I.

ASSOCIATIONS,
CLUBS, SOCIETIES.

——The retail druggists of West Superior, Wis., have formed themselves into an association with R. Simmons as president, C. H. Slocum, vice-president, and C. W. Aust, secretary and treasurer. At a meeting held Oct. 18 E. B. Heimstreet, secretary of the Wisconsin Board of Pharmacy, was present, and gave information regarding the laws affecting pharmacy in that State.

——At the recent annual meeting of the Paint and Oil Club of New England these officers were chosen: President, I. H. Wiley, of Boston; vice-president, C. S. Fobes, Portland, Me.; treasurer, Wm. S. Cutler, of Boston; secretary, C. F. Hatfield, of Boston; executive committee, John C. Howe, Wm. Agge, Chas. F. Howland and A. D. McClellan, Boston; G. B. Calder, of Providence; J. W. Perkins, of Portland; C. C. Lowell, of Worcester. The secretary reported the membership to be 129, representing 106 firms, and the treasurer stated that he had on hand $800.

——Luzerne I. Munson, 57 years old, died at his home in Waterbury, Conn., Oct. 28. He was born in Wallingford in 1838. He was one of the original members of the Connecticut Pharmaceutical Association, for several years the chairman of its Executive Committee and for one year its president. He was also a member of the American Pharmaceutical Association. Mr. Munson was a party leader and worker, and served for years as a member of the Board of Fire Commisioners, Assessors and member of the Board of Sewer Commissioners. Twice he was the candidate of the Republican party for Mayor, and in 1885 and 1886 was State Comptroller. He was a member of the Waterbury Club and the Republican League of New Haven. His wife and two daughters survive him.

Society of Chemical Industry.

A complimentary banquet will be tendered to Mr. Thomas Tyrer, president of the society, and Mr. Ludwig Mond, Hon. foreign secretary of the society, prior to their departure for England, by this Section and the New York Section of the American Chemical Society, with the co-operation of other gentlemen connected with chemical industries, at Delmonico's, Twenty-sixth street and Fifth avenue, on Friday evening, Nov. 1. The Committee of Entertainment consists of Peter T. Austen, C. A. Doremus, Sam. W. Fairchild, Wm. McMurtrie, Thomas F. Main, Alfred H. Mason, Wm. J. Matheson, I. J. R. Muurling, W. H. Nicholls, John D. Wing, J. H. Wainwright, chairman.

At the dinner Alfred H. Mason will act as chairman, and the following toasts are scheduled: "The Society of Chemical Industry," Thomas Tyrer; "The American Chemical Society," Peter T. Austin; "Our Guests," Ludwig Mond; "Technical Education," Seth Low; "The Chemical Manufacturers," W. H. Nicholls; "The Official Chemists," H. W. Wiley.

——The Executive Committee of the Illinois Pharmaceutical Association held a meeting at the Sherman House in Chicago on Oct. 23. Pursuant to a resolution passed at the last meeting of the association a committee was appointed consisting of Messrs. Thiele, Ebert, Lehman, Wm. M. Sempill, Wm. K. Forsyth, Chicago; Thomas J. Kavanaugh, Peoria, and Thos. Knoebel, East St. Louis, to look into the matter of a co-operative drug manufacturing plan. The time and place of the next meeting of the Illinois Pharmaceutical Association was determined upon. The meeting will take place in Springfield, Ill., on the last Tuesday and Wednesday in July, 1896. The names of those suggested by the members of the Executive Committee for members of the State board were handed in. All the names are not yet in, as all the members of the committee were not present. These names will be sent to the Governor, who will select three to serve on the board.

New Yorker Deutscher Apotheker Verein.
(German Apothecaries Society of New York.)

The botanical section of this society had their last excursion for the season Oct. 24. Botany being over for the season, this excursion was devoted to geology, under the guidance of Professor Gundlach. Among those who met at the appointed place of rendezvous were Professor Gundlach, Emil Roller, Geo. Leinecker, George C. P. Stolzenburg, A. Wortmann, George Thum, Ed. Pfaff and Charles Aschenbrand.

The little party met at 125th street and Third avenue at 9 o'clock, and from thence rode by cable car to Washington Bridge, where some time was spent in examining the geological formation of the rocks on the new speedway. Professor Gundlach showed and explained everything of geological interest. Granite, gneiss and quartz were found in abundance. On the whole trip from the Bridge to Bronx River Park numerous erratic blocks were encountered, also plenty of evidence of glacial erosion and glacial scratches were pointed out by the professor, who delivered an exceedingly interesting sketch of the theories, including his own, held by scientists in regard to the glacial epoch. The party returned to the city about 3 P. M., and regaled themselves after their arduous day's labor with lunch and liquid refreshments at Terrace Garden.

Chicago Apothecaries' Society.

Chicago, Oct. 26.—The annual meeting of the Chicago Apothecaries' Society took place last night at the Bismark. After the usual repast the following gentlemen were elected as the officers for the ensuing year: President, Louis K. Waldron; vice-president, G. F. Wisshack; secretary, I. H. Fry, and treasurer, W. C. Scupham.

The retiring president, Mr. Sempill, in his annual address made a number of recommendations, one of which was that the number of members be increased to seventy-five. Pursuant to these recommendations a committee was appointed to consider the matters and things there-

in referred to. The number of members to which the society would be increased was not, however, decided upon, it being thought desirable to look over the field and see who would be suitable for membership.

A committee of three, consisting of Messrs. Henry Goetz, George R. Baker and J. C. Borcherdt, was appointed to investigate and take action upon the telephone question. The committee which was appointed to confer with the Board of Pharmacy in regard to the rulings of the board on the pharmacy law made a report, which was highly satisfactory to the society. The feeling seems to prevail among the members that the board should have the full support of the society, both moral and financial, in carrying out and enforcing the law.

The treasurer's report showed the society to be in a very healthy condition, placing it in a position to do something when necessary.

Oregon Pharmaceutical Association.

The druggists of Oregon held their annual meeting a little later than usual this year in order to take advantage of the exposition which the city of Portland has been using to attract visitors from all parts of the State. The management of the exposition set apart Oct. 17 as "Druggists' Day," and the combination of attractions was sufficient to bring a large number of druggists to the annual meeting, and make it one of the most successful and enjoyable in the history of the association. The meeting was held at Portland, Oct. 15 and 16. The sessions of the first day were devoted to routine business, reading of reports and the presentation of a very able address by President W. I. Cottel. In the evening the delegates enjoyed themselves at a "smoking concert," in which music, recitations, toasts and responses were enjoyable features. At the second day's session a proposed amendment to the State law creating the board of pharmacy was indorsed, the object of which is to obtain State recognition of the association by requiring the Governor to make appointments upon the board from a list of pharmacists presented by that organization.

Papers were read as follows: "Observations in Eastern Laboratories," by J. C. Wyatt, and "Some Poisons and Their Antidotes," by E. H. Lauer. The resolution of the Chicago Retail Druggists' Association, asking for the repeal of the free alcohol law, was brought before the association, but it failed to receive indorsement. The annual dues were reduced from $2 to $1 per annum by amending the by-laws of the association. The election of officers resulted as follows: President, R. W. Moses, of Crawfordsville; first vice-president, N. J. Crane, Astoria; second vice-president, J. R. Simpson, Amity; third vice-president, A. R. Ockerman, Portland; secretary, A. W. Allen, Portland; treasurer, Fabian Byerly, Portland.

The Dalles was selected for the next place of meeting, and G. C. Blakeley, of that city, was chosen local secretary.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—Little Rock, Nov. 13.
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Jan. 8, 1896.
Colorado (C. H. Wells, Pueblo)—Denver, Dec. 6.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Nov. 13.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, second week in January, 1896.
Florida Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—Atlanta, Nov. 4.
Illinois (Frank Fleury, Springfield)—Chicago, Nov. 12.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Nov. 5.
Kansas (W. C. Johnston, Manhatton)—Junction City, Dec. 11.
Kentucky (Wiley Rogers, Louisville)—.
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Dec. 11.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Jan. 9, 1896.
Massachusetts (Freeman H. Butler, Lowell)—Boston, Jan. 7.
Michigan (F. W. R. Perry, Detroit)—Lansing, Nov. 6.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Jan. 21, 1896.
Mississippi (J. C. Means, Natchez)—Jackson, April 7, 1896.
Missouri (F. W. Sennewald, St. Louis)—
Montana (G. W. Shoemaker, Billings)—Butte, April 7, 1896.
Nebraska (M. E. Shultz, Beatrice)—Lincoln, Nov. 13.
New Hampshire (George F. Underhill, Concord)—Manchester, Jan. 28, 1896.
New Jersey (Albert S. Elwell, Bridgeton)—Trenton, Jan. 16, 1896.
New Mexico (W. C. Porterfield, Silver City)—.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburg, Rochester, Syracuse and Yonkers, Feb. 28, 1896.
North Carolina (Wm. Simpson, Raleigh)—. Raleigh, Dec. 3 and 4.
North Dakota (W. S. Parker, Lisbon)—.
Ohio (W. R. Ogier, Columbus)—Cincinnati, Jan. 14, 1896.
Oklahoma (C. L. Wickmiller, Kingfisher)—. Oklahoma City, Jan. 14, 1896.
Oregon (Dan J. Fry, Salem)—Albany.
Pennsylvania (Charles T. George, Harrisburg)—.
Rhode Island (William E. Cates, Providence)—Providence, Nov. 4.
South Carolina (H. W. Hummel, Charleston)—Charleston, Nov. 20 and 21.
South Dakota (L. A. Keith, Lake Preston)—Sioux Falls, Jan. 8, 1896.
Tennessee (J. O. Burge, Nashville)—Memphis, Jan. 15, 1896.
Vermont (J. G. Bellrose, Burlington)—Montpelier, Jan. 7, 1896.
Virginia (E. R. Beckwith, Petersburg)—Richmond.
Washington (W. H. T. Barnes, Seattle)—. Spokane, Nov. 18 and 19.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville)—Milwaukee, Dec. 11.
Erie County N. Y. (C. O. Rano, Buffalo)—Buffalo, Nov. 2.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn)—Brooklyn, Nov. 19.
New York City (William Balser, M. D., 218 East 13th street)—College of Pharmacy building, Nov. 11.

——The merchants of Kendall, West Kendall and Morton, in Western New York, have been notified by the State Board of Pharmacy to discontinue the sale of drugs, in accordance with the law, which provides that in a community where there is a licensed pharmacist, he shall have the exclusive sale of drugs.

——The Erie County, N. Y., Board of Pharmacy has laid the matter of violations of the pharmacy law by Buffalo druggists before the grand jury. It is expected several indictments will follow.

——George W. Kern, the Prairieville, Mich., druggist, arrested a short time ago at the instigation of the attorney of the Michigan Board of Pharmacy for violation of the pharmacy law, has been discharged. The charge involved the sale of sulphuric acid and potassium bichromate for use in dyeing. It was ruled that the pharmacy law had no jurisdiction over chemicals not intended for the stomach.

——A meeting of the North Carolina Board of Pharmacy will be held in the city of Raleigh on Tuesday and Wednesday, Dec. 3 and 4, for the examination of such candidates for license to practice pharmacy as may appear. Applicants must be promptly on hand at 9 o'clock A. M. Tuesday, Dec. 3. Any further information will be cheerfully given on application to the secretary of the board, William Simpson, Raleigh, N. C.

——At the quarterly meeting of the New Hampshire Commission of Pharmacy, Oct. 23, the following candidates were successful: Registered pharmacists: Daniel C. Hickey, Boston, Mass.; Louis B. Marcon, Hanover, Mass.; John T. Dennehan, Manchester, N. H.; Edward F. Cobb, Rochester, N. H. Assistant pharmacists: Frederic H. Davison, Manchester; J. A. Desilets, Lowell, Mass.; Ernest E. Greer, Goffstown, N. H. The next quarterly meeting of the board will be held the fourth Wednesday in January.

——The Tennessee Board of Pharmacy interpreting Section 19 of the pharmacy law relative to adulteration, rule that a drug, medicine or chemical is adulterated when it fails to come up to the requirements of the U. S. Pharmacopœia or other standard work, if a drug, medicine or chemical is laid down therein, and also if it falls below the strength, quality or purity claimed on the label. Attention is called to the fact that this construction will prevent the sale of fluid extracts, tinctures and other pharmaceutical preparations when not made in accordance with the U. S. Pharmacopœia.

——The Board of Examiners of the Pharmaceutical Association of the Province of Quebec for major and minor candidates held the semi-annual examination in the Laval University, Quebec, Oct. 15 and 16, when thirteen major and twenty-one minor candidates presented themselves, and of these three major and eight minor candidates passed, and are named in order of merit, namely: As licentiates of pharmacy—Osborne Thomas Pinck, Alexandre Lemieux, Ed. Senecal. As certified clerks—P. Emile Chevalier, A. C. Roy, D. S. Baxter, R. J. Taylor, F. C. Lachevretoire, J. Richie, E. O. Gagnon, Jos. A. Labranche. The examiners were Messrs. R. W. Williams, Three Rivers; A. E. Du Berger, Waterloo; S. Lachance, W. H. Chapman, J. R. Parkin, Montreal.

——The California State Board of Pharmacy met at Los Angeles Oct. 3 and at San Francisco Oct. 9, and remained in session until the 14th inclusive. The usual written examination was supplemented by an oral examination, mostly on the same questions as the written. There were registered on credentials as graduates in pharmacy the following named: R. E. Yarndley, A. H. Smith, F. D. Jeffrey, A. A. Cavagnaro, G. H. Emde, A. L. Scholl, Laura Goodman, A. W. Ellington, F. A. Beckett, Bertha I. Stone, R. S. Martin, F. J. Conlan, J. O. Kelton, Sophia W. Finch, The following named were examined at Los Angeles Oct. 3, and were granted certificates as ncentiate in pharmacy. D. C. Schlott, A. Hawthorne, S. A. Harper, P. J. Pursey, F. H. Metcalf, E. J. Eastman, and at the same examination the assistant certificate was granted to G. Cannon, W. E. Parrott, E. Richter, H. N. Stone, M. E. Fellows, T. Wrede, Jr. At the Los Angeles meeting nineteen candidates presented themselves for examination and nine failed. The following named were examined at the San Francisco meeting, and were granted the licentiate certificate: A. H. Chelgren, C. A. Bayly, Jr., H. W. Wagner, A. G. McIntyre, C. W. Avery, E. A. Gamble, W. J. Jackson, J. C. Newton, D. B. Green, R. B. Richards, G. O. Wilson, R. O. Denison, and for assistant certificate: C. Evans, R. H. Bowman, F. W. Grunig, G. Ghiglieri, O. von Luedinghausen, F. W. Ruhser. At the San Francisco meeting twenty-four were examined, eleven failed. W. S. Parker and C. G. Printz were registered as licentiate without examination. The next meeting of the board will be held at 113 Fulton street, San Francisco, the second Wednesday in January, 1896.

——The Kings County (N. Y.) Board of Pharmacy held its examinations on Oct. 15. There were thirty-four applicants; of this number seven passed as pharmacists and eight as assistant pharmacists. The names of those who passed as pharmacists are: Emil F. Wagner, Willey Reiser, Akim Kantovowitz, George Weltman, Frederick W. Müller, Hugo Karminski, Gottfried Merkel. And as assistant pharmacists: Camille Maier, Chas. H. Cannon, Oscar Hickstein, David K. Webster, Joseph Robinson, Samuel Bienstock, Chas. Schmidt, E. Broudfenbrenner. At the September examinations there were thirty-one applicants; of this number five passed as pharmacists and ten as assistant pharmacists. The names of those who passed as pharmacists are: Patrick McCarthy, Max Nisselson, John Dawson, Peter F. Christ, Iser Goldberg. And as assistant pharmacists: John J. Benson, E. Broudfenbrenner, Joseph Robinson, Julius Roelly, Wm. Falkiner, Matthew Neger, O. Hickstein, R. W. Gannon, Willey Reiser, S. Rosenfeld. At the September meeting the president of the board, Mr. Wm. M. Davis, resigned from the office of president. Mr. Davis had filled the office for six years, and the members of the board expressed deep regret on account of his resignation. Mr. Davis leaves Brooklyn to reside in East Orange, N. J. At a special meeting of the Kings County Pharmaceutical Society, called to elect a member of the Board of Pharmacy of the County of Kings in place of Mr. Davis, held Oct. 22, 1895, Mr. William Muir was elected to fill the vacancy. The next meeting of the board will be held in the Brooklyn College of Pharmacy building on Nov. 19, 1895. Applications must be made to the secretary previous to that day.

——The Minnesota Board of Pharmacy met Oct. 15. The class numbered forty, and the following were admitted to registration as pharmacists: August L. Baeckman, Theodore W. Esterly, N. Frederick Nelson, Minneapolis; Swan A. Carlson, St. Paul; Homer Frankenfield, Henderson; Sarah E. Palmer, Worthington; Charles B. Wilds, Owatonna. The following were granted certificates as assistants: Ignatius Kingman, Olaf Anderson, Charles F. Goetzinger, Arthur Wallace, Lewis H. Norwood, Charles Bremer, Jr., Albert Wagenhals, Oliver M. Henderson. Next meeting at Minneapolis, third Tuesday in January. The board has just secured the settlement of a case which has been in the courts for about three years. It was against Mrs. E. M. Robertson, of Graceville, whose husband was a doctor, and had charge of her drug store. The case has been tried twice, with a verdict each time in favor of the board. In the mean time, defendant has become insolvent and retired from business, and her bondsman has been obliged to pay the fine and costs, amounting in all to about $175. The board now has five cases in progress, and is about to commence others.

St. Louis Omega Phi Society.

St. Louis, Oct. 28.—The Omega Phi Society of the St. Louis College of Pharmacy have elected the following officers for the ensuing year. President, Anthony B. Walker, of Herman, Mo.; vice-president, Oscar H. Fischer, St. Louis; secretary, F. L. Whelpley, St. Louis, treasurer, Henry E. Garthoffner, Boonville, Mo.; council, Frederick C. Busch, Little Rock, Ark.; Robert A. Howard, East St. Louis; J. L. Boehm, St. Louis; Stephen Bedford, St. Louis; Charles F. Merker, Collinsville, Ill.; Louis Jost, St. Louis, and Rudolph M. Gerber, St. Louis. This is a Greek letter fraternal society composed exclusively of the members of the senior class.

——Druggist Edward Joseph McGraw, who conducts the pharmacy at the southwest corner of Schroeder street and Edmondson avenue, Baltimore, Md., has concluded that it is not good for man to be alone, and on the 16th inst. took unto himself a wife, the bride being Miss Mary Magdeline Peters. The Rev. Thomas J. Broydrick married them at St. Martin's Catholic Church.

——Joseph P. Hall has acquired the stock, fixtures and privileges in the drug store at 2200 North Charles street, Baltimore, Md., formerly conducted by Ernest H. Dryden, who was forced to assign, and will hereafter conduct the establishment. He was Mr. Dryden's clerk.

COLLEGES AND SCHOOLS OF PHARMACY.

——Mr. H. W. Medbury is slated to lecture in the near future before the students of the Chicago College of Pharmacy on the subject of "Medicinal Plasters."

——The first social meeting of the Alumni Association of the Philadelphia College of Pharmacy for this season was held in the museum of the college Oct. 22. Dr. Joseph McFarland, demonstrator of pathological histology at the University of Pennsylvania, delivered a lecture on "The Theory of Diphtheritic Serum." Miss Frances E. Peirce, of Mt. Vernon Institute of Elocution, was present with two of her pupils, Miss Marguerite Rea and Miss Annie Parker. They recited entertaining selections.

——A meeting of the faculty of the Philadelphia College of Pharmacy was held Oct. 24 at which the questions for the preliminary examination, to be held on Oct. 31, were prepared. This examination was for the first year's class, and is the first one held this year. Besides examining the students in the studies that they have been through so far this year, they will also be examined in geography, spelling and arithmetic. This examination is somewhat of a special one, and the students who have graduated from the Philadelphia High School will be excused. The Ohio Club of the college have elected the following officers: President, William Dutt, of Akron; vice-president, A. W. Beeler, of Mt. Eaton; treasurer, E. D. Helfrich, of Galion; secretary, Henry Schroeder, of Cincinnati; reporter for the alumni report, K. C. T. Schneider, of Berea, and assistant reporter, C. T. Ink, of Columbiana. The Pennsylvania Club have also reorganized by the selection of the following officers: President, Frank Kline, of Reading; vice-president, C. R. Place, of Stroudsburg; secretary, Louise H. Aszmann, of Philadelphia; treasurer, C. S. Dickinson, of Erie, and reporter, F. P. Stroup, of Rouseville.

——President Henry P. Hynson, of the Maryland Pharmaceutical Asociation, has been making experiments in the employment of students at the College of Pharmacy to assist in drug stores, the results of which he thinks may be worthy of the consideration of other druggists. Such employment, he thinks, is desirable, for the reason that it gives students necessary practical training. Single-handed, however, it takes up so much of their time as to prove unsatisfactory both to the pharmacist employing them and also to the student so engaged. Mr. Hynson solved the difficulty by taking on a senior and a junior. One has his recitations in the morning and the other in the afternoon. The former sleeps in the store building, opens the place in the morning and remains until 8 o'clock. This gives him time to get breakfast and go to the college, the second going on duty and continuing until the return of the other, who then stays during the balance of the afternoon. Each has every second night off

and the two alternate on Sundays. In this way neither is overworked, has enough leisure for study and gains valuable experience, while the expense to the employer is no greater than if an assistant were employed all the time.

——The Detroit College of Pharmacy has begun its year most auspiciously. There is a larger number of pupils than ever, and before any more can enter—and there are daily applications—it will be necessary to have more laboratory room. At present every table is occupied, and the faculty feel that they do not want to try to handle any more students without increased facilities. The large attendance is especially gratifying in view of the competition afforded by the pharmacy department in the University of Michigan. A decided improvement is noted in the grade of the students, due, the faculty believe, largely to the excellent work being done by the State Board of Pharmacy, with whom they are in hearty co-operation. All of the regular classes are heard in the evening, and this gives the students a chance for employment during the day. But for those who prefer to do at least part of the work in the day time an arrangement has been made by which it is optional with them to attend the day classes in the departments of materia medica, chemistry, physiology and botany of the Detroit Medical College, or the evening classes of those departments in the College of Pharmacy, both colleges occupying the same building. The college publishes a bright little paper of its own, and there is now in press an excellent group of the professors.

——Professor Henry Trimble, of the Philadelphia College of Pharmacy, has just returned from Atlanta, where he has been for the past week acting as one of the judges at the Exposition. Professor Trimble was very agreeably surprised at the Exposition, and said that while it did not compare with the display at Chicago in 1893, it is a very creditable one to Atlanta and the South. Speaking of pharmaceutical exhibits, he said "they were few and far between, the most prominent being Powers and Weightman's, whose display was a very handsome one." Sharp & Dohme, William Warner & Co., H. K. Wampole & Co., Burroughs, Wellcome & Co., London, England, and Schandein & Lind. These exhibits were grouped together in a corner of the Liberal Arts Building. In speaking of the Forestry Building, Professor Trimble was very enthusiastic. He said that while this building was not as large as the one at the World's Fair the exhibits were finer and better grouped; the woods were of a better quality, especially those arranged by the Government, and the States did all they could to outdo each other in the quality and quantity of their exhibits. This building was gotten up strictly on scientific principles. There was also here a very fine turpentine exhibit made by the Board of Trade of the city of Savannah. This created considerable interest, and it was classed among one of the features of the Exposition. A new process of tapping the trees for turpentine, which, when understood cannot but be of great help to those interested in this business, was among the features of this building. Mr. Dunwody, who was for many years assistant to Professor Sadtler, is now in the Westmoreland Pharmacy in Atlanta, and he took great pleasure in showing the visiting pharmacists the points of interest in and around the city.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA.
Box 1483, New York.

ARKANSAS.

Little Rock.—J. B. Lightfoot, assigned.
Newport.—Goodwin store, sold to Holland & Dutton.
Waldo.—Waldo Drug Co., new store.

CALIFORNIA.

Los Angeles.—W. H. Juengen, attached.
San Pedro.—Thomas C. Miller, 6th and Beacon, new store.

COLORADO.

Crede.—J. W. Yelton, burned out.
Victor.—W. H. Leavenworth & Bro., of Altman, opened branch here.

DISTRICT OF COLUMBIA.

Washington.—Swamp Angel Medicine Co., deed of trust.

FLORIDA.

Jacksonville.—A. P. Fries, assigned.
Tampa.—Terga & Co., succeeded by Dr. Carraballo.
Titusville.—J. B. Screven, will remove to De Land.

GEORGIA.

Brunswick.—W. J. Butts & Co., now W. J. Butts.
South Side Pharmacy, sold to Cherry & Dexter.

IDAHO.

Grangeville.—Pearson & Bonebrake, dissolved.

ILLINOIS.

Chicago.—J. J. Gill, now proprietor Rosalie Pharmacy.
Ellsworth.—William Patch, removed to Irving, Ill.
Fairbury.—H. J. Ramsey, sold to Payne & Hemphill.
Golden.—C. A. Sahland, sold out.
Heyworth.—H. Robb, damaged by fire.
Mt. Carroll.—G. C. Foster, deceased.

INDIANA.

Amboy.—Elleman & Cox, now E. F. Cox.
Anderson.—J. O. Lowman & Co., removed to Opera House Block.
S. Cook & Co., have opened new store at their old stand, Main and 12th.
A. M. Oswalt, 138 Locust, Hazelwood, sold to Emil Schwartz.
Indianapolis.—G. C. Fisher, College ave. and 7th st., new store.
Marshall.—Wm. Duncan, deceased.

INDIAN TERRITORY.

Terral.—Schoolfield & Howard, succeeded by J. H. D. Terrell.

IOWA.

Alta.—E. Larsen, burned out.
Davenport.—H. A. Emeis, succeeded by John Harding & Co.
Dunlap.—Dunlap Drug Co., incorporated; capital, $10,000.
George.—Bradshaw & O'Connor, new store.
Iowa Falls.—Catlin Drug Co., sold to B. H. Brooks.
Macksburg.—J. F. Noel, removed to Creston, Ia.
Marshalltown.—F. B. Wiley, Post Office Building, new store.
Osceola.—Landis Bros., dissolved.
Red Oak.—Hulette & Ericsson, new store.
Sioux City.—J. E. Blair, sold to G. W. Snyder; style will be The Blair Drug store.
Spencer.—F. A. Matthews & Co., new store.
What Cheer.—J. A. Griffith, sold out.

KANSAS.

Delphos.—W. J. Lippard & Co., new store.
Seneca.—J. H. Peckham & Co., now Peckham & Jenkins.
Smith Center.—W. Cannon, sold to A. M. Rinehart.
Yates Center.—Butler & Evans, now The Butler Pharmacy.

LOUISIANA.

New Orleans.—L. P. Sahuque, deceased.
Shreveport.—Beard & Co., 412 Texas st., new store.

MAINE.

South Gardiner.—H. A. Little, sold out.

MASSACHUSETTS.

Fall River.—Bradford Dunbar, removed to 1030 S. Main.
Haverhill.—F. W. Pollard, Phœnix Drug Store, assigned.
Housatonic.—Lennon & Co., burned out.
Springfield.—E. P. Loomis, sold to Gerald & True.

MICHIGAN.

Coleman.—A. V. Linton, sold to Dr. Budge.
Eaton Rapids.—W. D. Brainard, succeeded by J. J. Milburn.
Grand Rapids.—D. S. Kimm, 738 E. Fulton, sold to W. H. Ross.
Hudson.—F. A. Retan, sold to Wolcott & Letcher.
Ontonagon.—Meloche Bros., dissolved.

MINNESOTA.

Foreston.—J. Cook & Co., removed to Melrose, Minn.
Madison.—A Lano, burned out.
Spring Valley.—Rhode & Shepard, new store.

MISSISSIPPI.

Purvis.—Crescent Drug Store, recently closed by sheriff, has reopened.

MISSOURI.

Asbury.—C. W. Meyer, new store.
Benton.—L. B. Russell, new store.
Darlington.—Cummings Bros., now Cummings & Gartin.
Forest City.—George May, sold to John Markt.
Kansas City.—McGrath Drug Co., 12th and Broadway, sold to C. A. Merrill.
Maryville.—H. A. Byers & Co., sold to Thomas R. Blackman.
Montgomery & Blackman, dissolved.
Merwin.—F. L. Diggs & Co., damaged by fire.
Nevada.—John Blue, deceased.
St. Louis.—L. C. Haagen, Belt and Ridge ave., new store.
Salem.—M. Godbey, sold to Dr. Frederick Arthur.
Springfield.—Fink & Metcalf, now R. M. Fink.

NEBRASKA.

Dodge.—V. Krasl, sold out.
Hastings.—J. V. Hair, sold to J. H. Spicer.
Oakland.—John F. Nelson, sold to H. E. Nelson.
Panama.—Harper Bros., sold to Beghtol Bros.
Plattsmouth.—Snyder & Co., now I. L. Snyder.

NEW HAMPSHIRE.

Nashua.—J. J. Hallissey, damaged $500 by fire; insured.
Concord.—J. W. Tirrell, Warren and Main, closed.

NEW JERSEY.

Lakewood.—E. C. Ranney, opened winter pharmacy.

NEW YORK.

Blooming Grove.—Dr. G. S. Bond, new store.
Ithaca.—Warren's drug store, burned out.
Johnstown.—Dr. M. Babcock, N. Perry st., new store.
N. Y. City.—Fred Fear & Co., incorporated; capital, $15,000.
W. G. Moffit, sold out.
Olean. W. R. Coon, sold to John V. Murphy.
Randolph.—W. L. Alexander, sold to C. W. Terry.
Rochester.—J. B. Mullen, 213 Plymouth ave., closed by sheriff.

OHIO.

Blanchester.—H. L. Day and D. H. Moon, burned out; both will resume at once.
Canton.—A. H. Donds, of Durbin, Wright & Co., killed in railroad accident.
Columbus.—Columbus Pharmacy Co., damaged by fire.
E. S. Cook, King ave., near Neil, new store.
The Morris Pharmacy, Cleveland and Long, new store.
Dayton.—W. T. Bozenhard & Co., sold to D. E. Miller.
East Liverpool.—C. A. Pancake, sold to J. E. Deaves.
Marysville.—Anderson & McLoughlin, now Haines & McLoughlin.

OREGON.

Portland.—Theron Ball, cashier of Blumauer-Frank Drug Co., deceased.
Prineville.—Howard & Belknap, dissolved.

PENNSYLVANIA.

Altoona.—Jos. McKee, 8th ave. and 7th st., sold to Harry Allen.
Bristol.—John F. Endicott, sold to Harry Hendley.

Centerville.—H. F. Mitchell, has opened The Slippery Rock Pharmacy.
Chambersburg.—George A. Curriden, sold to Cressler & Keefer.
Erie.—Aichner & Studebaker, have opened the Crystal Drug Store, 1026 Peach st.
Foster.—M. A. Blair, burned out.
Philadelphia.—C. H. Butterworth & Co., 125 Market, damaged by fire; insured.
H. R. Cushen, 11th and Somerset, sold to W. Maddock.
J. M. Hillam, 2353 Germantown ave., sold to N. F. Weisner.
W. A. Shannon, removed to 8th and Spring Garden.
Reading.—H. H. Kline, Center ave. and 4th st., new store.
Reynoldton.—D. S. H. Smith, sold to Geo. Herold.
Sayre.—John Lyons, succeeded by George C. Bruster, mgr.

RHODE ISLAND.

Westerly.—E. H. Burdick & Co., assigned.

SOUTH CAROLINA.

Belton.—W. C. Bowen, sold to F. W. Campbell & Co.
Florence.—James Evans & Co., sold to T. D. Rhodes & Co.

SOUTH DAKOTA.

Henry.—A. E. Whitting, damaged by fire.

TENNESSEE.

Dyersburg.—Taylor & Puryear, burned out.
Gainesboro.—L. S. Anderson, sold to L. B. Anderson.
Knoxville.—A. A. Yeager & Co., now A. A. Yeager.

TEXAS.

Blum.—A. W. Read & Bro., assigned.
Chico.—Haggard & Lindsey, sold to W. W. McDonald.
Goliad.—P. P. Hanning, damaged by fire; insured.
Italy.—Sewell & Pruett, now W. B. Pruett.
Lexington.—Baine & Co., now H. E. Baine.
Lincoln.—P. A. Ramsel, new store.
Menardville.—C. C. Patton, sold to J. Callon & Co.

VERMONT.

Proctorsville.—Pollard Bros., new store.

VIRGINIA.

Portsmouth.—W. J. Joyner, new store, 618 County st.

WASHINGTON.

Centralia.—W. S. Deane, succeeded by Deane & Clark, who removed to Chehalis, Wash.
Spokane.—J. A. Crowley, in possession of mortgagee.
Stanwood.—A. B. Klaboe, discontinued.

WEST VIRGINIA.

Wheeling.—W. Menkemiller, removed to 3331 Eoff st.

WISCONSIN.

Eagle.—J. J. Lorge, new store.
Fairchild.—Arnold's drug store, burned out.

The Bowling Tournament.

Dodge & Olcott's bowlers surprised everybody at last Saturday's games in the tournament, by defeating the strong Whitall, Tatum & Co. team easily. They also won their other game. The scores were as follows: Powers & Weightman defeated Lazell, Dalley & Co., 597 to 596; Dodge & Olcott defeated Schieffelin & Co., 691 to 535; McKesson & Robbins defeated Lazell, Dalley & Co., 704 to 533; Whitall, Tatum & Co. defeated Schieffelin & Co., 610 to 591; McKesson & Robbins defeated Powers & Weightman, 686 to 548, and Dodge & Olcott defeated Whitall, Tatum & Co., 724 to 587.

——H. F. Reum has sold his recently purchased pharmacy on Walnut Hills, Cincinnati, to W. L. Riter.

——Charles F. Gray, a surveyor in the employ of the Baltimore topographical survey, while measuring A. L. Thompson's chemical works on Oct. 23, had occasion to walk over a plank thrown across a vat of boiling water. The plank broke under him, and he was precipitated into the water up to the waist, being scalded so badly that he died.

Book Reviews.

ETIDORHPA, OR THE END OF THE EARTH The Strange History of a Mysterious Being and the Account of a Remarkable Journey as communicated in manuscript to Llewellyn Drury, who promised to print the same, but finally evaded the responsibility, which was assumed by John Uri Lloyd. Author's edition, limited. Published by J. U. Lloyd, Cincinnati, O. Subscription price, $4.00

The pleasant anticipations aroused through the receipt in April last of a few advance sheets announcing the intended publication of this work have been fully realized upon the appearance of the work itself. The title suggests mystery and this impression is well sustained throughout the volume. As it is quite the fashion in these days to write books with the purpose of conveying ethical ideas, scientific theories, etc., agreeably draped with details of a thrilling narrative, the critic or reviewer in the present instance finds himself somewhat baffled when he attempts an interpretation of mysteries to explain with certainty the author's purpose. Dismissing our shrewdest guess that he is possessed of certain scientific theories and ideas upon matters bordering upon the unknowable, and desires to present them in a tentative manner for discussion, we leave the matter of motive, and express our assurance that the many friends and admirers of Prof. Lloyd will find much profit in turning over in their minds the scientific theories which he presents, and will experience the keenest enjoyment in following the story in which these are so skillfully woven.

The Mysterious Being who presents the manuscript to Llewellyn Drury relates a wonderful story of being kidnapped by members of a brotherhood of adepts, who take him upon a journey toward the center of the earth, which is accessible through the Kentucky cave region. His guide in the subterranean depths is an eyeless being, who, nevertheless, is possessed of all the ordinary faculties, a circumstance which allows the author to speculate upon instinct. The accepted notions that the interior of the earth is a region of great heat, or is devoid of light, are, of course, controverted, and a zone of light illuminating the interior is given prominence and quite satisfactorily explained. The logical conclusion of our theories upon gravitation is presented in a startling manner, and the possibility of approaching a point where a person's body would have no weight, and there would be no necessity for bodily nourishment, or a continuance of bodily functions, such as breathing, etc., is recognized, in spite of the difficulty of fully comprehending it. The theories presented also deal with the food of man, the origin of volcanoes, further division of primary colors, etc., and that scientific fiction, the ether of space is used as the starting point for a bold theory that matter is simply retarded motion, a convenience and conception in our present state of ignorance and confusion which are quite welcome as an intellectual diversion. But the author warns us against biology and materialism, and we fancy that we detect a disposition in him to add his voice to that of a growing multitude which is disposed to exclaim that we have been too hasty in proclaiming our knowledge of the ultimate, simply because some have pricked the surface of cosmos and found a thread of fact in Evolution. Space forbids even a bare enumeration of the various metaphysical questions which are touched upon during this strange journey, and as the eyeless guide and expositor was questioned at every point by the mysterious being who accompanied him, and the latter was in turn interrogated upon several points during the reading of the manuscript by his listener, Mr. Drury, there is but little difficulty in arriving at the author's conclusions upon these matters.

In this work, Etidorhpa, we now see the thought current that prompted Professor Lloyd to deliver the address on Sunshine before the Ohio Pharmaceutical Association, and can trace his reasons for asserting that the life of medicine is sunshine. In Etidorhpa he points to the fact that the life of food is also sunshine and not matter.

The more human side of affairs is not neglected, and the evil effects of intemperance are depicted in a manner so far from conventional, that those who have imagined that nothing new could be said upon the subject will be agreeably surprised. The idea from which the title of the book is derived, the idea of the old Greeks which found expression in the worship of Aphrodite, the word Etidorhpa being but a transposition of the name, is given a prominence in this strange journey to the center of the earth, which throws an additional light upon the purpose of the author to show in allegory the progress of man in the search of knowledge, and the influence which love and passion have upon his search.

George Keil, of Philadelphia, has recently issued the third edition of the Medical, Pharmaceutical and Dental Registry and Directory for the States of Pennsylvania, New York, New Jersey, Maryland, Delaware and District of Columbia.

Robert Stevenson & Co., Chicago, have issued their latest price list, a substantial, cloth bound volume of 682 pages, under date of October, 1895. The constant aim in the compilation of such extensive works is the inclusion of the maximum number of articles to which the druggist may refer, with a minimum expenditure of time and effort. In the 250 pages devoted to drugs, chemicals, proprietary medicines, etc., the use of full-faced type greatly facilitates the finding of what is wanted by a mere glance over the page. This excellence of typographical display having special reference to easy reading is an apparent feature throughout the book.

Catalogues, Price Lists etc., Received.

Herf & Frerichs Chem. Co., St. Louis.
Theo. Metcalf & Co., Boston.
Fritzsche Bros., New York.
Geo. Lueders & Co., New York.

——Col. C. B. Fuqua, formerly of Big Rapids, Mich., has bought out the Bradley drug stock at Paris, Mich.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

Theo. Noel, geologist, 858 West Polk street, Chicago, "wants you if you want money," but only wants one of you in each county. His advertisement in this issue is certainly strong in inducements, but just what these are can be learned by correspondence.

Lucas' color cards sell paint because they show people how handsome anything will look when the right colors or combinations of colors are used. Druggists who handle paints are not doing the best they can do, unless they are educating people with these cards and selling Lucas' paint.

Dundas Dick & Co.'s capsuled medicines are a great convenience to the dispenser. They are put up in blank boxes containing 30 capsules of 10 minims each, and can be quickly dispensed on prescriptions by simply writing the directions upon the box. Send for complete list to Dundas Dick & Co., New York.

Fred W. Stewart, Oswego, N. Y., has testimonials from over 1,000 physicians speaking a good word for Gipsy Pile Ointment. It must be a superior article to command this amount of praise, and it must be a good one for the druggist to handle. It costs 25 cents, and retails for 50 cents. Transportation is paid by the manufacturer.

"Neroli," a synthetic oil of orange flowers, is one of the latest novelties for perfumers announced by Schimmel & Co., Leipzig, through Fritzsche Bros., 34 Barclay street, New York. It is put up in 1-ounce, 4-ounce, 8-ounce and 1-pound bottles. Descriptive literature and prices will be furnished upon application to the American house above named.

Jacrose Toilet goods, made by Charles Gordon Buck, include nearly everything for the toilet, and the name and appearance of the goods have an unmistakable attraction for customers. This line is a good one for the druggist to know all about, and this can be easily accomplished by writing to Schieffelin & Co., New York., for price list and information.

The druggist who handles the remedies of the Dr. Harter Medicine Co., Dayton, O., should remember their offer to keep him constantly supplied with advertising matter, and to send such customers as he may indicate personal letters and samples of Dr. Harter's Little Liver Pills. The Harter medicines will never stick on the druggist's shelves if he avails himself of these offers.

If money spent for attractive containers, wrappers, etc., is of service in aiding the sale of goods, then a wire display stand which places the goods where people can see them is just as important. This is an idea which the Philadelphia Ornamental Wire Co. is striving to impress in their advertisements. All those who admit its correctness are invited to send for their catalogue of designs.

The changes in the matter of degrees, extension of courses, etc., at the Philadelphia College of Pharmacy render it exceedingly desirable for students who wish to avail themselves of these advantages, to begin their studies at that institution the present term. For full particulars regarding these changes, address T. S. Wiegand, actuary, 145 North Tenth street, Philadelphia.

One of those little but necessary things which the chemist often needs is prepared quartz or flint for chemical work, manufacture of extracts, etc. Too often when this want arises there is difficulty in recalling the address of parties furnishing it. The price list of the F. E. Belden Mica Mining Co., 12 Broad street, Boston, should be procured and kept where reference will be easy.

The medicinal properties of celery are so well known that the druggist does not have to waste talk in selling preparations containing it. Just now the mere announcement of a celery cough drop is sufficient. The Celery Medicine Co., Kalamazoo, Mich., make such a cough drop and several other celery preparations. Their new catalogue is full of special offers on these goods, and a postal card request will bring it.

In filling a prescription the pharmacist of course exercises great care as to what goes into the bottle, and this care should extend to the last thing—the cork. It should suit the patient. It should stand pulling and replacing from 8 to 128 times, and still be a good cork. If the corks you are using will not do this, the R. W. McCready Cork Co., Chicago, ask you to specify 'Diamond M" on your next order.

A wooden box for drugs, ointments and powders is desirable in hundreds of instances—in fact, many customers prefer that kind of a container to any other. The Mt. Washington Box Co., Boston, make some impervious boxes of black walnut and silver poplar in all sizes from ¼ ounce to 1 pound, which will just suit the many customers referred to. Send for price list to manufacturers, and remember that all jobbers have these boxes.

The pharmacist can best answer that frequent question, "Which is the best food?" if he is thoroughly acquainted with Panopepton, and knows what leading physicians have said about it. It consists of the entire edible substances of wheat and beef in solution, thoroughly cooked, properly digested, sterilized and concentrated in vacuo. It retails at $1 per bottle and costs $8.50 per dozen. Send for literature to Fairchild Bros. & Foster, New York.

The offer of the Humphreys' Medicine Co. on an assortment of Humphreys' Specifics is one which will well repay investigation by the druggist who has never handled these goods. There is a great demand for these specifics, as druggists who are now handling them can testify, and the advertising which is done to introduce them is of a particularly convincing character. Some of it will be sent for inspection when you write for particulars regarding the special offer.

People do not know how good a perfume is until they try it, and all new goods must bear some external inducement to invite a trial. Seely, the American perfumer, of Detroit, Mich., has recently gotten out a new one, the container of which is strikingly attractive, and the name, "Ave Maria," will instantly appeal to the best customers which a druggist can have. This new perfume has all the indications of a good seller.

The idea that the druggist could save the physician a lot of bother by keeping convenient packets containing all the necessary articles for use in maternity cases is evidently a good one, as Johnson & Johnson, New York, report quite a demand for Dr. Simpson's Maternity Packet since bringing it to the attention of the drug trade. It is, in fact, an article which will call forth more appreciation from both doctors and patients than anything the druggist can sell. Write for full particulars and prices.

Richard F. Fischer & Co., 96 Maiden lane, New York, are American agents for half a dozen of the best drug and chemical manufacturers of Germany, and the price lists which they issue describe hundreds of articles in which every pharmacist is interested. As an example they quote over 400 preparations made by the Berliner Capsules-Fabrik, Berlin, and they are particularly anxious to place the list of this firm in the hands of every druggist. Send for it.

On account of the extraordinary rise in the price of tartaric acid and Rochelle salts, Charles R. Doane, 22 Meserole street, Brooklyn, N. Y., has been obliged to make a slight advance in the price of his seidlitz powders. The new list took effect Oct. 23, and is presented herewith:

IN TIN BOXES.

24 Powders in each box

FULL WEIGHT 2 Drachms & 2 Scruples in blue paper.			REGULAR 2 Drachms in blue paper.		
ONE DOZ. BOXES,		$ 1.85	ONE DOZ. BOXES		$ 1.70
3	"	" 5.40	3	"	" 4.95
6	"	" 10.50	6	"	" 9.60
1 GROSS		" 20.00	1 GROSS		" 18.00

POWDERS IN BULK.

These are put up in papers, and packed in wooden boxes, holding a gross each, of blue and white. *In ordering designate these as so many BULK BOXES.*

FULL WEIGHT.			REGULAR.		
ONE BULK BOX,		$ 1.60	ONE BULK BOX,		$ 1.45
3	"	" 4.65	3	"	" 4.20
6	"	" 9.00	6	"	" 8.10
DOZ.		" 17.00	1 DOZ.		" 15.00

Another B. W. & Co. Award.

At the recent Amsterdam Exhibition Messrs. Burroughs, Wellcome & Co. gained the grand medal of honor for a selection of their products. This makes the 115th highest award that has been adjudged to this firm since 1884. They have also just received information that the silver medal has been granted to them for their "Photographic Tabloids" at the Ixelles Exhibitions.

The Lotus Press, 140 West Twenty-third street, New York, present a very simple problem for those who use circulars, booklets, etc. The problem is this: If $50 pays for 5,000 ordinary booklets, printed by an ordinary printer, and the greater part of these go into the waste basket, how much money is saved by paying extraordinary printers $65 for 5,000 booklets, which are so artistically gotten up that people will read them, and not throw them into the waste basket? The Lotus Press people are extraordinary printers, and any one who figures out the correct answer to this problem should address them about printing.

Many druggists never think of pushing their staple goods, but think that novelties are the only kind that will pay for extra effort in trying to sell. But this is a mistake. Billings, Clapp & Co., Boston, show this by putting up two standard articles, Quinine and Headache Tablets with chocolate to disguise the taste. There is no question about the sale of these with a little pushing or even letting people know that their quinine has had its bitter taste effectually disguised. Some druggists had such success with these last year, that the firm quotes prices upon 10 and 25-pound lots, these being the proper buying quantities for the pushing druggist, instead of the 500 and 1,000 tablet lots of previous years.

So few houses in the drug sundry trade fail that it is but seldom that the retail druggist has an opportunity of actually buying at cut rates. It is almost always the other way—buying at full prices and selling at cut rates. But this season there is an exception. The well-known firm, Amos M. Lyon Co., 20 Park place, New York, have purchased an assignee's stock, which they are now offering at a discount of 25 to 50 per cent from cost. In this stock are found celluloid, leather, plush, metal and wood toilet sets, work and jewel boxes, collar and cuff, handkerchief and fan boxes, smoking sets, card sets, pocketbooks, purses, etc. Druggists who are looking for holiday goods should not miss this opportunity.

Enterprising druggists who desire to use only the best and most delicate productions in their soda fountains will be interested in the advertisement of McKey & Co., Boston, in this issue. This house is securing an enviable reputation for their goods, and will be pleased to send a free sample of any of the many requisites which they manufacture to any druggist who will mention that he saw their advertisement in the Era. This firm is a comparatively new one, but they are pushing a line of goods which are of the best at the right prices, and their effort to introduce themselves by furnishing samples of their goods so that quality can be accurately judged is one which will surely commend itself to the careful buyer.

——The body of W. D. Purcell, druggist of Greenfield, Mo., was found a mile west of the town on the railroad track Oct. 25. His skull had been crushed with a club, and his body rifled of valuables.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Alcohol, Angostura Tonka Beans, Mexican Vanilla Beans, German Benzoic Acid, Balsam Tolu, Spanish Colocynth Apples, Camphor, Calendula Flowers, Celery Seed, Cumin Seed, Glycerin, Gum Kino, Gentian Root, Opium, Quicksilver, Yellow Prussiate of Potash, Spermaceti, Spanish Saffron, Oils Anise, Cassia, Patchouly, Peppermint, Natural Sassafras, Baltimore Wormseed, and concentrated Lemon and Orange.

Declined: Ammonia Muriate, Caffeine, Caraway Seed.

New York, Oct. 29, 1895.

Since the general commercial situation began to recover from the recent long season of depression through which it has passed, many of the wholesale markets for leading staple articles of merchandise have had spasmodic fluctuations of activity, with values vibrating between strength and weakness, and in some instances, speculation has had much to do with the frequent changes. But in the drug department, the general improvement, while perhaps more gradual, has been steadily in one direction, and at no time could the speculative element be considered an important factor. The general trend of prices has continued toward a higher basis, until several articles have almost, if not quite, doubled in value, and the demand from the consuming trade shows no abatement of activity. With such encouraging characteristic features reflecting the correct condition of affairs, dealers are naturally satisfied, and are conducting their business according to the conservative policy which has been pursued by buyers for over a year, the result is, that there has been no accumulation of unnecessary stock, to be paid for, and carried until an outlet could be found, and the majority of small consumers throughout the country have had little difficulty in meeting their financial obligations promptly. Whatever there may be in the nature of disappointment it is of so little consequence that we are safe in saying it is completely overshadowed by the general prosperous conditions. During the week under review, about the usual number of variations have occurred in prices, chief among which is a sharp advance in glycerin, but many of the others are of more or less importance, and are noted below under their respective headings. The only decline worthy of special mention is a break in the value of caffeine, which may or may not be only temporary, as the opinions of interested dealers seem to differ materially.

OPIUM.—The firmness in this article continues, but as we have previously mentioned, the apparent strength is still considered by some as artificial, while others claim that existing conditions make it perfectly natural. Whichever view is correct, we have only to record the fact that actual business in case lots and broken quantities shows an advance in prices of 2½ cents per lb, and quotations by some holders are fully 5 cents higher than a week ago. Foreign advices by cable report continued accumulation of stock in Smyrna and Constantinople with an absence of demand from America. Previous reports of copious rains in the growing districts are confirmed and all indications seem to be favorable to the autumn sowings. No further mention is made of the alleged speculative syndicate, and little attention is paid to the nominal sterling quotations. Buyers are evidently not anxious concerning the future, and continue to purchase only in accordance with current requirements. Powdered opium is correspondingly firm and in better demand, but former prices are yet accepted.

MORPHINE.—Manufacturers' quotations are unchanged and the movement into consuming channels continues of average proportions, but the tone of the market is steadier, in sympathy with opium, and some are anticipating a higher range of values.

QUININE.—Consuming orders continue to absorb a liberal amount of stock with domestic manufacturers and agents of foreign makers practically doing all the business. The undertone of the market is firm, partly stimulated by the stronger position of the article abroad, and an early advance is generally expected, although no intimation is made by those in control, and orders from regular consumers are promptly booked for delivery within the sixty days' limit at unchanged quotations.

ALCOHOL.—Reports that the various conflicting interests have come to some amicable understanding, have influenced a firmer feeling among sellers of grain, and prices of desirable grades are about 2 cents per gallon higher, but the movement has been only of the hand-to-mouth order, and no large sales are reported.

ACIDS.—The only quotable change in prices is a higher range for German benzoic acid, due to an increased demand and reduced spot stocks. The general market, however, is firm in tone, with all the recent advances maintained, and among the new developments is the circulation of rumors to the effect that manufacturers of salicylic abroad have about completed a new arrangement, whereby the output will be controlled, and prices regulated to insure more satisfactory returns.

BALSAMS.—Peru is stronger owing to an improved demand and the fact that stocks in second hands are very much reduced; values show an advance of 5 cents per lb. Tolu is very firm at the recent advance, and holders of the limited spot stock offer very sparingly and decline to fill export orders. Copaiba and Canada fir are unchanged and without new feature.

BEANS.—Increased scarcity of Angostura tonka has influenced a stronger tone to the market and holders have advanced their quotations 25 cents per lb for jobbing quantities. Medium grades of both whole and cut Mexican vanilla are in active request and prices of desirable parcels are about 50 cents higher.

CAFFEINE.—The market is unset-

tled and easier, with quotations 50@75 cents per lb lower, but some in the trade are of opinion that the weakness is only temporary and that an early reaction is probable.

COLOCYNTH APPLES.—Continued firmness prevails throughout the market. No further change has occurred in values of prime Trieste, but desirable grades of Spanish are 2 cents per lb higher and the general tendency is upward.

COD LIVER OIL.—Values are decidedly firm notwithstanding heavy arrivals, and the jobbing demand has continued active with holders indifferent sellers at current prices. The opinion still prevails that there will be a shortage before the next catch will be available.

ESSENTIAL OILS.—All leading descriptions are in active request for consumption, and the tone of the general market is firm with further advances recorded in anise and cassia. Other varieties showing a higher range of quotations are concentrated lemon and orange, patchouly, peppermint, natural sassafras and Baltimore wormseed.

SAFFRON.—There is no change in American, but Spanish is slightly higher, owing to cable advices from Valencia reporting an advance of 5@10 per cent. in the primary markets.

CALENDULA FLOWERS. — Show increasing scarcity with values again slightly higher.

GLYCERIN.—As anticipated in our last report, values are higher, manufacturers having advanced their quotations 2 cents per lb on all sized packages.

CAMPHOR.—The only change in prices is an advance of 2 cents per lb in some of the leading brands of Japanese in 1 oz. cakes. The general demand is fairly good for this season of the year, and the market retains a strong undertone.

DAMIANA.—Reports are current that the crop in California has been ruined by floods, but holders are evidently not anxious, and are free sellers at unchanged prices.

QUICKSILVER—Is firmer in sympathy with the London and San Francisco markets, and prices are 1 cent per lb higher.

GUM KINO.—The principal holders of true have advanced their quotations 50 cents per lb. An alleged imitation article is said to be offering at $1.25 less than the price of true.

GENTIAN ROOT—Is temporarily scarce and firmer with spot quotations showing a fractional advance.

CARAWAY SEED.—The market is abundantly supplied with Dutch and prices are ⅛ cent per lb lower.

CELERY SEED—Is ½ cent per lb higher and tending upward.

CUMIN SEED—Is becoming very scarce on the spot, and prices are ½ cent per lb higher, in sympathy with an advance in Europe.

SPERMACETI.—Shows a further advance of 2 cents per lb, but the quotation is entirely nominal in the absence of offerings.

AMMONIA, MURIATE—Is fractionally lower owing to competition from outside holders, and former quotations are shaded about ⅛ cent per lb.

POTASH, YELLOW PRUSSIATE—Is very scarce and prices have been advanced 3½ cents per lb for prompt delivery. A report is current that leading manufacturers here and abroad will, in future, operate to their mutual advantage and that prices are likely to advance still further.

London Market Report.

London, Oct. 19, 1895.

A very fair amount of business has been done the past week, and an advance in values has been the rule.

ACID, CITRIC—is very firm at 1s. 3d. per lb for spot and 1s. 3½d. for forward delivery.

ACID, TARTARIC — Continues moderately active at 1s. 2d. for English and 1s. 1¾d. for foreign.

ALOES.—Cape are lower at 23s. 6d. for good hard bright. Curacao, dearer for fine livery, at 59s. to 60s. per cwt. Socotrine, dearer at 100s. per cwt. for good quality in kegs, and for soft in tins 31s. per cwt. was paid, this latter showing an advance of 10 per cent.

BALSAM TOLU—Sold well at 2s. per lb for genuine.

BENZOIN.—Small to bold Siam almonds sold at £26 10s. per cwt.; this quality is very scarce. Sumatra, good seconds sold at £8 5s.

BUCHU LEAVES.—Rounds are again dearer at 6d. per lb for good green, and 5½d. per lb for yellowish green. Longs have been bought up privately.

CAMPHOR. — German refiners have raised their prices 2d. per lb, but still ask 1d. per lb less than the English. Crude, quiet but very firm.

CARDAMOMS—Sold well. Fair bold pale Mysores, 2s. 8d. per lb; medium to bold yellowish, 2s. to 2s. 5d. per lb; decorticated, 2s. per lb.

CINCHONA.—At our sales on the 15th inst. a small quantity only offered; prices realized show an advance in the unit value.

COLOCYNTH. — Damaged Spanish sold cheaply at 8½d. per lb. Fair Turkey apples held for 2s. 6d.

CUSCUS ROOT. — Eighty bales of sandy quality sold at 2s. to 3s. per cwt. After being cleaned will probably appear in auction again.

DRAGON'S BLOOD. — In good demand at full prices. Good bright lump sold at £9 5s. per cwt. Reed, quiet at £11.

ELEMI.—Lower at 22s. to 23s. per cwt. for slight yellowish to pale.

GLYCERIN—Continues very firm for chemically pure, crude being relatively higher.

IPECACUANHA. — The auctions established a reduction of 2d. to 3d. per lb.

KOLA NUTS.—Stocks are low with firm holders; 1s. 2d. to 1s. 3d. per lb asked for good West Indian.

MENTHOL.—Again dearer, at 13s. 6d. to 14s. per lb.

MUSK—Is in a very strong position, and higher prices may be looked for. Fine Pile I., thin blue skins, are firmly held at 80s. per ounce; Pile III., dearer, at 44s. per ounce.

MYRRH. — An upward move may shortly be looked for in this article.

OIL (COD LIVER). — 165s. per bbl. paid for finest Norwegian, and 140s. for second quality. Consumption, however, will probably be restricted by high prices this winter.

OILS (ESSENTIAL). Star Anise, 9s. per lb has been paid. Bergamot, dearer, 11s. 6d. being paid for fine. Cassia, 8s. per lb asked. Lemon, dearer, 5s. per lb for good.

ORRIS ROOT. — Rather easier for Florentine, buyers holding off for the moment. East Indian root sells readily at 35s. to 36s. per cwt.

QUININE.—A quiet week; a few sales at 1s. 1⅜d. per ounce.

SCAMMONY.—Roots dearer at 50s. per cwt.; Resin, very firm at 9s. per lb; Virgin, 10 cases "firsts" sold at 30s. per lb; a further 10 cases expected daily.

SENNA.—Nearly 1,100 bales Tinnevelly arrived here this week. This quantity rather depressed our auctions, and sales averaged a decline of ¼d. About 500 bales sold.

VANILLA. — Fine beans realize extreme rates up to 31s. per lb for 8 to 8½ inches.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS

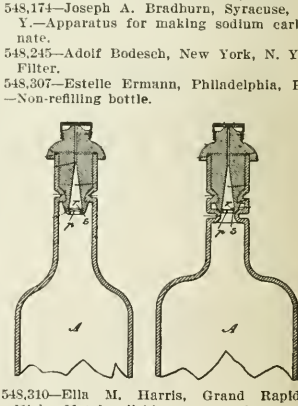
Issued Oct. 22, 1895.

11,511—Thomas L. Wilson, New York, N. Y.—Calcium carbide process. (Re-issue.)

548,174—Joseph A. Bradburn, Syracuse, N. Y.—Apparatus for making sodium carbonate.

548,245—Adolf Bodesch, New York, N. Y.—Filter.

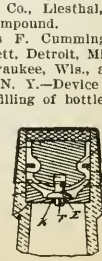
548,307—Estelle Ermann, Philadelphia, Pa.—Non-refilling bottle.



548,310—Ella M. Harris, Grand Rapids, Mich.—Metal polishing compound.

548,352—Arthur Boeglin, Lucerne, assignor to Knoll & Co., Liesthal, Switzerland.—Antipyrin compound.

548,428—James F. Cummings, assignor to H. B. Bennett, Detroit, Mich., G. J. Newwitter, Milwaukee, Wis., and N. Schwab, New York, N. Y.—Device for preventing fraudulent refilling of bottles.



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QUESTION BOX 589

A. PH. A. OFFICERS.

We have just issued. and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the present.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address, The Pharmaceutical Era, New York.

IS THERE NO WAY TO STOP IT?

During the past few weeks our correspondents have reported an unusually large number of cases of illegal liquor selling by druggists. Though the majority of these reports come from prohibition States, they are by no means confined to such sections, but cover pretty generally the entire country. Police raids on drug stores disclose larger quantities and greater variety of liquors than any druggist has legitimate use for, and a thousand pieces of evidence establish the undoubted fact that there is intentional violation of the law by a certain class of druggists. In Omaha a woman sues a druggist for making a drunkard of her husband; in Iowa druggists who have no permits to buy or sell liquor are renting permits from persons holding them for one to three dollars a day, and in other States many are the prosecutions for infringement of liquor restrictions.

We are aware this question is well-threshed straw, that nothing new can be said, but it is advisable to repeat some of the oft-repeated warnings to the fraternity, that perchance they may be roused to some action which shall remove a reproach and curse which have too long rested upon them. There must be some way to do this. Shall the matter be left to the boards of pharmacy, as it is now in Massachusetts? In that State the druggist applicant for a drug store liquor license must satisfy the board that its privileges will not be abused. Perhaps some such method could be made to work satisfactorily in all the States, but however that may be, something must be done and soon to kick out and keep out the disreputable, hypocritical scoundrel, the drug store saloonist. We know of no other question so worthy the attention of the State pharmaceutical associations and their legislative committees, no other problem is clamoring so earnestly for solution.

There is no half way ground between the right and the wrong in this thing. However he may gloss it over, comforting himself and soothing his conscience with plausible excuses, the druggist knows, in ninety-nine in a hundred cases, when he is violating the law and abusing his privileges. He may not like the law, it may be too severe, not sufficiently liberal to him as a pharmacist, but it is the law, and he, as a presumably law-abiding citizen, has no choice but to observe and abide by it. That it is thus harsh and illiberal is largely the druggist's own fault. He makes such laws necessary by his own acts.

This liquor question is a serious one, and we are well aware of the trouble it gives even the law-abiding, honorable and honest druggists. It is just this class, however, the great majority of the profession, who should join hands to bring about a better condition of affairs. Instead of opposing, they should uphold and further any attempt to discover the law-breaker, and see that his punishment be so severe that others will hesitate to imitate him. It is a pretty safe principle that where there is smoke there is fire, and so, instead of raising funds and combining to defend the accused druggist whom they know is guilty, it would be well for his brother druggists to join the prosecution and "make him sweat." for the disgrace he has wilfully brought upon them. These be strong words, but the case demands plain speaking. How much longer does the druggist desire to be the butt of the newspaper paragrapher, how much longer shall his store be considered by the public a place where whisky can be bought and drank on the sly, if one has enough "pull"? All drug stores are not this kind, but a few are enough to discredit all.

The licensed saloonkeeper pays for the privilege of selling liquor; the drug store saloonist is a disreputable wretch, with not enough manliness, when he is caught in his illegal acts, to take his punishment like a man. He is of the universally detested type, the "squealer." He must go.

THE TONE OF THE MARKET.

The "tone of the market" is a phrase much used by commercial writers, and it may mean much or little, depending upon the mental attitude or point of view of the writer. It mainly refers to things heard, not seen, and what follows the phrase is usually an expression of opinion upon certain momentary aspects of the larger trades or industries which are more or less concentrated or localized. It does not refer so much to actual current transactions, but is more in the line of prophecy, and reflects the views of traders upon the business of to-morrow.

It seems rather difficult to apply this expression to the retail drug trade, scattered as it is over a wide extent of territory with diverse trade conditions, but we think it will bear application in a perhaps modified sense. If the "tone" of the retail drug trade during the past few years can be accurately gauged, the character of Mrs. Gummidge instantly rises before us as an apt illustration. The trade had so long rested securely in the enjoyment of its supposed exclusive privilege of dealing in drugs and allied

articles, and had been so much occupied with the necessity for securing better educational qualifications and improved professional standing, that the first inroads of the guerilla traders resulted in a progressive demoralization, halted occasionally by schemes for organized defensive effort, with a final result, however, of a settled conviction that the world, the flesh and that other personage who usually completes the trio, were all opposed to the welfare of the druggist.

We think that a different tone can now be detected. There has been a rally, with a determination to fight for trade with all the present day trade methods. This has become apparent to us through the great interest taken by our readers in all that has been published in the Era relative to advertising for the retail druggist. It is not pretended that business salvation lies entirely in advertising, but this interest shows a disposition to reach out and take advantage of every possible means for stimulating trade, and there is much hope for the man who does this. The great willingness which so many readers show in giving others the benefit of their experience and judgment also indicates that this particular method of winning trade is regarded with considerable enthusiasm.

Better advertising, both in quality and style, does not necessarily imply that the advertiser seeks returns by enticing customers from his competitors. It means more trade for all. If the advertising is properly done it results in an increased interest on the part of buyers, stimulating them to the attainment of a higher standard of comfort by the purchase of more of the necessities and luxuries of life. This may be characterized as extravagance by some prudent people, but we believe that political economists will bear us out in the statement that the more one person purchases the more will some other person have to produce, and anything which stimulates buying stimulates production.

Everything considered, we feel safe in saying that the "tone" and "undertone" of the retail drug trade are strong. The druggist is hustling for business and is going after it with approved ammunition.

"POT-BOILING" IN PHARMACY.

The 1895 meetings of the various pharmaceutical bodies, State, national and foreign, have all been held, and as these are supposed to voice the desires and opinions of those foremost in the ranks, one naturally looks for more or less unanimity in their utterances. Without going into actual statistics, it seems quite safe to say that educational matters have received the greater share of attention. There can be agreement upon the subject of more and better education, but it is quite difficult to secure unanimity of either opinion or action upon matters of trade. It is, perhaps, the part of wisdom to recognize such things as can be agreed upon, and to pass over, with perfunctory resolutions, those which cannot. There can be nothing said against this strong educational movement, but there is danger of becoming overbalanced by losing sight of that older and greater problem which concerns three meals per day and a place to sleep.

From across the Atlantic comes the intimation that pharmacy as a trade or business is a failure, and that there should be rejoicing over the realization of the fact. But before we can attain that feeling, we think there are some minor details to be settled, such as making provision for existing upon nothing in particular, until the period arrives when the pharmacist's exclusive occupation will be the filling of the prescription. There is the education of the great American public which must be attended to. It must be taught that the pharmacy is not the place where everything can be purchased, or the place to seek information upon every conceivable subject. People long ago recognized the fact that it ill suited their convenience to be sick enough to keep their favorite apothecary busy mixing and handing out medicines, and they demanded that he occupy his spare time in selling cigars, soda water, and perhaps looking after their laundry affairs, rather than charge a high price for his waiting time between prescriptions. This attitude of the public must be corrected. It must take its linen to some other shop, and be respectfully referred to the bakery or the wooden Indian for the satisfaction of its other desires. There is, of course, a plan for dividing the business, giving to one class, or whoever can assume it in the scramble, the merchandizing of drugs, chemicals and sundries, while another class, the educated and diplomaed ones, will attend exclusively to the manipulation and compounding. It will hardly do to say that this plan will not work, for there are plenty of pharmacies where the prescription trade is the exclusive and almost sole dependence of the pharmacist, and, on the other hand, there are some drug stores where prescriptions are a rarity.

The prospect of practicing pure dispensing pharmacy is, we must admit, an alluring one, and it is the one object of our present educational methods. The educated pharmacist will confess that present day trade practices, the haggling over prices and fishing for customers, are exceedingly distasteful, and that the methods of the huckster do not mix well with an effort to collect remuneration for what he considers a professional service. But the great majority of our pharmacists for years to come will have to labor under just such disagreeable conditions. The question, then, is how to make the best of them?

The matter of technical education is in good hands, and most States certify to a man's competency to practice pharmacy, but his competency to make a living is apparently a matter of heads or tails, win or lose. It has been said that any person with ability ranging from mediocrity down to zero can sell goods which people ask for, but it requires an adept or business diplomat to sell goods which people do not ask for. The druggist deals mostly in necessities, things which people ask for, and it is not surprising that he lacks ability to sell those other things which he keeps, and which he himself considers as side lines. It is not surprising, either, that others, with greater ability as salesmen, have pretty much taken away his trade in these things. It is quite obvious, therefore, that there is a weak point in his ability which needs developing. He needs a course in the science of selling—not the easy selling of things which people ask for, but the selling of those in which persuasion, tact and diplomacy are strictly necessary. He need not go far for instruction, either. His friend, the wholesaler, through his representative, the traveling salesman, presents a bright and shining example for emulation. The pharmacist himself knows that he is often a hard man to sell to, but he knows with what persistence the salesman clings to him, and with what favorable results. His friend, the manufacturing pharmacist, who now claims to be his superior as a pharmacist, also uses the same tactics of persistence and persuasion to make sales to him. How many retailers use a corresponding amount of effort to induce people to buy the goods, not strictly medicinal, upon their shelves?

There are other lines of business which might furnish more forceful examples. Everybody needs a sewing machine; in fact, they are or ought to be in greater demand than drugs, but who ever saw or heard of a sale being made without effort? It is hardly necessary to bring in that much-maligned individual, the book agent. We pretend that we detest his methods, but after we have bought his books in spite of ourselves we calmly admit that there is something in his indomitable perseverence and strategy that carries him over some of the thorniest paths which the salesman has to tread. This angling for customers will probably run counter to the inclinations of most pharmacists, but it is the most approved method that this end of the century can furnish, and it must be remembered that a great many artists, professional and literary men find "pot-boiling" a necessity in these days of competition.

POSITIVE KNOWLEDGE IN MEDICINE.

The reproach that medicine is not an exact science, but a mere system of experiments, has often been uttered. That it is largely well founded is too true, as nobody better knows or more frankly admits than the foremost practitioners of the healing art. In discussing this topic at the recent meeting of the British Medical Association, Sir W. Broadbent declared that even the nature of diseases was not wholly understood. Despite the great advance made in pathology, the physician is still at a loss to tell, for example, how a fever originates, whether at the command of the nerves or because the power of the nerve centres is enfeebled and their authority withdrawn. Diagnosis may be well nigh perfect. But that is mere recognition of identity. It is not knowledge of cause and character. There has been great progress, too, in therapeutics. New remedies of undoubted value have been discovered, and of the composition and action of all drugs much knowledge has

been gained. The Tribune, of this city, in a masterly editorial on this subject, written, we imagine, by a physician, asserts that Hahnemann's theory that the effect of every medicine should be accurately ascertained, and that administration of it should be made accordingly, has been universally adopted, and prescribing is, therefore, done far more intelligently than of old.

It is, however, only the immediate effects of the drugs that are known. How these effects are produced is still a mystery. Morphia, for example, suspends the activity of the nerve centres. But how? What chemical or molecular change takes place in the tissues? How is it that the slightest change in the composition of the morphia molecule radically alters its effect? The physician cannot tell. The salts of potassium and of sodium are almost exactly similar. Yet a minute quantity of the former injected into a vein will paralyze the heart and destroy life, while the latter may be turned into the circulation wholesale with no bad result. Why is it? Why is so simple a substance as prussic acid so deadly a poison? A thousand such questions may be asked. None of them can yet be answered. We know that these things do thus and so. How they do it we do not know, but until we do medicine will scarcely become an exact science. That we shall one day attain such knowledge is confidently to be expected. That must be the work of chemistry, and when we remember that the science of chemistry is scarcely more than a century old, and when we consider the bewildering scope and importance of its achievements in that century, it is surely not too much to hope great things from its future labors.

Thus the reproach of inexactness against medicine bids fair to be removed. So far as diagnosis of disease is concerned, it is already well nigh gone. Nor does it seriously exist in respect to knowledge of remedies and their immediate effects. It rests with the chemist to sweep away the remainder; or perhaps not altogether with the chemist, but with the biologist as well. To learn not only that a poison kills, and how it kills in its most obvious symptoms, but how and why it kills in its remote and ultimate effects upon the molecules of the human organism—that will be to trench closely upon the mystery of human life itself. Perhaps that mystery is beyond our ken. But we certainly can get nearer to a solution of it than we are to-day; and every degree nearer will mean positive gain in the art of protecting and prolonging life, and raising it to the highest possible standard of excellence.

LOCAL ANÆSTHESIA, lasting about five minutes, can be quickly obtained by using the following mixture in a spray:

R.—Menthol, 3ss.
Chloroform, 3v.
Ether, ℥i.
M. ft. nebulo.
Sig.—To be used with a hand-spray.

Thirty-two pages each week, 52 weeks, 1,664 pages a year of the freshest and most reliable information on matters pharmaceutical is what the Era gives you for $2.

PRACTICAL HINTS.

——Druggists who handle diphtheria antitoxin should be extremely careful to keep it in a moderately cool place and not allow it to be exposed to variations in temperature or the action of the sun.

——Before cold weather sets in the want book should show a list of those articles which it is not safe to ship, or are affected unfavorably during freezing weather. A list of such articles is published on another page in this issue.

——Fly time is over, and evidences of these pests during the summer should not be allowed to remain around the drug store. Customers may not voice their objections, but they may go where more attention is paid to seasonableness.

——Castor, lard and neatsfoot oils are much in demand for lubricating purposes, and it is a good idea to have a good supply of these bottled (clean second-hand bottles will do) for ready sale during cold weather, when the handling of these readily congealing oils is an aggravation.

——If you keep postage stamps, cards, etc., professedly for the accommodation of the public, be accommodating in action and manner when you sell them. You may be a martyr, but people do not care to be witnesses of your suffering any more than possible. It is a good idea to remember the relative fly-catching qualities of vinegar and molasses whenever any of these little trade nuisances are encountered.

——If you read your daily papers you will often find a good suggestion or hint. Perhaps you may be able to find a thought in the following clipping: "'O, about 50 cents, I guess.' Thus replied a druggist as I inquired the cost of a small purchase. Have you not noticed that a dispenser of physic, etc., almost invariably 'guesses' as to the price of an article? And have you not often felt like saying, 'Guess again!'? The only times I have known them to state positively the amounts wanted for purchases made by me have been when a fear seemed to possess them that they would not guess enough, and a reference would be made to a little book kept for the purpose."

ENJOYS IT.

W. C. Wade, Bloomington, Ill.—I enjoy the Era very much.

R. R. Rogers, Ph. G., Manning, Ia.—The more I read the better I like the Era. Send it along.

John J. Gill, Ph. G., Chicago, Ill.—I have just begun business and need the Era.

Wilson Bros., Staunton, Va.—We find your paper not only interesting but very profitable.

Frank Chambers, Montpelier, Ind.—I have taken the Era for a good many years and cannot get along without it.

Dan. J. Haas, Dubuque, Ia.—I could not get along without the Era. I use it every day for some reference.

Longyear Bros., Mason, Mich.—We miss the Era if it does not come on time. Could not be without it.

P. S. Holtzinger, Emerson, Ia.—I think your Era improves all the time, and don't think I can get along without it.

W. I. Gates, Whiteville, Tenn.—The Era comes to me regularly, and I consider it the best drug journal which I can get.

Clem Harris, Gulgong, N. S. W., Australia.—Your Era is a real good paper and I am much pleased with it.

J. A. Smith & Co., Braidwood, Ill.—We greatly appreciate the column devoted to druggists' advertising, and hope you will continue the good work.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

A subscriber who handles spectacles asks us for an advertising hint which will impress people with the necessity for purchasing such things. He says he is tired of the conventional methods, such as a display of a pair of glasses, etc. We are in accord with this feeling and do not really think that the mere picture of such articles, or the sober but truthful statement that a certain druggist keeps them, is much of an incentive towards buying. The best advertising is not simply telling people where they can find things when they happen to need them, but is making them need them, and then telling them where to find them. Our sketch portrays one of the first symptoms which indicates failing eyesight—that of trying to read fine print, and the afflicted reader is quite likely to think of an advertisement which suggests his difficulties when he undergoes this eye-straining process.

(No. 38)

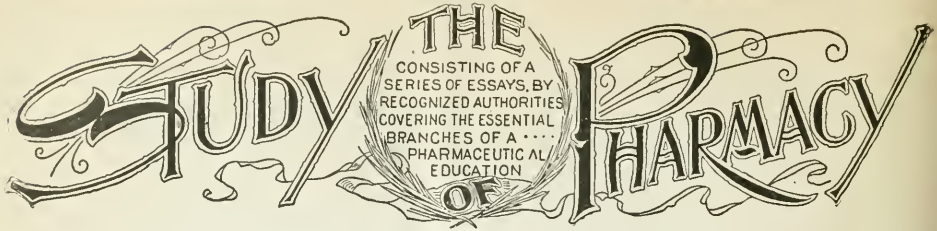
The print is too fine—most of it is nowadays. Don't injure your eyes attempting to read it. We can make it so much easier for you with a pair of spectacles or eye glasses. We have no poor glasses—our cheap ones are good glasses in cheap frames. There are too many of the other kind on the market—made to look at, not through. We test every pair before we let you take them away, and if they don't suit after trying them a short time, we take them back of course.

KNIGHT & DAY, DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

J. H. Head, Lincoln, Ill.—I always look forward to the day I get my Era, as it is a most welcome visitor. Do not see how I could get along without it.

S. L. White, Clarksburg, W. Va.—I value the Era very much and want every number published. Am only a clerk, but feel that I could not get along without the Era.



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[Continued from page 552, October 31.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXIV. BOTANY.

[*Continued.*]

By Henry H. Rusby, M. D.
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STRUCTURE OF THE STEM.

(The following account of stem structure refers only to the ordinary plants of the flowering class. At its close a brief reference will be made to such others as require attention for the purposes of pharmacognosy.)

The history of stem development is best presented by contrasting it with that of the root, which has already been given. The three elementary tissues, dermatogen, periblem and plerom, are also found in the young stem structure. The epidermis and other tissues of the stem are more variable than the corresponding tissues of the root, and the details pertain for the most part to histology and to the special treatment of species or groups. The most important distinctions between the epidermis of root and stem may be mentioned as the presence in the latter of stomata. There is no extra development from the dermatogen at the tip corresponding to the root-cap, nor of hairs similarly aggregated to those of the root, although hairs of many forms abound upon the epidermis of the stem. Stem epidermis may consist of one or of several layers, and if of the latter they may be dissimilar in varying degrees. It may be persistent or it may suffer the same fate through the growth of the parts within it, which has already been considered in the case of the root.

The periblem of the stem develops structures in general similar to those from the root periblem, the most important distinction being the production of a chlorophyll-layer. A primary cortex, usually somewhat thinner than that of the root, is bounded externally by a hypoderm and internally by an endoderm, and may develop tubes similar to those mentioned as frequently pertaining to the root cortex, but, as in that case, no true vascular bundles. The effects of growth within the primary cortex of the root, leading to the formation and casting off of bork, we have seen to be of rare occurrence. In the case of the stem, however, it is of very common occurrence, so that the entire account which has been given of the development and disposition of periderm and phelloderm may be applied with especial force in the case of the stem.

The principal differences between root structure and stem structure are found in the developments from the plerom. Although, with the single exception among important medicinal stems of the male fern, there is but a single stele, in the form of a central cylinder, yet the development of its structure is markedly different from that of the root. Leaving out of consideration exceptions which are unimportant in pharmacognosy, we find that two distinct types of structure characterize respectively the monocotyledons and the dicotyledons and gymnosperms. The form characterizing the latter two will be first considered.

Vascular bundles originate in the plerom in the form of a circle, just as in the case of the root, the important difference being that each bundle consists, even in its primary state, of both phloem and xylem, with a cambium between. The typical form is that which in the root constitutes the secondary structure—namely, a bundle consisting of xylem within and phloem without the cambium arc, and this constitutes what is known as the Open Collateral Bundle. Secondary growth here consists in the addition by the cambium to each kind of tissue, and, in almost all cases, the development of new intermediate bundles and new medullary rays, as has been described in the case of the root. The result is that the general plan of structure attained is identical with that already recorded as ultimately attained by the most highly developed woody roots. There are, however, several differences which must be noticed. The most important is that the primary xylem bundles do not progress toward and meet one another at the centre, so that there is always left there a cylinder of the fundamental tissue, constituting the Medulla or Pith, which is connected through the primary medullary rays with the pericycle, or, after the disappearance of that and of the endodermis, with the cortex. The whole structure in transverse section may now be roughly compared with the wheel of a wagon. The pith corresponds to the hub, the primary medullary rays with the spokes, the spaces between the spokes to the primary wood wedges, the felloe to the bast product, except that the spokes should be seen extending through it, and the tire to the periderm in its various forms of development. Although the details of tissue arrangement pertain to histology, yet the deviations from the above relative positions of the phloem and xylem are of such very great importance in pharmacognosy that they are here referred to. We may have (1) the Bicollateral Bundle, in which a second fascicle of phloem is placed upon the inner face of the xylem, (2) the peculiarities characterizing the monocotyledons, which will be described later.

There are three ways in which the structure of the root or stem may be examined.

1. A Radial Section is a longitudinal section in a plane passing through the centre.

2. A Tangential Section is a longitudinal section in a plane which does not pass through the centre.

3. A Transverse Section is one passing exactly at right angles to the former two.

The appearance presented by a radial section through a perfectly developed woody stem possessing open collateral bundles may now be described as follows, enumerating the structures upon either side from the centre outward. (a) pith, (b) wood wedges, with medullary rays, the latter, if primary, communicating with the pith at the centre and outward with the cortex, and extending upward and downward from one node to the next; if secondary, extending outward and inward only through the growth of a single year—that is, through one annual ring—and upward and downward much less than the length of an internode; (c) the cambium, (d) the bast bundles, separated by their medullary rays; (e) the phelloderm, phellogen and periderm, the relations of which to one another and to the bast, and the structure of which, cannot be specified, owing to the extreme variation which they display in different stems. The composition of the bork, if any, will also depend upon the point of development of the phellogen and its form upon the form of the latter.

The Bark is everything external to the cambium. It has been proposed to remove the word "bark" from common language, or to ignore its fixed common

meaning, and to convert it into a technical name for the bork. Experience with English speaking people leaves no hope that they will consent to give up a word employed so widely and in such important ways, and its technical use can apparently result only in the introduction of a confusion, which is more wisely avoided by the coining of some new name, if that of bork is seriously objectionable, which does not appear to be the case.

Upon a transverse section the same structures as above recorded will appear, but instead of being in the form of thin strips upon either side of the centre they will be in the form of concentric rings around it. Thus the centre is seen occupied by a circle of pith, outside of which is a zone of xylem or wood tissue, separated by long or short medullary rays into its primary and younger wood bundles. Outside of the first annual ring is where the intermediate or secondary bundles make their first appearance. The secondary medullary rays (Fig. 355a) will be found not to extend outward or inward beyond the production of tissue of that year. Instead of appearing as blades, as they did in the radial section (b), the medullary rays now appear as narrow lines. That is, we now see the edges of the blades whose sides were before seen. Passing outward beyond the last of the annual rings, which successively exhibit a greater number of wood-bundles and medullary rays, we reach the cambium-ring. Outside of this we find the phloem or bast bundles separated by medullary rays continuous with those of the wood cylinder, and still outside of this the periderm.

The appearance of a tangential section will depend, of course, upon the tissues through which it passes. If it cuts the medullary rays these will appear neither as the broad sides, as at b, nor the edges of blades, as at a, but as transverse sections of them, as at c. If the ray consists of but one row of cells in width, then such a row will be exhibited upon the tangential section, its vertical height varying from a very few to quite a large number of cells. If, upon the other hand, it possess a lateral breadth of several thicknesses of cells, of 5 in our figure, this condition will exist only at its middle portions. At its upper and lower limits it will always be reduced to the thickness of a single cell, so that the tangential aspect of a medullary ray is almost always that of an ellipse, broad or narrow, according to the number of rows of cells of which it consists, in contrast with the extent of its upward and downward extension.

The pith or medulla in some stems after a time disappears more or less completely, leaving a cylindrical hollow cavity. This may be continuous through the nodes or separated at those points by transverse partitions.

In monocotyledons we have the Concentric Bundle, in which the one element surrounds and encloses the other. In all medicinal stems possessing concentric bundles, except the male fern, it is the xylem which encloses the phloem. If the two cylinders thus formed have not a common centre, the bundle is designated as Closed Collateral, and this is far more common than the typically concentric form. It is clear that in the last two forms a cambium cylinder, such as distinguishes the stele, possessing the form previously considered, cannot be formed. In such plants indefinite growth in thickness of the bundles obviously cannot occur, and the same is true of the entire stele, unless new bundles may develop in it. Usually this does not occur, but if the upper portion of the plant shall branch and continue to extend its leafy surface, meristem tissue will then form toward the outer portion of the stele, and from this new bundles will successively arise, so that the thickness of the trunk will keep pace with the extension of the crown, notwithstanding that the individual bundles do not increase in thickness after the completion of their primary structure. In stems possessing this form of bundles the latter are found more or less scattered through the fundamental or medullary tissue, though there is commonly more or less of a concentration of them in some one region, usually toward the periphery of the stele. The endodermis of such plants is commonly known as a Nucleus Sheath.

Finally, we note that in many plants, represented among drugs by the ferns, the stele, as the stem, possesses a number, usually definite for the species, of vascular bundles, each invested by its own endodermis. In such plants no epidermis is developed, the hypoderm, developed from the periblem, being superficial.

VERTICAL AND LATERAL EXTENSION OF THE STEM, AND OUTGROWTHS FROM IT.

Examining a radial section of the tip of the stem we find, in addition to the structures already considered as belonging primarily to itself, protuberances, consisting of masses of meristem tissue belonging to the periblem and the dermatogen. Shortly each of these tissue masses assumes the condition of the primary growing point of the main stem. It may develop into a leaf, the structure of which will be considered further on, or a branch, which latter process is a mere repetition of that already considered in relation to the primary stem. In either case the vascular bundles exhibit a connection, variable in its details, with those of the stem from which it develops. The normal method is for a branch and leaf to develop together, the former in the axil of the latter, as already recorded. If two or more leaves, with their branches, develop at the same node, it results in the opposite or verticillate arrangement. If but one, then, of those developing at different levels, each is successively separated from the former by a uniform portion of the stem circumference, so that a spiral arrangement results. This spiral will be considered when we come to the study of the leaf.

The point at which one or more leaves develop has already been defined as the node, and the portion of stem intervening between two nodes as the internode. At first the internodes are so short as to be scarcely perceptible, but they continue to grow until a length more or less definite for the species is attained, so that the leaves and branches become separated by uniform vertical as well as circumferential spaces. This brings us to another great distinction between the stem and the root, in which latter we have found a continuous and uniform longitudinal development. The rule that a branch develops in each leaf-axil is habitually departed from in the leaf-representatives constituting the flower, and accidentally in many other cases. Its

failure to develop may be temporary, although often very long continued, or it may be permanent. Upon the other hand the subtending leaf may fail, accidentally, or, in a few cases, habitually, to develop, so that the branch does not show its axillary nature. Finally, we note that a branch may accidentally, or, in some cases habitually, develop from some other point than the leaf axil, or two or more may develop, at least partially, from one axil, either side by side or in a vertical row.

Not only may a lateral branch thus fail to develop, but the apical extension of the growing point may fail, accidentally or habitually, the growth being continued by means of one or more branches only. A stem so formed is called a Sympodium or Sympodial Stem. One in which the apical growth is continuous is called a Monopodium or Monopodial Stem. Sometimes instead of the lateral or terminal growing point failing altogether to develop, it may develop in the form of some entirely different body from an ordinary stem, its growth in such cases usually ceasing permanently with the perfection of such an organ. When either of these results attends the terminal point, the one or more lateral branches may retain their lateral or oblique direction, or, if one, it may become erect and take the position naturally belonging to the main stem. If then the latter exists in a modified form it will be distinguished from a modified branch by being on the opposite side of the stem from the leaf, instead of being subtended by such leaf (Fig. 356, a the

main stem, b the branch). Besides modified or unmodified leaves or branches, stems may develop various other appendages. When these are merely superficial they are called Trichomes. The characters of trichomes upon stems or leaves, particularly the latter, are of the utmost importance in diagnosis. Their study, however, save as to the surface-characters which they collectively produce, pertains to histology. The gross surface character so produced will be taken up in connection with the leaf. When appendages are of deeper origin they are called Outgrowths or Emergences. These may contain vascular tissue, connected with that of the stem. Outgrowths are, for the most part, in the form of spines, hooks (Fig. 357a), warts, suckers (Fig. 358a*), or grasping organs. Both trichomes and outgrowths may be regularly or irregularly disposed.

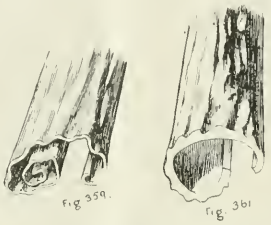
Roots may develop from branches which are subterranean, resting upon the surface of the ground or high above it. The latter may descend and enter the ground, fix themselves to a neighboring body for sustenance or support, or both, or extend into the atmosphere. They may even turn and enter a diseased or decaying portion of their own plant. They normally develop from the node only, but may develop from any other part or even from leaves.

An undeveloped stem or branch, or the partially developed summit of one, is a Bud or Gemma. The bud may be in a process of continuous development of its lower elements into mature phytomers, with the continuous production of a new growing point, or it may pass into a resting state between successive seasons of growth. In the latter case it undergoes special modifications (Figs. 368, 371 and 372b). Its outer leaves become developed previous to the resting stage, but not as foliage leaves. They become modified instead in various directions as to form, proportions, relative position, appendages and exudations, to fulfil the office of protection as scales, and they subsequently fall away, never developing into foliage leaves. When no such provision is made the bud is commonly destroyed, with more or less of the young stem tip near it, during the resting period. Occasionally the bud is protected for a time by a special covering, formed by the petiole of the subtending leaf. It is then called a Subpetiolar Bud.

THE BARK.

Viewed from the standpoint of pharmacognosy, the bark, especially when detached from the remainder of the root or stem, is one of the most important portions of the plant. As has been seen, it is not a simple structure, but develops in part from the plerom, as well as from the periblem, and bears frequently, although this is not true of any detached medicinal bark, the epidermis as well.

In practice the bark is commonly differentiated into three layers; the Endophloeum, that portion resulting from the plerom; the Mesophloeum, the primary cortex, or the products of a phellogen developing external to the endophloeum, or both when they exist together; and the Exophloeum, consisting of a primary periderm. If, as is not the case in any medicinal bark, the epidermis persist, it will form the exophloeum. It has already been made sufficiently clear that a bark can come to want successively its exophloeum, mesophloeum, and even the outer part of its endophloeum. The study of barks includes a close examination of their cellular elements, as a preparation for which histological work is absolutely



necessary. Examination of its gross characters involves, as the more important features, its extreme and average thickness, its manifest layers, as seen with a lens on transverse or radial section, their relative thickness, color, markings, consistency as shown by fracture, their separability from one another, that is, into laminae, together with the surface characters of the latter, the external color and level markings, the presence and nature of parasites, and the color and inequalities of the inner surface.

The laminae do not depend entirely upon different tissue composition. The same tissue, produced at different times, may present differences sufficient to result in different degrees of cohesion, as well as markedly different color, at different depths, so that separation may readily occur, or they may readily be distinguished in section. Groups or radial or tangential rows of tissue elements, differing from those adjoining, frequently produce gross markings on the section surface. The fracture of barks or of their individual layers is denominated in general as being brittle or tough. Various modifications are soft, earthy, granular, horny, waxy, fibrous, splintery or flexible. A bark may be flexible in one direction and not in another.

The outer surface is described in general as being harsh, rough, downy, smooth or shiny, and its lustre may be waxy, vitreous, and so on. Some of the elements causing roughness may require microscopical examination for their demonstration, while others are otherwise manifest. Care must be taken to distinguish between ridging and furrowing of other kinds. One kind is caused by a longitudinal wrinkling in drying, as in young Calisaya (Fig. 359). Another is owing to transverse (as in old Calisaya) or longitudinal (in the same) fissuring (Fig. 360). Another is caused by the elevation of corky ridges, or rows of corky warts, which may or may not become confluent in variable degree (as in Succirubra, Fig. 361). Fissures may

Fig. 360.

characteristically open in the crest of a ridge or in the otherwise unchanged surface. Most color variegations are due to lichens or other parasites, and those due to lenticels are also very common.

A single color or shade of color of the inner surface is rarely characteristic, as it changes very greatly with age in keeping; but a carefully arranged series of them may be made diagnostic in many cases. The important characteristics of the inner surface depend upon the projecting bast bundles and contracting medullary rays. Very rarely indeed is

*In the species here illustrated the sucker is a stem, not an outgrowth.

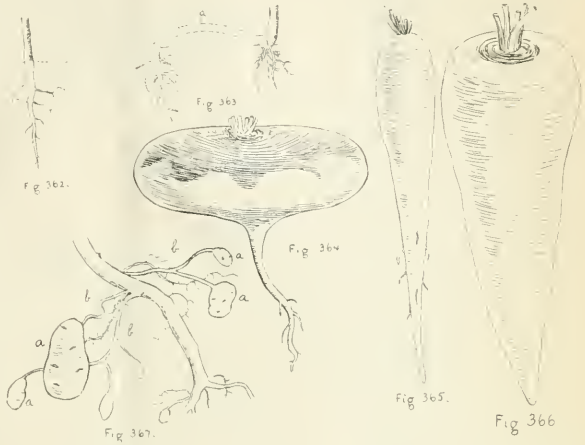
the surface so free from these inequalities that it can be properly described as smooth. The slightest manifestation of the bundles gives the Striate condition. The striae must be examined as to length, straightness, direction as contrasted with the axis of the bark, apparent interconnection at the end, width, elevation and sharpness, with the complementary characters of the intervening furrows or pits. Some barks show a tendency to separate into laminae which run obliquely out upon the inner face, appearing there as partially separated tongue-shaped splinters.

CLASSIFICATION OF ROOTS.

Roots may be classified as to their duration, their order in time of development, place or nature of origin, function, form and consistency.

As to duration we have roots divided into two great classes, although the terms designating them are in general applied to the plant as a whole rather than to the root. Monocarpous plants are those which die after producing one crop of fruit, Polycarpous those which produce successive crops. The former are Annual when they live but a single season—as the rag weed and the sunflower; Biennial when they devote the first season to the storing up in some receptacle, such as fleshy root or bud, a supply of nutriment and fruit in the second season. The term winter-annuals has been applied to those which begin their life during the latter part of the first season, fruiting early the next season, so that their combined life during the two seasons is less than twelve months, as in the case of wheat and rye. Such may, by being planted early in the season, finish their existence during one season, as in the case of spring wheat. Those monocarpous roots which devote a number of years to the preparation for fruiting, as in the case of the century plant, belong to the Perennials. All Polycarpous roots belong, of course, to the perennials.

As to their order in time of development, the first root developing from the radical is the primary. All subsequently developed, whether from root or stem, are secondary, although those developing from secondary roots are sometimes designated Tertiary and so on. If the primary root continue its development so as to constitute a branch-bearing axis, it is called a Main-root or Tap-root (Fig. 362). If, instead of so doing, it divide at once into a number of approximately equal branches it constitutes the so-called Multiple Primary Root. This term has, however, been applied to a number of root clusters of similar appearance, but of very dissimilar origin. In some cases the primary root continues its vertical growth but does not increase in thickness to any appreciable extent. A number of similar roots then develop near its point of origin so that a fascicle of similar roots at length results, as in the onion. In other cases the stem of the plant takes root from one of its nodes, the portion below this point (Fig. 363a), with the original roots, perishing. To the cluster of roots thus resulting, although they are really secondary, the term "multiple primary" has also been applied. A true multiple primary root is of rare occurrence and does not exist among drugs. All roots which are not primary, or branches thereof, and all branches of roots which are not developed in regular order of succession, are caled Adventitious.



As to their place or nature of origin, roots are Subterranean when they originate from points underground, whether from root or stem, and Aerial when they originate from points above the surface, whether from root or stem. A root may originate from an aerial point and afterward fix itself in the earth, as the Brace-roots of maize. A number of approximately equal and similar roots occurring in a cluster, especially if they be fleshy thickened, are denominated Fascicled. Roots existing in the form of a mass of thin, fibre-like, approximately equal and similar elements are called Fibrous.

As to their function roots are known as Absorbing, Fixing or Storage roots. A root of one kind may give origin to a branch of a different kind. Absorbing roots of parasitical plants are frequently greatly modified in structure to form Haustoria. Fixing roots are usually designated as Rhizoids. Storage roots are usually much enlarged and possess a fleshy consistency and characteristic forms. When only a limited portion of a root is fleshy-thickened, so as superficially to resemble a tuber, it is called a Tubercle. Care should be taken not to confuse this technical meaning of the term with its common use as designating a small tuber.

As to their form, roots are Simple when they do not branch, or Branched, Cylindrical, Terete (which includes the cylindrical and that form which differs only in that it tapers), Tapering, Napiform, when taking the form of a short, broad turnip (Fig. 364), Fusiform when spindle-shaped as some radishes (Fig. 365), Conical, or Cone-shaped (Fig. 366), Capillary when very thin, long and hair-like.

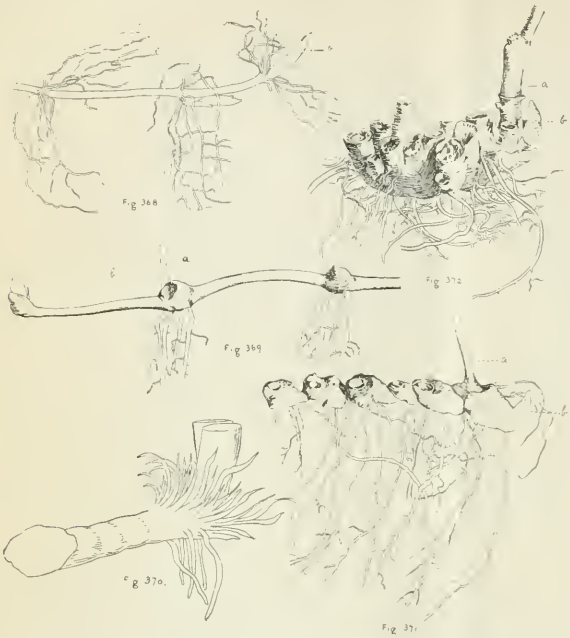
As to consistency, they are denominated as Woody and Fleshy. By "fleshy" or "non-woody" we do not mean that wood tissue is entirely lacking, but rather that the proportion of the cellular, parenchymatic or fleshy elements is so much greater than that of the woody that a woody character is not apparent. In practical pharmacognosy, where dried roots are mostly observed, a number of other terms, as in the case of the bark, come into use.

CLASSIFICATION OF STEMS, INCLUDING BUDS.

Stems may be classified as to duration, order of development in time, position and nature of origin, mode of extension, direction of growth and nature of support, modification of form or function and consistence.

As to duration they are, like roots, Annual, Biennial and Perennial. Annual stems are those which die at the close of the season. They may or may not pertain to annual roots. Plants possessing them are called Herbs. Herbs are therefore either Annual, Biennial or Perennial, in accordance with the character of the root. The definition of an herb is a plant, the aerial portion of the stem of which dies at the season's close. The stem of an herb is denominated Herbaceous. Biennial stems are those which are produced, usually underground like that of the potato (Fig. 367b), during one season, and perish after the production of their branches in the following season. Occasionally, however, like the cabbage, a biennial stem is aerial. Fleshy-thickened and biennial portions of underground stems, such as the potato, are denominated Tubers (Fig. 367a). Fleshy-thickened basal portions of stems which are invested by more or less fleshy-thickened storage leaves are called Bulbs. The varieties of the bulb will be considered under the subject of buds. Perennial stems are those which live and extend their

growth from year to year. They are Determinate when their growth of the season is self-limited and closes with the production of a specially prepared Winter-

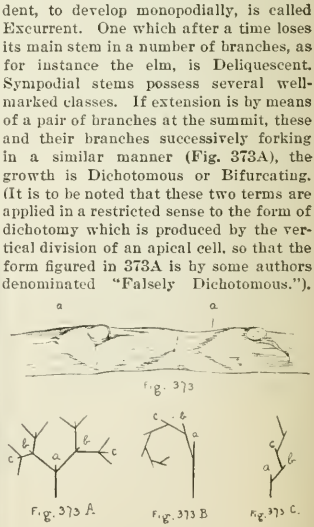


bud, which protects the growing point for continued growth the next season; Indeterminate when no such bud is formed, growth continuing until the apical portion is destroyed by an inclement season. In such stems then we have the anomaly of a perennial stem with an annual tip.

As to their order of development in time stems are Primary, Secondary and so on, terms which are self-explanatory.

As to their position and nature of origin stems are Aerial or Subterranean, which terms are also self-explanatory. A secondary stem assuming an erect position from the base of the primary is a Sucker. Such a one arising from a rhizome at a considerable distance from the original erect stem is called a Stolon. A short secondary stem developing from the base of the primary is called an Offset. An elongated, slender one, lying prostrate and rooting at some of its joints, is called a Runner (Fig. 374). A horizontal-underground stem, fleshy-thickened at least during the first year so as to serve as a storage receptacle, and giving origin to an aerial summit or branch, is a Rhizome (Figs. 368, 369, 371 and 372). The growth and duration of a rhizome may be indefinite, like those of stems, as in the case of the rhizome of Podophyllum (Fig. 369), or they may be restricted to one or to a definite number of years, after which the oldest existing phytomer perishes each year as a successive apical one is formed (Fig. 371). Rhizomes are so numerous and important in pharmacy that their characters call for special attention. They are classed as short or elongated, the former term referring to those the extreme length or shortness of which fall within certain fairly defined and restricted limits; the latter, those which either possess an indefinite extension, or the definite length of which is a great many times their thickness. Terms indicative of their form and consistency do not differ materially from those applied to other stems and roots. They are almost always sympodial. They are very subject to flattening, the flattened surfaces usually looking upward and downward. The presence or absence of branches is always characteristic. The manner in which the roots take their origin is equally so. These may form a circle (Fig. 368) or be restricted to the under surface (Fig. 369). The number of roots developing from a node is usually fairly characteristic. So is the persistency or brittleness of these, and the characters of the stumps or scars which they leave, as well as their form, which is very often triangular or quadrangular in section. Their structure, as observed either with the lens or with the microscope, is characteristic and of diagnostic value. Sometimes the roots are not only restricted to a certain portion of the node, but in the case of short rhizomes are restricted to a definite portion of the latter (Fig. 370). The relative length of the nodes of a rhizome calls for close attention, as compared with its diameter or thickness, and so does the absolute or measured length. The relations of the erect portions of the rhizome to the horizontal and the stumps or scars left by the former upon their death or separation constitute one of their most important diagnostic characteristics. Commonly disarticulation occurs with the production of a cup-shaped scar. This scar will be characteristic as to whether it form a depression in the general surface (Fig. 371) or be elevated upon a base (Fig. 372), as will the length of the latter, the form and depth of the scar and the characters of its edge. The size of the scar, that is its lateral breadth as compared with the thickness of the internode, is also noteworthy. Leaf scars, or leaf remains, upon rhizomes, call for the same examination as do the stem scars. They may surround the entire rhizome, in which case they are designated Annular, or they may be confined to the upper surface. If the latter, the scar may be of characteristic form, as linear, elliptical, circular, cordate, crescent shaped or V-shaped (Fig. 373a). Finally we note that annular or longitudinal folds, thickenings, wrinkles or constrictions are characteristic of certain rhizomes as well as of roots, particularly in the dried state.

As to their mode of extension, stems may be Simple, or Branched. A stem denominated as simple is not necessarily entirely destitute of branches, as floral branches or small branches near the summit are permitted. It has already been shown that stems may develop monopodially or sympodially. The stem of a tree, which continues, except in case of accident, to develop monopodially, is called Excurrent. One which after a time loses its main stem in a number of branches, as for instance the elm, is Deliquescent. Sympodial stems possess several well-marked classes. If extension is by means of a pair of branches at the summit, these and their branches successively forking in a similar manner (Fig. 373A), the growth is Dichotomous or Bifurcating. (It is to be noted that these two terms are applied in a restricted sense to the form of dichotomy which is produced by the vertical division of an apical cell, so that the form figured in 373A is by some authors denominated "Falsely Dichotomous.").



If but one branch develop from a node, the resulting sympodium may be of either of two classes, according to whether the successively developing branches are all developed upon one side of the axis (Fig. 373b), or produce the same effect by as-

suming such a uniform direction, in either of which cases we get the Secund form, or by developing alternately upon different sides (Fig. 373c) they maintain continuously the general direction of the axis, although it may be in an irregular or sinuous manner. In Figs. 369, 371 and 372, the apex of the stem, a, may be seen to each year become erect, producing the aerial stem of that year, the sympodial extension being by means of the branch, b, which will the next season in turn become erect and give origin to another horizontal branch.

The term Acaulescent, while meaning strictly stemless, can, of course, have no such application, as all flowering plants possess a stem even before germination occurs. The term is applied to those plants whose stems are so short as not to become conspicuous. The stem of such a plant is called a Crown. The term crown is also applied to the branching or leafy portion of any stem. A plant possessing a woody and erect stem rising singly to the height of fifteen feet or more is denominated a Tree, or Arborescent plant, although the precise application of such a term is impossible. A perennial woody stem which has not these characters is called a Shrub or a Fruticose stem. Very small shrubs appearing on casual inspection as herbs are called Undershrubs or Suffruticose plants.

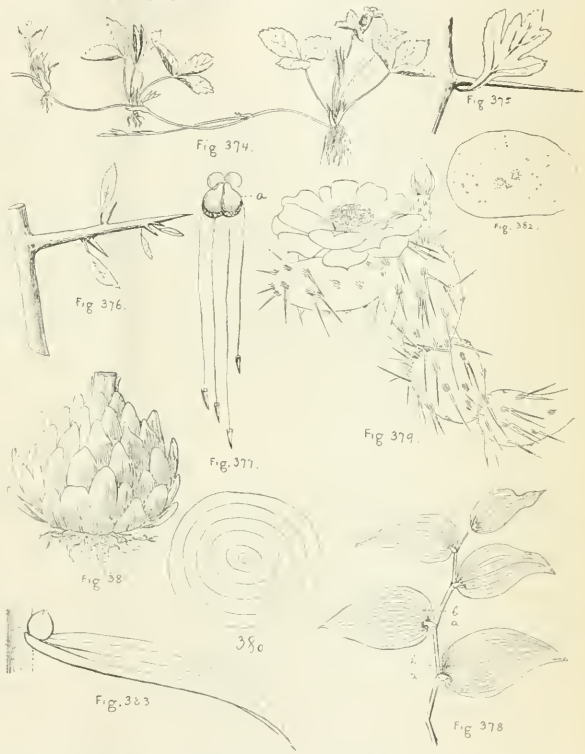
As to the direction of their growth and the nature of their support, stems may be Erect, in which case they are erect through their entire length; Ascending, in which case the base for a greater or less distance rests upon the ground, the terminal portion becoming erect; Horizontal, in which case they are considered as having no other support than the parent stem, from which they extend at a right angle; Drooping, in which case they are first horizontal, the outer portion becoming pendant; Pendant, or "Weeping," when they are pendulous from their point of origin or almost therefrom; Decumbent, when at first erect or supported by the parent, the outer portion declined so far as to rest upon the ground; Reclining, when resting upon some means of support elevated above the earth, as over the tops or branches of other plants; Procumbent, when resting at full length upon the ground without rooting at the joints; Repent, or "Creeping," when prostrate and rooting at the joints (Fig. 374); Twining, when supporting themselves by the twining of the stem itself around a support; Climbing, when elevating and supporting themselves by other methods than a twining habit, the principal forms being the Cirrhiferous, when climbing by tendrils (Fig. 356), and Aculeate, when climbing by hooks (Fig. 357).

As to modifications of form of function, stems are subject to a somewhat elaborate classification.

They may be modified for the purpose of defence, that is into thorns or spines (Fig. 375), although not all thorns or spines are transformed branches. Branches of this form sometimes remain so permanently, while at other times they afterward become foliaceous and develop into branches of the ordinary form (Fig. 376).

For the purpose of climbing they may become cirrose, that is, converted into Tendrils. The tendril may consist of the apex of the primary stem (Fig. 356), which then usually becomes forced to one side by the contiguous branch, which in turn fulfils the office of continuing the extension of the stem as a sympodium; or one of the branches may become the tendril. In the latter case the tendril will stand in the axil between leaf and stem; in the former it will stand upon the opposite side of the stem from the leaf (for tendrils connected with the leaf see following). A stem may instead become converted into a sucking disk, as in the case of Ampelopsis (Fig. 358). In this case the tip of the branch or stem becomes flattened and attaches itself very tightly to the supporting surface, so tightly, in fact, that a portion of stone or a splinter of wood may be torn from its support before the disk can be made to separate. Plants which grow in the water or in places subject to inundation may have portions of their stems inflated into bladdery forms to insure a floating condition. Such structures are, however, more commonly of a leafy nature.

Stems may become modified for the performance of the office of leaves. For this purpose the whole stem may become modified into a single leaf-like organ, as in the case of certain aquatics, in which case it is known as a Frondose Stem (Fig. 377a). Upon the other hand, separate portions of the stem or separate branches thereof may become thus modified, as in the case of the so called "leaves" of the species of Asparagus cultivated as a decorative plant under the name of Smilax (Fig. 378; a, leaf; b, branch). Sometimes a stem or a joint of one, at the same time that it becomes modified to perform the office of a leaf performs the ordinary offices of a stem and important storage functions as well, as in the case of the Opuntia (Fig. 379). Such stems are called Consolidated. Besides such specially modified forms, a number of ordinary forms are characterized by the adjectives Terete, Cylindrical, Compressed, Triangular, Quadrangular, Alate or Winged, Costate or Ribbed, Chanelled, Striate and so on. In this connection the terms applicable to the superficial characters of barks already described, and those connected with leaf attachment, to be described further on, should be studied.



Besides the above stem-forms, which

admit of ready classification, we have a large number of modifications to effect special purposes which must be considered individually. As these possess but a slight interest in relation to pharmacognosy we refer the interested student to general works on botany.

An important office of the stem is the storage of nutriment. All stems perform this office to a greater or less extent, but some are especially modified in form for the purpose. Of these we have already referred to special rhizomes and tubers. It remains, then, only to consider the various forms of the bud, including in this term all forms of the bulb. A bulb which, like the onion (Fig. 380) has its fleshy thickened leaves in the form of broad sheathing organs, seen upon transverse section in the form of concentric rings, is called Tunicated or Coated. Those like the lily (Fig. 381), in which these leaves appear in the form of narrower projecting scales, are called Scaly. When in the axils of the scales we find smaller or secondary bulbs or buds it is a Compound bulb. When the texture of a bulb is so dense that its leaf-elements are not conspicuous it is designated a Solid bulb. When it is still more dense, as in the case of the gladiolus (Fig. 382), so that the leaves are not to be distinguished by ordinary methods, it is a Corm. In some plants the axillary bulbs, instead of occurring in the axils of the bulb-leaves, occur higher up in the axils of the ordinary foliage leaves, as in the case of the tiger lily (Fig. 383). Their true nature as buds is in this case conspicuously shown, and they are sometimes spoken of as Bud-bulbs. In other related plants similar bulbs are densely aggregated in a terminal umbel looking like an inflorescence, as in some species of onion (Fig. 384).

Buds proper admit of an elaborate classification, which, although not of such interest in pharmacognosy as to warrant its study in this place, is of fundamental importance in systematic botany, and furnishes a key to many problems which are otherwise very abstruse. The study of buds is called Vernation, and that of the arrangement of the leaves composing them Praefoliation. In general the arrangement of leaves in the bud admits of the use of terms similar to those applied to the parts of the perigone in a similar state.

Buds may be classified as to their structural form, their position, and parts A winter bud which protects itself by specially developed scales is known as a Scaly bud; one which does not, a Naked bud. A bud consisting only of leaves is a Leaf bud; one only of a flower, a Flower bud; one consisting of both, a Mixed bud. Solitary buds occurring in the axil of the leaf and developing at the regular time are called Normal buds. Any buds in addition to the Normal bud, occurring in the leaf axil, are called Supernumerary. They may be situated above or at the side of the normal bud. The normal bud is sometimes situated a

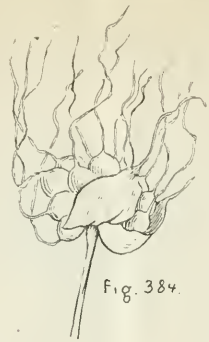


Fig. 384.

little above the actual axil, in which case it is called Supra-axillary. All the buds so noted are denominated Lateral, in contradistinction to the single terminal bud, but it is to be noted particularly that buds lateral as to their origin may become terminal through the effects of sympodial growth. Buds which develop at other points than the apex or axil—as, for instance, from an internode, a leaf, or even from a root, as well as those of axillary origin, but developing out of their regular order—are called Adventitious. The latter form of adventitious buds, resulting from retarded development, are known as Latent buds.

(To be Continued.)

FREEZABLE GOODS.

(Compiled for the Era.)

Ale.
Ale and Beef.
Allen's Hair Restorative.
Ayer's Hair Vigor.
Ayer's Recamier Balm.
Ballard's Asthma Cure.
Barry's Tricopherous.
Batchelor's Hair Dye.
Battle's Bromidia.
Beer.
Benson's Skin Cure.
Best Tonic.
Blacking, Liquid Shoe.
Blondine.
Bluing, Liquid.
Bonkocine.
Botanic Blood Balm.
Bromochloralum.
Burnham's Clam Bouillon.
Bush's Bovinine.
Butter Color.
Carbolic Acid.
Carbon Bisulphide.
Catarrh Remedies. All liquid.
Celerina.
Champlin's Liquid Pearl.
Coe's Dyspepsia Cure.
Colden's Beef.
Constitutional Catarrh Remedy.
Cook's Balm of Life.
Crab Orchard Water.
Crossman's Specific.
Damonia.
Darby's Prophylactic.
Dialyzed Iron.
Dickey's Creme de Lis.
Dye Colors, Liquid.
Emulsions Cod Liver Oil.
Espey's Fragrant Cream.
Extract Witch Hazel.
Fluid Hydrastis.
Fowler's Solution.
Freese's Cementine.
Fruit Juices.
Funk's Cream of Roses.
Graefenburg's Eye Lotion.
Graffenberg's Catholicon.
Graffenberg's Panacea.
Gregg's Constitution Water.
Goulard's Extract.
Gourand's Olympian Cream.
Gouraud's Oriental Cream.
Guinness' Stout.
Hagan's Magnolia Balm.
Hair Dyes, Liquid.
Hair's Asthma Cure.
Hall's Hair Renewer.
Hayden's Viburnum Compound.
Helmbold's Rose Wash.
Hoff's Malt.
Hop Bitters.
Horner's Rheumatic Lightning.
Horsford's Acid Phospate.
Humphrey's Witch Hazel.
Hunt's Kidney Remedy.
Hydrogen Peroxide.
Hydrolcine.
Injection Brou.
Injection "G."
Injection Matico.
Inks of all kinds.
Johnston's Sarsaparilla.
Jones' Liquid Crab Orchard Salts.
Kennedy's Pinus Canadensis.
Kidney Wort, Liquid.
Koumyss.
Lactart.
Lambert's Listerine.
Laird's Bloom of Youth.
Laird's Oleochyle.
Liebeg's Coca Beef Tonic.
Lyon's Drops.
Magnesium Citrate, Solution.
Marchisi's Catholicon.
Mathey Cayins Injection.
Miller's Asthma Cure.
Moxie Nerve Food.
Mucilage.
Murdock's Liquid Food.
Murray's Fluid Magnesia.
Nicholson's Extract of Malt.
Noble's Syrup.
Pearl's White Glycerin.
Perry's Comedone.
Perry's Moth and Freckle Lotion.
Phenol Sodique.
Phillips' Acid Phosphate.
Phillips' Milk of Magnesia.
Phosphoric Acid Solution.
Pinkham's Compound.
Pond's Extract.
Pond's Toilet Cream.
Porter.
Pozzoni's Aureoline.
Pray's Ongaline.
Rennet, Liquid.
Ring's Ambrosia.
Robare's Aureoline.
Rose Water.
Sanford's Radical Cure.
Seven Barks.
Sheffer's Liquid Pepsin.
Stoddard's Peerless Liquid.
Sulphurous Acid, Solution.
Swift's Specific.
Syke's Catarrh Cure.
Thompson's Eye Water.
Valentine's Meat Juice.
Van Buskirk's Sozodont.
Walker's Vinegar Bitters.
Warner's Nervine.
Warner's Rheumatic Cure.
Warner's Safe Cure.
Waters, Eye, of all kinds.
Waters, Medicated.
Waters, Mineral, of all kinds.
Whittlesey's Dyspepsia Cure.
Wilhoft's Tonic.
Winchester's Syrup Hypophosphites.
Wines. All Medicated.
Wisdom's Robertine.
Wishart's Pine Tree Cordial.
Wyeth's Extract Malt.

SOME NEW SHOW GLOBE COLORS.

Red.

Carmine No. 4.....1 dram
Picric acid.....1 dram
Concentrated liq. ammonia .....2 drams
Mix and add water.....3 gallons
Filter repeatedly until clear.

Green.

Sulphate copper.....16 ounces
Picric acid..... .....½ ounce
Water .... 3 gallons
Mix and filter.

Blue.

Dissolve two nickel five-cent pieces in one ounce nitric acid, add q. s. Aq. ammonia to dissolve precipitate first formed, and add three gallons water.

These are brilliant colors and will not fade. (Meyer Bros. Dr.)

(Written for the Era.)

THE FAMOUS HOLLIS POISONING CASE.

Being a Detailed Account of the Tragedy and of Druggist Ayer's Connection with it.

By HOWARD FIELDING.

(Continued from p. 554 Oct. 31.)

This story was commenced in the October 10th issue.

V.

THE SCRAP OF PAPER.

A very simple alternative confronted Ayer. He must either tell Dr. Gordon the whole truth, or invent a good lie in about a quarter of a minute. He was a truthful young man, but he was by no means destitute of imagination. If occasion required he could do what the Father of his Country couldn't.

"The solution was of the right strength," he said. "I used all the eserine I had. I was not aware that you required an exact quantity. You will remember that you gave me a verbal order, and rather hastily, too. You were to bring a vial and I was to fill it."

"Oh, it's all right," replied the doctor. "I can get along with what I have. The quantity struck me as peculiar, that's all. I had an impression of it when I first saw the bottle, but I was thinking about something else. That affair of young Hollis was in my mind. I had just been talking——"

The doctor checked himself suddenly.

"The affair of young Hollis!" exclaimed Stanley. "I thought it was all the affair of old Hollis at that time. I was not aware that anybody had mixed the nephew up in the case so early."

"Well, you know there was a suggestive article in a newspaper that morning."

"And you had read it?" asked Stanley.

"Yes; that's it. I'd read it, and while it made no mention of Edward Hollis, I couldn't help thinking of him."

"You knew him then?" said Ayer.

"He is a patient of mine. I hear he's under arrest, poor fellow. There's a rumor to that effect. I'm sorry, if it's true. I don't believe he poisoned his uncle. What do you think of the case, Dr. Stanley?"

"I think some blasted fool is stirring up a lot of trouble," replied Stanley with emphasis. "There's nothing in it."

"I'm glad to hear you say so. Good morning."

"Good morning."

The oculist gave a couple of hurried nods and made a quick exit.

Stanley turned toward Ayer with his most unpleasant smile—and some of Stanley's smiles were very unpleasant, indeed, being distinctly suggestive of that post-mortem appearance known as risus sardonicus.

"Of course, that's as plain as the nose on your face," he said.

"What?" asked Ayer, though as a matter of fact the answer to his question was already shaping itself in his mind.

"Gordon said that the case of young Hollis was on his mind," rejoined Stanley, "and he added that he had just been talking with somebody. Then he interrupted himself and got out as fast as he could. Why? Because he'd promised not to tell whom he'd been talking with. Who was it?"

"Barker, of course."

"No doubt of it. And what does that mean? It means that Barker had got on the eserine lay during the night following Hollis' death. He had abandoned his morphia and atropine theory after his talk with me here, and having made up his mind that young Hollis was guilty he had hunted around for a poison that would fit the symptoms. Having selected eserine, the next thing to do was to connect Edward Hollis with that poison. It's a thing that most people don't know about. Now, eserine suggests oculists, and young Hollis has something the matter with his eyes. Gordon was treating him. So Barker went to Gordon the first thing in the morning, asked him whether he had used eserine in Hollis' case, and especially whether he had ever mentioned the substance or had given Hollis a chance to find out what it was. I'm afraid the replies were damaging."

"Then why didn't the eserine theory come out sooner?"

"Barker was probably waiting for the result of the autopsy. That was negative as to eserine, on account of the extremely small quantity taken."

"How do you know what the quantity was?" demanded Ayer quickly.

"My dear fellow," replied Stanley, "I don't want to add to your troubles, but I must admit that my own theory is that you made a mistake. I don't say that you killed Hollis, but I am inclined to believe that all the eserine he ever got into him came out of that solution which you put up."

"Then it is my duty to come forward at once and clear Edward Hollis."

"Not by a jugfull" returned Stanley. "Let him take his chances. He'll be cleared, all right. In considering your duty to him, don't forget your duty to Dr. Mallory, to yourself, and to the charming young woman who will soon be Mrs. Ayer. Self-preservation is the first law of nature, and the others—those which make for unselfishness—are like the excise laws, extremely unpopular in New York. Don't be in too much of a hurry to ruin yourself. Remember we may be able to prove that you didn't make any mistake. I'm going over to Hollis' house again, and have another try for that medicine bottle."

"For heaven's sake get it, if the police haven't," said Ayer.

Stanley nodded and left the store. No sooner had his friend disappeared than Ayer began to struggle with a great desire which prompted him to do an injudicious thing. He wanted to know whether Stanley's theory of an interview between Barker and Gordon was correct, and, if so, what had been the result of it.

The young pharmacist's relations with Dr. Gordon had been very friendly. Ayer had the greatest respect for the oculist's professional attainments and a high regard for his personal character. He was tempted to confide in him, believing that thus he could get the inside facts of the case against Hollis.

Ayer was by no means sure of Hollis' innocence. He remembered the young man's terror-stricken appearance on the night when he had overheard Barker's announcement of his belief that poison had been administered to Stephen Hollis. It was possible that the rich man's nephew had actually murdered him with eserine, and that the transposition of the bottles in Ayer's poison closet had been really a harrowing coincidence.

It is needless to say that the druggist had no desire to sacrifice himself for a guilty man. He was not sufficiently selfish to hope that Hollis would be proven guilty, but he certainly desired to know the evidence against him.

The desire became too strong to be resisted. Ayer left the store and walked hurriedly toward Gordon's office. As he crossed Seventh avenue a cab passed in front of him. He glanced carelessly through the glass of the door and looked straight into the white face of Edward Hollis. Beside him sat a big, heavy-jawed fellow whose appearance admirably typified the ruthless power of the law.

The sight sent the blood to Ayer's heart, whence it rushed back, tingling and burning, to his cheeks.

Dr. Gordon was not in. Ayer, who was known to the doctor's servant, was invited to step into his consulting room. The oculist was expected to return shortly. Already several patients were awaiting him.

Ayer was thankful for the quiet and seclusion of the consulting room. He threw himself into a great easy chair which stood near the end of a tall bookcase of dark wood that reached nearly to the ceiling and was well stocked with scientific works.

About a foot and a half from the floor, and on a level with the bottom of the glass doors of the bookcase was a projection running across its front and each end. It had the effect of a shelf. Upon this shelf, at the end which was close by the chair where Ayer sat, lay a book. The young man glanced carelessly at it and mechanically read the title. It was a work on toxicology.

That was a subject which had gained a new interest for Ayer within the past few days, though he had viewed it in many aspects theretofore. He picked up the book and opened it at random. His eye instantly fell upon the word eserine, in italics. It was the first mention of the name of that alkaloid in an account of its original extraction from the calabar bean.

It struck him as a part of the whole infernal series of coincidences that the

book should have opened at that place. Then, in a moment, he saw a natural explanation of it.

Between the leaves was a piece of stiff. linen notepaper, irregularly folded, as if accidentally caught in the book when it had been closed. Its presence had been sufficient to cause the book to open where it had.

Ayer unfolded the paper and saw that it had been torn from the corner of a sheet. It was triangular, with a base of about two inches and an altitude of more than three. There were some written words and parts of words upon one side. They were in a hurried, nervous, irregular style of penmanship, and they read as follows—the dashes denoting the ending of lines:

"Of various drugs—ine offers one—The fatal dose—tle is known—it must be—detect—live—all."

"'Ine' is the end of eserine, of course," muttered Ayer. "As for the rest of it, I should say it might be notes on that poison. I'd give something for the rest of that sheet."

At that moment he heard a step in the hall which he judged to be Dr. Gordon's. Hastily closing and replacing the volume, he rose to meet the oculist.

"Dr. Ayer!" exclaimed Gordon, entering. "I'm surprised. What is it, my boy?"

"I have a queer question to ask of you, doctor," said Ayer. "Do you recognize this handwriting?"

He held the scrap of paper before Dr. Gordon's eyes.

"Eh? That? Why, certainly," said the doctor. "That's Edward Hollis' writing."

(To be Continued.)

ADVERTISING HINTS AND DON'TS.

By H. K. Aiken, Manager Laurens Drug Co., Laurens, S. C.

In our town of three thousand inhabitants we have three drug stores and two weekly papers. Their charges for space, on yearly contract, are reasonable enough, but their equipment of display type and other necessary accessories for up-to-date work is very limited. This throws additional work upon the advertising patrons of the paper, they having to assist in devising ways and means, and personally supervise the execution of their ideas, if they desire the same creditably and effectively presented. To all those situated as we are, your arrangements for supplying cuts at a nominal cost will prove a boon. I hope to see you extend the list and add to it attractive borders and other "attention-arresters."

I enclose some specimen ads., which I have used in weekly papers—our only media for reaching prospective buyers. Let the more fortunate brother in criticising them keep in mind the environment, and remember that "He who does the best his circumstances allow, does well—acts nobly, angels could do no more."

An ad. which very markedly increased our sales on the article treated was the following. It appeared in the "Local" column:

A RUNAWAY MATCH.

Married, at the residence of the bride's parents, Miss Redhead Sulphur to Mr. White P. Sticks, the Laurens Drug Co. officiating. We offer you 800 matches like the above for five cents. They had long been "stuck" on each other but together they will "strike" anywhere now.

Everybody reads such things. Some laughed at, some "cussed" at the writer. They all talked about the ad. and the values did the rest. We sold matches and are selling them yet.

Here is another for which I am indebted to some unknown benefactor. The caption caught my eye in a magazine. I think it was an ad. of some railroad company. This acknowledgment I hope will save me from the charge of plagiarizing:

SKINNING

A CAT!

There is an old saying, that there are more ways than one of skinning a cat. The man who makes "plush" capes and muffs from feline pelts has one way. The school boy on his gymnastic pole has another way. Both are right from their standpoint. We do not wish to skin a cat either way, but only to say, that when the long catalouge of catastrophies and calamities, which will occur in the best regulated families sooner or later, begin, we have the Balm in Gilead, and can supply all your needs in the way of remedial agencies.—These friends in need can always be found at the Laurens Drug Co., in Post-Office Block.

One defect about it is that it is not specific enough. Still, it was used soon after we began business, and while we were still sparring for an opening.

While advice is generally given at wholesale and accepted at retail, I'll venture to give a few "Don'ts" for advertisers situated as we are. They represent the harvest of one man's short experience:

Don't advertise goods in transit, expecting them to arrive on time. Wait until they are in the store.

Don't put off writing a new ad. uutil the day before the paper goes to press. Write such things when you have leisure. Have copy in printers' hands several days before publication.

Don't trust printers to set up technical terms from manuscript copy. Read and correct proofs yourself.

Don't occupy a page this week, and nothing for the next month. Ayer & Sons' motto, "Keeping everlastingly at it brings success," is eminently true of advertising.

Don't make the same mistake twice. Prove all things. "He that studies books alone will know how things ought to be—he that studies men will know how things are."

Don't fail to read every ad. you see. What strikes you in the work of others, or something similar, will likely catch the eye of your own readers.

Don't exaggerate. Too many affirmatives act as negatives. Truth is stronger than fiction and much rarer.

Don't expect an ad. to pay for itself in a week or a month. Confidence is a plant of slow growth. Many "fakes" are shrewed advertisers. The public require time to discriminate.

Don't think the old way will always be good enough. "There are two things cheap and common enough when separated, but priceless in value, and irresistible in force when combined—Truth and Novelty." Strive to join them in your work.

Don't think that old, time-worn phrases, repeated week after week, ad nauseam, will bring returns. New paint has helped sell many an old house.

Don't think the biggest advertisement is always the best advertisement. Results count.

Don't fail to get on the other side and view things from the reader's standpoint now and then.

Don't forget to make clerks read and keep up with your ads. To co-operate, they should know what you are trying to do.

After writing an ad. read it over. Then ask yourself this question, "Will it bring people in—will it lead to inquiry or make them keep me in mind?" If candor demands a negative reply, write it over.

Don't think that I know, or have told it all. Add your experiences for others' benefit.

[Dr. Aiken encloses several advertisements, 7 inches, double column, which are too large for reproduction. They are all good, however, full of prices and quite convincing. His remarks concerning the inadequate facilities of some printing offices and the necessity of carefully reading proofs of all advertisements are given some emphasis by these samples, but a show of interest by patrons and increase in advertising should certainly wake up every printer who is worth arousing.—Ed.]

RECENT ADDITIONS TO OUR MATERIA MEDICA.*

By R. G. Eccles, M. D.

The flood of synthetic remedies has for a couple of years seemed to subside. It is true that a goodly number of quack combinations pretending to be new synthetic products have appeared and thereby seemed to keep up that flood, but genuine new productions in this field, outside the antiseptic group, have been few. Medical men have been giving their attention to a totally different class of substances known as serum remedies, with which you have doubtlessly all become quite familiar before this. Some of you certainly must have seen the interesting cartoon of a future drug store, where the horse stood behind the counter with his lymphatics tapped and the busy druggist was measuring out the supply to customers. But few of those who have seen or even used serum as a remedy understand what it all means or why the new fad has come upon us. It may, therefore, be of interest to you to know something about the philosophy that carried investigators in this direction and their reasons for giving the world these new remedies.

In this strange planet of ours the incessant pressure of living things for existence is so great that the product possible for a single year would fill more than a million worlds the size of ours. Only the biologist has any clear conception of the fecundity of nature, or the awful struggle for mere existence that is incessantly taking place around us. That one shall live, millions must be excluded from life. The vegetable world, in particular, is markedly subject to this strain. Plants of every degree and type of development are incessantly seeking everywhere for a spot on which to grow Not a nook or cranny capable of giving them sustenance escapes them, and in all of these the crowding for dear life among many kinds is unceasing. When they can get no other place on which to grow they grow on each other. Animals of every type, up to man, are invaded by them. On all of us at this very moment, and during every moment of our lives they seek to develop. Their spores of seeds float in the air, swim in the water, invade the bread, the meat, the fruit, everything we eat and drink. We inhale them at every breath we breathe and swallow them with every mouthful we eat. They are at present trying to make our blood, our tissues, our mouths, our stomachs, our every organ, fallow ground where they can flourish. Let but one spot in all the weirdly-woven structure of our bodies become weakened from any cause and they at once begin to contest our right to live as against theirs.

Ever since the dawn of animal life we and our progenitors have survived because in one way or another we have been able to hold our own against these insidious foes. The fight has not only been a hard one, but it has never for a single second ceased, in all the generations of men. Our cells are incessantly fighting for their lives and ours. Many of these minute plants produce poisons, and to such products we have to charge fevers and the accompanying feelings of discomfort known as disease. Such minute plants are now known as pathogenic bacteria. Among the methods pursued by the cells of our bodies in ridding us of such unwelcome guests perhaps the most interesting discovered was that of the actual eating of them. A modified white cell, now called a phagocyte, patrols our blood vessels and seizes upon these dangerous intruders, killing, eating and digesting them. If skilled bacteriologists could only get phagocytes by the ounce that could be sold and injected into the blood alive, druggists would ere this have had them for sale. It has long been known that every plant and animal produces something that when present in sufficient quantity kills itself. Our breath is poison to us. All our excretions will kill us. Bacteria are no exception to this rule. They, too, evolve products fatal to their own existence. Acetic acid kills the mycodermi aceti, alcohol kills the saccharomyces cerevisæ, nitrates and nitrites kill the respective organisms that produce them. Our bodies possess great powers of adaptability to new and even dangerous conditions when brought to bear upon us slowly. By slow adjustment the morphine user comes to be able to swallow enough morphine to kill ten men not possessing his immunity. Arsenic eaters present the same remarkable phenomenon. Tobacco chewers, whisky drinkers, hasheesh users and many others are evidence of the same general law. Snake charmers in Africa, by the repeated action of small amounts of the snake's venom, come to bear an immunity against the virus of the most dangerous serpents. It is on this principle that smallpox toleration is established by vaccination. The system gets used to a poison that comes from the local sore, and that is like the poison of smallpox. As soon as we are able to resist this poison smallpox germs seem to be unable to develop within us.

Reasoning on this principle Koch experimented with his serum—that was, in fact, the poisonous product of consumption germs. He tried it on animals that were particularly subject to tuberculosis, and found that it gave them a limited immunity. When tried on man it proved less successful. Perhaps this might have been foreseen, since the disease itself is not known to be either self-limited or to give immunity against future attacks. To it our bodies seem to have as yet discovered no way of escaping a series of attacks. Koch's lymph did not succeed to the extent that its friends believed it would. Perhaps if we had a lymph from self-limited disease a better result might occur. Not at all discouraged by the ill-fortune that befell Koch's new remedy, two of his students attacked the problem from another standpoint. Dr. Behring, a German, and Dr. Kitasato, a Japanese, working in the laboratory of Koch, in Berlin, discovered some new facts that may result in great changes in pharmacy. They discovered that one cause of immunity, if not the sole one, is that the cells of animals when subjected to attacks of special forms of bacteria produce substances that neutralize the poisons of such bacteria. They chose, first, as a basis of experiment, the germs of tetanus, taking rats and mice as subjects. They found that the blood of an immune animal when injected into the veins of a susceptible one rendered the latter immune. Some principle seems to be evolved that neutralizes the poison. By taking an animal that is rendered perfectly immune to, say diphtheria, the serum of that animal, if injected into another of the same kind, renders that other immune. As human serum cannot be had for the purchase, horse serum has been tried in our case and claims put forward for its success in diphtheria.

In experiments of this kind there are always drawbacks and difficulties. Serum therapy is now being tested, and it is yet too early to tell the results. It may be that our inability to get human serum for human beings will cause this, too, to fail, as Koch's lymph did, but in the mean time we remain in suspended expectancy. Professor Vaughan, of Ann Arbor, has isolated nuclein as being an agent of the blood that provides immunity and now we find this substance taking its place with the various serums. It is quite possible that nuclein may have some such function to perform in the blood. Certain it it that we are constantly free from the attacks of many diseases when their poison does not reach us in inordinate amount. We are also quite free from the attacks of some diseases that kill off the animals below us. All this immunity is due to some sort of protective device evolved within us.

Nor does it seem as if we alone were protected from bacteria by the special chemicals our cells are able to produce. The plant world itself seems to gain immunity from the attacks of lower forms in this manner. The cinchona seems to be a good illustration of this kind. After ages of experience of a malarial region this genus has developed within itself a power of producing a number of substances capable of defending it from attacks of micro-organisms. Chief among these is quinine. Those cinchonas that produce the largest amount of quinine grow in the most foggy and malarious regions, and it is said that in seasons of unusual fog their production is greatest. In India, where the trees are cultivated, they are protected from direct sunlight, having the bark all covered with cotton or other covering to increase their production of this alkaloid. In a late article in the New York Sun, under the title of "Libel on the Cinchona," the writer evidently misunderstood the theory of cinchona and quinine adaptation. Surely no one ever was so silly as to advocate that the cinchona tree refuses to produce quinine except in a malarial region. All that has been claimed is that in such regions natural selection protected and evolved

*Read before the New York State Pharmaceutical Association.

the cinchonas that had such power. Such a power once acquired is necessarily perpetuated by heredity. Cinchona trees will produce quinine anywhere if they can reach maturity. In India they are now able to supply the world from regions that are not particularly malarial, and by merely imitating the physical conditions that are associated with malaria in its native haunts they can augment their power in this direction. By artificial selection they can still more increase it.

PHARMACY.

SOFT CORNS BETWEEN TOES.—Dr. Miall says (Brit. Med. Jour.) that an ounce of perfectly freshly made tannin, dissolved in six drams of water with the aid of gentle heat, applied once or twice a day between the toes, after washing, gives immediate relief to soft corns. Tannin in powder is not so effectual.

FUNGUS GROWING IN A SOLUTION OF COPPER.—M. L. Trabut has found, flourishing in a 9.5 per cent. solution of cupric sulphate, a mould fungus nearly related to Penicillium glaucum, to which he gives the name P. cupricum. This fact may have an important bearing on the use of solutions of copper for destroying the fungus parasites of cultivated crops.—Bull. Soc. Bot. de France.

MANUFACTURING CALCIUM CARBIDE.—The Aluminum-Industrie-Actiengesellschaft, in Neuhausen, Switzerland, have taken up the manufacture of calcium carbide on a commercial scale. They are thoroughly advertising same, and quote it at 6d. per kilo., which equals approximately, 5½c. per pound, or 15 cents per pound for the acetylene contained therein. This does not augur well for the use of acetylene either as an illuminant or an enricher.—Amer. Manuf.

ANTIPYRINE AND THE THALLEIOQUIN REACTION.—J. Ducommun (Schweiz. Wochenschr. Chem. Pharm. Analyst.), state that one part of antipyrine in the presence of twenty parts of quinine prevents the appearance of the well-known green color of this test, producing in its stead a fine red. Urea stops the production of either color, while the salts of morphine, pilocarpine, cocaine, strychnine, codeine and atropine, chloral hydrate and phenol, etc., in 1 per cent. solutions are without influence on the green tint.

EFFECTS OF PIANO PLAYING.—"A corresponding member of the Paris Academy of Medicine," says the Medical Times, "has sent to that body a memoir in which he maintains that the numerous cases of chlorosis, neurosis and neurasthenia observed among young girls is due to learning to play upon the piano and the hours devoted to practising. He has drawn up statistics from which he concludes that, among 6,000 pupils obliged before attaining the age of twelve to learn to play the piano, nearly 12 per cent. suffer from nervous troubles."

PASTE FOR PATENT LEATHER.—The following is a French recipe for preserving the gloss of patent leather: Melt pure wax over a water-bath, place on a moderate coal fire, add first some olive oil, then some lard, and mix intimately by stirring, next add some oil of turpentine, and finally some oil of lavender; fill the resulting paste in boxes, where, on solidifying, the necessary consistency will be acquired. To restore the gloss of the leather, apply a little of the paste and rub with a linen rag. This will keep the leather soft and prevent cracking.

AN ACID.—In Edward Phillips' Universal English Dictionary, published in 1658 appears the following curious definition of acid: "Acid in chymistry signifies that sharp salt or that potential and dissolving fire which is in all mixed bodies and gives 'em being. Of acids, vitriol is the chiefest, sea salt next to that." In another dictionary published anonymously about fifty years later, the same word is defined as follows: "Acids are those bodies which produce the taste of sharpness or sourness, caused from the particles of those bodies being sharp-pointed and piercing."

THE PREPARATION OF PURE ZINC.—F. Mylius and O. Fromm understand (Zeits. Anorgan. Chem., through Chem. Zeit. Rep., Analyst.) by the term "pure" zinc a metal spectroscopically as well as chemically pure, whereas the purest commercial zinc usually contains iron, lead and cadmium in amounts of at least 1.4, 5 and 16 parts per 100,000 respectively. The latter two impurities are best detected and estimated by fractional precipitation with ammonium sulphide in an ammoniacal nitrate solution, the reagent being added until the precipitate falls of a pure white color. For the preparation of the pure metal fractional crystallization of commercial zinc is useless, but by boiling the nitrate solution, freed from other metals as indicated, and igniting the precipitate, pure zinc oxide may be obtained. By electrolyzing a solution of the sulphate, using zinc oxide to neutralize the acid set free, a product is obtained contaminated with platinum from the anode. The purest metal may be prepared by the repeated electrolysis of a basic sulphate solution, the zinc being finally sublimed in vacuo, when it will be found not to contain more than 1 per 100,000 parts of impurity.

POISON SCATTERERS.—The idea is apparently widely entertained that sidewalks and the floors of public conveyances and buildings are a sort of ever ready cuspidor. The habit of ubiquitous expectoration—always disgusting and unnecessary in health—becomes dangerous when practiced by consumptives. Sweeping trains catch a surprising amount of filth, and tubercle bacilli as well as other germs have been found in the skirts of ladies' dresses, whence they may be introduced into houses. How often do we see a consumptive shivering over a register and dropping the scourings of the cavities in his lungs down the hot-air pipe, to be dried and disseminated throughout the building! An apparatus, differing only in detail from the ordinary register, is used in laboratories for the experimental inoculation of guinea pigs with tuberculosis.

On the other hand, the consumptive must not swallow the infectious material raised from the lungs, for, by so doing, he might set up tubercular inflammation of the stomach and intestine. The expectoration should take place into a cup that can be readily disinfected, or into a waterproof-paper receptacle that can be burned. A. L. Benedict, M. D., in Pop. Sci. Mon.

CARBIDE OF GLUCINIUM.—M. Moissan, whose contributions to the chemistry of carbon have been so interesting to the scientific world, has now succeeded in making another addition to the list of carbides already known, viz., carbide of glucinium, which he considers to be the richest of any in carbon. At the Académie des Sciences (Ph. Jr.) M. Moissan gave particulars of the experiments conducted by him at the Paris School of Pharmacy, where he has his special laboratory and staff of chemists, who assist him in his research work. Pure glucine obtained from the emerald is intimately mixed with sugar-charcoal and subjected to the enormous heat of his electric furnace. A carbide of glucinium is formed in yellowish-brown transparent crystals, with a density of 1.9, and resembling in properties carbide of aluminum, the chemistry of which has already been published by M. Moissan. Up to the present glucine had been classed among the oxides that resist the reducing action of carbon. M. Moissan arrives at the conclusion that the chemical characters of carbide of glucinium are so similar to those of carbide of aluminium, C_3Al_4, that he has been led to ascribe to the former the formula C_3Gl_4; under these conditions the atomic weight would be a number approximating 14, and glucine would be a sesquioxide, Gl_2O_3.

TESTING BERGAMOT OIL.—In consequence of some criticism by Messrs. Schimmel & Co., of Leipzig, published in their October Report, on the method employed by Mr. H. Helbing and Dr. F. W. Passmore in the estimation of linalool ester, these latter gentlemen have contributed a note to the "Chemist and Druggist" on recent experiments they have made in testing bergamot oil, and suggesting a modification of the process previously recommended by them. Messrs. Schimmel & Co. state in their report that higher results are obtained by Messrs. Helbing and Passmore than by themselves, the difference between them being 1.8 per cent.

The two methods are, in principle, identical, depending upon the determination

of the saponified figure of the oil; but whereas Messrs. Helbing and Passmore heated the oil with stronger (10 per cent.) alcoholic potash at 100° C. in closed vessels, Messrs. Schimmel employ semi-normal (25 per cent.) alcoholic potash and heat in open vessels, provided with a return condenser, on the water-bath. After detailing their experiments, and differing on some slight points with Messrs. Schimmel, Messrs. Helbing and Passmore admit that by their process linalool is decomposed to a slight extent, and state that, as everything tending to increased confusion in the essential oil trade is to be avoided, they will, in future, carry out determinations in open vessels with the return condensers, heating the oil on the water-bath for half an hour with semi-normal alcoholic potash.

ANALYSIS OF TEA RAISED IN RUSSIA. In the chemical laboratory of the Caucasian sericultural station an analysis has just been completed of the first and second crops of tea harvested by Col. Solowzow on his tea plantation in Chakva, with the following result:

	Per Cent.
Thein:	
First crop	*1.99
Soluble matters:	
First crop	32.37
Second crop	35.96
Specific gravity:†	
First crop	1.01051
Second crop	1.01221
Tannin:	
First crop	11.06
Second crop	13.76
Ash:	
First crop	4.21
Second crop	4.15
Water:	
First crop	13.23
Second crop	13.92
Nitrogen	4.66

The percentage of water shows 3.61 per cent. above the average for black teas. This results from somewhat insufficient drying, very excusable in the first attempt at preparing tea.

By comparing the foregoing figures with the average compositions contained in black teas it is found that the tea of the first crop belongs to the species of middle quality, but of the second crop to the species of very good qualities.

The Chakva tea, according to its essential qualities, belongs to the species of black tea. Tea grows in Chakva very well and large areas can be occupied for its cultivation. On account of this favorable result, and by improvement of the method of drying and gathering, there is no doubt that tea culture will acquire great dimensions and that the Chakva tea will be in great demand in Russia. Thus the Russian empire is enriched by a new and important product. (U. S. Consular Report.)

*Somewhat more than the average quantity of black tea. †At 20° C.

TAXES ON TEA.—From January 1, 1896, in the whole Empire of Russia, it will be obligatory to sell all teas, except the cake and and brick tea, only under the Government's revenue label. The tea will be wrapped in packages of one, one-half, one-fourth, one-eighth, one-sixteenth, one thirty-second and one forty-eighth of a pound on the premises and at the cost of the dealer. Each package will be labeled with a revenue band of the following rates: The bands for one-half pound and for one pound will cost 0.3125 copeck* each; for one-fourth and one-eighth of a pound, 0.1562 copeck each, and for one-sixteenth, one thirty-second, and one forty-eighth of a pound 0.078 copeck each. This extra tax, as will be seen, is not heavy, and the reason for making it so light is that the Government did not want to burden the dealer with an expense that would compel him to raise the price of tea. Although the extra tax is small, the income from it in a year will amount to considerable to the treasury, because in Russia a large quantity of tea is used. Packing of tea can also take place at the custom houses or at any other place when the Minister of Finance approves of it. The labelling will be done under the supervision of specially appointed controllers. Should open packages containing tea be found at any place where tea is sold, they will be confiscated and the dealer fined packages. Public places where hot tea five times the amount of duty on the is sold will be allowed to keep several small open packages, not to exceed in weight 3 pounds in all. Persons keeping for sale adulterated tea or tea substitutes will be fined 300 rubles or imprisoned not to exceed three months, and the goods confiscated. Dealers selling adulterated tea knowingly will be punished.

Notwithstanding the yearly increase in the consumption of tea in Russia, its importation decreases from year to year, as will be seen from the following figures: From 1879 to 1893, 43,358,703 pounds of tea were imported annually, and from 1884 to 1888, the annual import was 43,256,759 pounds, showing an annual decrease of 101,944 pounds; the import from 1888 to 1892 fell to 40,457,824 pounds per annum. When it is admitted that from 2,170,000 to 2,530,000 pounds of tea are smuggled yearly into Russia, the difference must consist of adulterated teas. From the examination of all the adulterated teas found in Russia, only the so-called Caucasian cranberry tea has been acknowledged by the medical department to be harmless, and, therefore, it is fabricated in great quantities. It looks like the Chinese tea, gives a strong, sour infusion, of the color of real tea, and, in a dry state, has an odor very much like the genuine. All the other falsifications, such as tea that has been used and dried again, and such as are made of different leaves and herbs, have been found to be unwholesome, but serve as very profitable mixtures for the tea dealers.

The proof of how much business is done in Russia with adulterated tea is striking. The Government experts, after making examinations at different large cities, reported that in St. Petersburg, out of thirty-eight samples, they found fifteen adulterated; in Moscow, out of twenty-four samples, thirteen were adulterated, and in Warsaw, out of forty samples, eighteen were adulterated. The Government has already tried to root out this evil in various ways, but on account of the extent it has reached has not succeeded so far, consequently this new measure has been adopted not only to raise more revenue from tea, but also to protect the Russian tea consumers against adulterated teas. (U. S. Consular Report.)

*One copeck equals about three-fourths of a cent.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

What is Mist. Fusci?

(Lobelia.) A synonym for "Brown Mixture" or "Mistura Glycyrrhizæ Composita" of the Pharmacopœia. Fuscus is the corresponding Latin equivalent of the word "brown," hence its use in the title (correctly rendered) "Mistura Fusca." The amount of ammonium chloride in each teaspoonful of your mixture, viz., 2½ grains, is a comparatively small dose.

Chain Graphite Lubricant.

(N. F. M.) The preparation of graphite in stick form for lubricating purposes is a trade secret and we are unable to give you very much information concerning it. However, graphite may be formed into sticks by first finely powdering and then subjecting it in a damp condition to powerful compression. Another method is to moisten graphite with oil of turpentine, mixed with ordinary gum turpentine to make it adhesive, and subject it to strong pressure in appropriate moulds. We suggest you make a few experiments along the lines indicated.

Liquid Depilatory.

(J. A. B.) Here is a formula from Monatschr. für Dermatologie and recommended by Dr. Butte:

Alcohol	12.	grams
Iodine	0.75	grams
Collodion	35.	grams
Oil turpentine	1.50	grams
Castor oil	2.	grams

Apply to the part from which the hair is to be removed once or twice daily for three or four successive days, increasing from day to day the thickness of the layer. Before applying this or any other application we suggest you read the remarks on this subject in the April 4, 1895, Era, p. 430.

Borax, Glycerine and Potassium Bicarbonate.

(W. A. L.) When sodium borate, glycerin and potassium bicarbonate are mixed, the following reactions take place:

(1) $2C_3H_5(OH)_3 + Na_2B_4O_7 = 2C_3H_5(OH)_3 + NaBO_2 + 3H_2O$.

(2) $2C_3H_5(OH)_3 + Na_2B_4O_7 + 3H_2O = 2C_3H_5(OH)_3 + 2H_3BO_3 + 2NaBO_2$.

(3) $C_3H_5BO_3 + 3H_2O = C_3H_5(OH)_3 + H_3BO_3$.

(4) $3K_2CO_3 + 2H_3BO_3 = 2K_3BO_3 + 3CO_2 + 3H_2O$.

The first equation represents the reaction when water is absent, that which is formed being expelled by heat; the second, when water is present; the third, the action of water on boroglycerol, and the last, simply the action of boric acid on an alkaline carbonate.

For explanation of these reactions see paper by L. F. Kebler in the Sept. 15, 1894, Era, page 247.

To Remove Grease From Floors.

(G. B. M.) (1) Take ¼ lb fuller's earth and ¼ lb pearlash and boil together in 1 quart of water, and, while hot, spread it on the greased surface, allowing it to remain 14 or 15 hours, after which it may be scoured off with sand and water.

(2) Scrub the stained portion with a hard brush dipped in benzine, then wipe with a dry flannel. Make a strong solution of common washing soda in hot water, place a little unslaked lime broken into coarse powder, over the stains, and pour on sufficient of the solution of soda to wet the lime thoroughly. Leave this mixture on for a short time, then scrub hard with plenty of clean hot water, and wipe dry with clean flannel.

To Deodorize Benzine.

(G. F. M.) The following methods have been suggested: 1. Shake the benzine repeatedly with fresh portions of metallic mercury, let stand for two days, and then rectify. 2. Shake the benzine with sodium plumbate, and rectify. 3. The odor may be partially removed by simply shaking with charcoal. 4. Digest litharge in a strong solution of soda, and with this mixture shake the benzine. 5. To 56 ounces of water in a suitable container add cautiously 8 fluid ounces of sulphuric acid, and when cold dissolve in the mixture one ounce of potassium permanganate. To this solution add one gallon of benzine, and agitate frequently for twenty-four hours. Decant the benzine, and wash, in a similar manner, with a solution of 2 drams of potassium permanganate and 4 drams of soda in 2 pints of water. Decant the benzine, and finally wash thoroughly with water.

Asafœtida as an Antiseptic.

(W. A. W.) If odor be any criterion of value in an antiseptic, then you can truthfully say that asafœtida does possess antiseptic properties. In the modern acceptation of the term an antiseptic may be any substance which inhibits the growth of micro organisms, which destroys or renders innocuous the poisonous products of their action upon the tissues of the body, or which retards or prevents the absorption of such products. We have no authoritative evidence to prove that asafœtida possesses any of these properties, though it does contain a sulphuretted volatile oil from which, on exposure to the air, it evolves sulphuretted hydrogen. The principal constituent of this oil is sulphide of allyl, $C_6H_{10}S$. Asafœtida also contains a gum and a resin with ferulaic, malic, acetic, formic and valerianic acids. When the red brown resin is freed from the gum and fused with potash, it yields resorcin. Therapeutists ascribe no antiseptic properties to asafœtida, but they do classify it as an antispasmodic and a stimulant to the brain and nervous system. It is also a stimulating expectorant, tonic, laxative, diuretic, diaphoretic, emmenagogue, aphrodisiac and anthelmintic in action (Potter). In Asia it is used as a condiment. Its principal use as a remedy is in the treatment of hysteria and hypochondriasis, flatulent indigestion, etc. Its use, however, is somewhat restricted on account of its repulsive odor. In some parts of the country is it reverenced at the present day as a preventive of scarlet fever, diphtheria, etc., being worn around the neck in a little sack or bag for the purpose. Sometimes camphor is mixed with it and used in a similar manner.

To Deodorize Carbolic Acid.

(E. R. B.) This cannot be effectually accomplished. As a rule, the purer the acid, the less odor it possesses, though that answering the pharmacopœial test has what is defined as a "characteristic aromatic odor." This acid may be perfumed with some one of the essential oils without changing its therapeutic qualities. We have seen somewhere in print that menthol was suggested for a similar purpose. A number of years ago the Moniteur Scientifique, of Paris, published this formula for "Lebon's perfumed carbolic acid": Carbolic acid, 1 part; oil of lemon, 3 parts, and alcohol (36°), 100 parts. It was stated that the antiseptic properties of the carbolic acid are in no way affected by the oil of lemon. Other aromatic substances which you may experiment with are vanillin, cumarin, musk, etc. By treatment with chemicals the odor may, of course, be destroyed, but the character of the acid is likely to be changed. The preparation of salicylic acid from phenol by Kolbe's process is an example of this kind. The odor of crude carbolic acid is due to a large portion of substances which should be separated by distillation.

Book on Window Dressing.

(H. B.) Window dressing is an art which may be largely acquired, but which to no small degree rests also upon an inborn faculty. We know of no book on the subject which would be of any particular service to you unless you have the faculty. Success will come to you as the result of experiment, and we suggest that you try your hand at window dressing, profiting from any mistakes you may make, and watch carefully the results of this form of advertising. In addition, read every article on the subject which you can obtain, and you will find not a few in back files of this journal, especially in the numbers for Sept. 15, '94, p. 277; Aug. 1, '94, p. 126; March 15, '94, p. 274, and Jan. 1, '94, p. 30. Successful window dressing will depend largely upon the character of your store and trade. A display suitable for your town and custom might not do at all elsewhere, and circumstances may be your best guide. A drug store furnishes material from which an indefinite number of instructive exhibits may be prepared, and outside of drugs proper you can arrange many a show which will attract many to your window, and eventually to your business.

Stamps on Alcohol Packages.

(I. N. C.) When a wholesale dealer wishes to divide the contents of an original barrel of alcohol containing, say, 46½ gallons, he returns the original tax-paid stamp to the Collector of Internal Revenue for his district, and the latter issues to him in return four 10-gallon stamps and one for 6½ gallons, or eight 5-gallon stamps and one for 6½, as the dealer requests. The wholesale stamps contain the serial numbers, etc., of the stamp which was on the original package, and by which the identity of the smaller packages may be traced. Five-gallon stamps are the lowest denomination issued, and we are told that you are incorrectly informed by your collector if he says that such 5-gallon stamps are not tax-paid stamps. You cannot get any stamp at all on quantities less than 5 gallons, but any quantity above this must bear a stamp, and such stamp furnishes evidence by which you may trace the alcohol back to the original package. As frequently said in these columns, if the Washington test cases are decided in favor of the rebate on alcohol the Treasury Department will outline what it wishes in the shape of evidence. Until that time you should save your stamps carefully in accordance with the directions offered you.

Interpretation of New York Poison Laws.

(L. A. D.) The questions you ask regarding the interpretation of schedules A & B, section 2021, New York consolidation act (poison law), are fully answered in a report of Attorney Leo's address before the New York City branch of the Interstate Retail Druggists' League last winter. This address was upon the main acts affecting retail druggists at the present time, and a report of it may be found in the Jan. 3, and Jan. 10 issues of the present year, pages 23 and 56, respectively. Briefly, the poisons enumerated in schedule A cannot be sold without, before delivering to the purchaser and causing an entry to be made in a book kept for the purpose, stating the date of sale, the name and address of the purchaser, the name and quality of poison sold, the purpose for which it is represented to be required, the name of the dispenser, etc. The sales of poisons enumerated in schedule B are not required to be registered, though the poisons, when sold, must, as under schedule A, be correctly labeled with a label bearing the name of the article and the word "poison." The provisions of this section do not apply to the dispensing of poisons upon physicians' prescriptions in not unusual doses.

The Penal Code of the State requires sales of poisons to be registered only, except in the cases of morphine and other preparations of opium containing less than 2 grains of opium to the ounce, which must, besides being registered, bear a scarlet label, with the name of the article in white letters, and name and address of the dealer. See New York Poison Laws. Sept. 12, 1895, Era, page 329.

MANUFACTURE OF OIL OF BIRCH.—A new industry in the lumber line, so far as being practically put at work as a business, is the making of birch oil from birch branches and refuse. In Canada this is becoming quite an item of business in a small way. In some of the Northeastern States where birch oil distilleries are established winter employment is given to the farmers in selling and hauling the otherwise useless birch waste.

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TWO VIEWS OF COMMERCIAL TRAVELERS.

WHOLESALE DRUGGISTS ARE NOT A UNIT IN THEIR OPINION OF THE USEFULNESS OF THIS CLASS OF EMPLOYEES.

"Surely you have not conrage enough to ask me for another advertisement after what the 'quizzical gentleman' said in your last week's issue?" This was the laughing "Good morning" hurled at the Era representative when he called to see C. Graham Bacon, Jr., of C. G. Bacon & Co., relative to the remarks made by several prominent gentlemen in the trade. "Tell that gentleman, please, that if he will figure out how much it would cost to send a salesman to 128 cities and towns in 19 States and Territories of the Union, to converse with 243 pharmacists and to take 78 orders, and then compare the amount with the $136 which we paid the Era, and he will then find that his question, though perhaps weighty in theory, would fall flat in practice.

"Let us now do away with one important point, as to whether or not it is wise for a wholesale drug house to dispense with traveling salesmen. I shall give my idea that it is a thorough and honest trial. If my plan fails I shall be the first to realize and recognize it, and also the first to acknowledge the superior wisdom of those older and more experienced in the drug business than myself, who express themselves that it is not wise.

"In response to the hearty endorsement of our principle as given by one prominent wholesaler, whom, by the way, I privately consider the smartest man in the business to-day, I can only say that as C. G. Bacon & Co. will earnestly endeavor to fulfill the requirements he specifies, we sincerely hope our methods 'are certain to beget prosperity with or without traveling salesmen.'

"I would mildly remonstrate with the gentleman who says, 'I will meet the prices named by C. G. Bacon & Co. on all the patent medicines they name here and go them one better.' A few cents invested in the 'Rebate Book,' issued by the N. W. D. A., would convince that gentleman that 'going us one better' on all the patent medicines we named would lead him into breaking written agreements, together with bringing forth a just rebuke from our respected friend, Mr. Kline. I have far too high an opinion of the intelligence and business-mindedness of retail pharmacists, if I am not correct in the belief that but a trifling percentage of them would be so bigoted as to refuse to buy their goods where they could buy them cheapest, even if they did leave a house where they had been dealing 'for years.'

"That our course is 'a bait to draw away customers from other firms' we most emphatically deny, but would explain as 'advantages offered to draw trade to ourselves.' And here let me quote a clause to emphasize this point, which we make use of in nearly all the letters we write to new customers under this plan: 'Please let us say, however, in addition, that not alone would we give you the benefit of these extremely close prices, which we quote you from week to week as leaders, but we would remember in pricing your orders that they came to us direct and not through a salesman, to whom we were obliged to pay a commission of 4 or 5 per cent., or whose salary amounted to 4 or 5 per cent., and we would, in consequence, take pleasure in giving you the benefit of this saving.'

But, there, I am only taking up your time and space—the valuable time of others in reading what surely can be of interest only to our humble selves and our customers—and detaining myself from attending to a business which keeps me working at my desk evenings as well as days. There is much, very much to be said on both sides, I realize, so just leave me alone to work as hard, as faithfully and as honestly as a young man with a name and future to make for himself can work, and if I fail in my purpose, just remember it was not because my work lacked heart, or soul, or the best endeavors I could give it."

So worked up had Mr. Bacon become in his earnestness that at this point he almost faltered, so the Era reporter withdrew, not without, however, the picture of a young man with the courage of his honest opinions arraying himself against his older and more experienced competitors.

Boston, Nov. 4.—What the Era has published about the employment of commercial travelers by wholesale druggists has been read with keen interest here in Boston as well as in other parts of the country, and below are given concisely the views entertained on the subject by representatives of the leading jobbing houses. It will be seen that while some dealers are inclined to consider "drummers" an expensive and troublesome item, others value them highly as a means of keeping in close touch with their customers' needs and desires.

Mr. G. Waldo Cutler, of Cutler Bros., says he has the best opinion of the commercial traveler, especially those who have grown up in the firm's employ. They are, in his opinion, one of the best kinds of advertising. They have the firm's interests at heart, and work not alone for themselves, but for those who employ them. And another thing, the retailers become better acquainted with the house and are in closer relations with the principals through the medium of its outside, or commercial, men. All of the five in the employ of the Cutlers were brought up in the house, and know the business from A to Z; yet they are susceptible to new ideas and methods. Mr. Cutler believes, he says, in the old saw:

"If by the plow one must thrive,
One must either pull or drive."

Mr. A. C. Smith, of Smith, Benedict & Co., in speaking with a representative of the Era, said he finds the drummers an indispensable adjunct to his business. In fact, he was free to say that he could not carry on the jobbing trade without their aid. His house had tested their value in various ways; had tried various methods such as extensive advertising, the mails, etc., but had come to the conclusion that "the drummer is here to stay," and is of great value to the house in keeping it in constant touch with the retailer.

George C. Goodwin & Co., have four commercial men on the road. The firm employs them, they say, because they feel obliged to, inasmuch as other jobbers have travelers. A member of the house said, in a talk on the subject, that he agreed with one or two others in the wholesale trade in Boston, that the employment of drummers is an expense which adds greatly to the cost of conducting business; but no adequate expedient had been devised as yet to offset it.

Mr. John A. Gilman, of Gilman Bros., who employ three travelers, says he finds it for the interest of the firm to have representatives on the road.

Mr. Bernard Jenny, of West & Jenny, when asked to give his opinion of the value of commercial travelers in the wholesale drug trade, answered that he had no hesitation in saying that in his opinion it is an expensive way of doing business. His firm employs three, thinking that it must, because all the other jobbers in Boston employ drummers.

Mr. Richardson, of Rust & Richardson Co., believes in the commercial man, but discountenances any "fake" or underhand methods of getting trade. Mr. Richardson knows the advantage of employing good, trustworthy drummers, who will represent the house, he says, as he would do it himself.

Mr. Fred Carter, of Carter, Carter & Kilham, declined to express his views, further than already given at the recent national convention of the drug trade held in September, and expressed in his address there.

Weeks & Potter's estimate of the commercial traveler is found in one of their late cards to the retail trade, which sets forth that the firm does not have to pay for the commercial men's wine dinners and cigars, and other "incidental" expenses, and that, by the saving of these items, the firm is enabled to give its customers the benefit of that saving. The card is subjoined:

Office of Weeks & Potter Co.,
360 Washington St.
Boston, Oct. 21, 1895.

We simply don't have to. We have no traveling salesmen. We have no right whatever to saddle such a big expense upon our customers. We reach them in a more economical manner. We don't take up their time telling funny stories. We don't ask them to have a drink and a cigar, and put that drink and that cigar on to our expense account, and so make the customer pay for it. We don't employ anybody to try to make a druggist buy more goods than he wants to buy. We simply don't have to employ drummers, anyway. Our prices are so low that business comes to us; if they were higher, we should be obliged to hire drummers to force our goods.

We are here to fill the retailer's smallest order without an instant's delay, on the smallest margin of profit that it is possible for us to live on.

The man who wants more than that, wants something that will not be good for him. Yours truly,

WEEKS & POTTER CO.

P. S.—Facts are some times interesting. You will hear from us again.

Philadelphia, Nov. 2.—The article in last week's Era, headed "C. G. Bacon & Co. Stir Things Up," was the subject of much comment in the trade circles of this city. Those who had not seen Bacon & Co.'s advertisement in the previous issue of the Era saw the general comments upon it last week, and the views expressed by the different firms were read with no little interest.

When asked what they thought of Bacon & Co.'s scheme, some of the jobbers in this city refused to discuss it as worthy of notice, while others were not slow in condemning it.

Mr. Shoemaker, of Shoemaker & Busch, said: "It is a fake pure and simple. C. G. Bacon & Co. do employ travelers; as many travelers to the square inch as any other firm. Their advertisement in the Era of two weeks ago was not only unmercantile, but not strictly honest. Their peculiar system will in the end bring them to grief. They advertise certain things at cost, but they stipulate these certain articles shall only constitute one-third of the entire order, which is utterly unprofessional. No one wants to deal with a house where they advertise an article at $2 per pound, and if you want three pounds it will cost you $2.40. Every wholesale house needs good travelers. They are indispensable, especially in these times."

Mr. Bullock, of the firm of Bullock & Crenshaw, has had a great deal of experience with traveling salesmen and knows their value fully to his house. He says he could not get along without them, and any house that attempts to will in the long run lose heavily by doing away with its salesmen.

Mr. Lambert, of Miller & Lambert, said: "We cannot get along without good salesmen. We all have to have them simply because houses that are in direct competition with ours have them. I think honestly, however, that a man in this business loses on three out of every five salesmen, but to get along without them entirely is a thing that I would not like to try. I assure you that if a firm has a force of good salesmen on the road it pays him to the uttermost in the end, and I think in this day that any house that attempts to get along without its travelers must suffer a loss before long."

Mr. Cave, of French, Cave & Co., said: "It would not be fair for us to enter into a discussion of the merits or demerits of travelers employed by jobbing houses and the loss or gain in doing away with them entirely, as we are manufacturers, and therefore in an entirely separate line of business. I might say, however, we employ a large force of travelers, and in our experience we know we could not do without them."

Dr. Schenck, of J. H. Schenck & Son, said that in their business they did not need salesmen on the road, as they sold directly to the jobbers, but from personal observation he knew the wholesale houses who employed the best and largest force of travelers were the most successful.

A number of other gentlemen representing large jobbing houses here, but who did not wish to be quoted, were of the opinion that C. G. Bacon & Co. would soon realize their need for travelers if they had done away with them, and that they could not pursue their present methods long succesfully.

Chicago, Nov. 1.—The following expression of opinion as to the propriety or advantage of maintaining traveling salesmen by the wholesale drug houses were obtained from several of the leading wholesalers and others connected with the trade in this city:

H. A. Antram, of the Randolph Box & Label Co., said: "We have tried doing without traveling salesmen and it won't work. I know this much, we couldn't get along without traveling men. The trade prefers salesmen. When our salesmen have been off the road for two weeks we notice an immediate falling off in trade. Salesmen relieve the retail druggists of the bother of making out and sending an order, and they expect it. It is the man who is on the ground who sells the goods."

H. W. Matthews, of the Morley Drug Co., said: "We regard traveling salesmen as a legitimate adjunct and indispensable to any wholesale house. Of course the house, whether seeking new business or holding regular customers will be governed by its needs. Commercial travelers keep in touch with the retailer better than any price list."

Charles E. Matthews, of the Chicago house of Sharp & Dohme, was smilingly brief: "It takes a salesman to sell goods. We couldn't get along without them. Personal representation is what the trade expects and demands."

Vice-President J. G. Peters, of the Fuller & Fuller Co., replied to the query of your representative as follows: "Nothing is more apparent than the fact that business methods change and change again as the requirements demand. In these days it would seem that the closer the touch of the jobber with his customers the more satisfactory would the relation be to both. The tendency toward more frequent purchases renders it impossible for the buyer to visit the market at each purchase, and it is at this juncture that the traveling salesman has made a place for himself of great value to the house, assuming him to be a man of first-class qualifications. In the olden times, when the habits of the buyer brought him to market twice annually at which times he made his purchases for the season, traveling salesmen had no place in the economy of the trade."

Said Mr. Plummer, of Morrisson Plummer & Co.: "Both advertising and traveling salesmen are necessary. Present conditions would indicate this. The traveling salesman and the advertisement cannot take each other's places. One supplements the other. The retailer wants to talk to somebody."

Robert Stevenson said: "Commercial travelers are a necessity for the business at present and a heavy expense. If the business could be conducted without the traveling man the saving of this expense would be a nice profit. Good traveling men who understand their business are very valuable to any business that has to be conducted in that way, and, vice versa, a poor one is a very great damage. As far as I can see at present we are unable to conduct business without them, therefore we accept them as a necessary part of the business. I have seen the time, however, when we did not have traveling salesmen we made a better percentage of profit than we are now making."

Peter Van Schaack, his cigar, and the very papers on his desk seemed electrified with interest when the reporter started the question. "Well," said Mr. Van Schaack, "can't I have till Monday morning to consider that? I'm pretty busy now." But the reporter said no. "Well," resumed Mr. Van S., "printer's ink is the best kind of a traveler. Besides using the drug press, we have for 25 consecutive years published an illustrated drug catalogue of 1,000 pages and 2,300 cuts and illustrations. It has been a traveler always on the spot, and a traveler near at hand to the pharmacist. I believe the sentiment of the jobbing drug trade of the country is that there are too many travelers on the road. It might be all right if one was sure of securing men of ability and integrity who would reflect credit on the house. I believe to-day we employ fewer agents on the road than any other jobbing drug house of any pretensions in America. Indeed, for many years we never had a traveler on the road, and the net results of the business were never better.; but we have gradually followed the trend of affairs, and now have a few. I believe the day will yet arrive when the trade will come to an arrangement for reducing the army of men on the road."

Mr. Keeling, Jr., of Humiston, Keeling & Co., would not be betrayed into any expression of opinion beyond the fact that the firm employed traveling salesmen.

Great Loss of Life at Detroit.

Detroit, Mich., Nov. 6.—An explosion of the boilers in the Evening Journal building at 9 o'clock this morning completely wrecked the building and the adjoining premises, 43 Larned street, the latter occupied by Charles Wright & Co., manufacturing pharmacists. The loss of life has not been ascertained, but it is feared that the list of dead may reach fifty.

Cincinnati, Nov. 4.—N. Ashley Lloyd, of Lloyd Bros., dissected Bacon's advertisement thus: "The castor oil in the list is sold at cost. So is the bismuth. The carbolic acid is below cost, though it could be bought in drums and sold at a profit at that price. The citric acid can't be sold at that figure without loss. We sell fuller's earth and Scotch snuff cheaper than he does. His condition that these articles may comprise only one-third of a bill exposes the weakness of the scheme. Traveling men are a costly article. However, we find that in the territory covered by them business is A1. Outside of that orders are sporadic. Another point: Four-page advertisements cost money, more in the end, perhaps, than a traveling man. Don't the customers of firms without traveling men pay for circulars, advertisements, etc., necessary to keep the firm in the eye of the trade? I think they do. You must have a man to show your samples. A traveling man represents the house in the fullest sense of the word. He keeps in direct touch with the buyer and can explain away any little accidents which occasionally mar the pleasant relations between dealer and jobber. The actual number of orders turned in by a traveling man doesn't make him worth keeping, but good will toward the house which he establishes makes him indispensable."

Otto Stein, of Stein-Vogeler, said: "I have heard of Bacon before and I don't believe in his pretensions. His trick is an old one. The traveling man is an evil, but he is an evil that has come to stay."

Another member of the house said: "We have had a little experience with traveling men. Until recently our only outside man was the local drummer. Through him we got practically two-thirds of the trade in Cincinnati. Outside of that business was small."

Charles G. Merrell, of the Merrell Chemical Co., had this to say: "For a house to sell at such prices as are given in that list means one of two things, either it is cutting its own throat and will die presently, or it is offering inferior goods. We can't get on without traveling men. We employ about fifty and sometimes increase, but never decrease their number. Seventy-five per cent. of our orders are received through them. If we were to cut them off the business would probably be as big as ever and 6 per cent. on sales would be saved. That would mean an enormous profit, but it wouldn't last more than three or four years at most. Then it would fall away to nothing very fast. However, New York is the place for that sort of scheme. The population in the immediate vicinity will support a house without drummers, perhaps. If it can be done the house is bound to make money. I know that it can't be done here except by outlawing oneself."

John J. Justis, of Hale, Justis & Co., was asked whether he thought a house could dispense with traveling men. "That depends on the house," he replied. "If its members are very popular, have a wide reputation, a host of friends, and sell the best goods at the cheapest rates, it may do without drummers. We do not employ many outside men, but I find that unless we have some one to attend to our interests other houses get the business. The men bring in about a third of our trade and cost from 4 to 5 per cent. of what they earn. They are a necessity to us."

John D. Park, of Park & Sons, was the solitary exception to the rule. "We haven't had a traveling man about this place for twelve years," he said. "They swallowed up so much of the profits that you couldn't see our share with a microscope. We cut off our traveling men. There was 6 per cent. saved. We divided this with the customer. In consequence we have been practically boycotted by the National Druggists' Association, but we have kept our heads above water and grown fat without drummers."

"THE PERRINE DRUG CO."

FACTS IN ANSWER TO THE INQUIRIES OF DRUGGISTS ABOUT THE CONCERN.

So many alleged drug companies have been started in this city simply for the purpose of swindling out of town druggists and manufacturers that it is no wonder the latter refuse to do business with a new firm unless cash is paid on the first order or satisfactory references are given. The trade has good reason to remember the Sampsons and others who caused much bother, even if they did nothing criminal.

Now the trade is talking about a concern at 221 Fulton street called the Perrine Drug Co., of which C. Gerrish appears to be the responsible head. The Era has received inquiries regarding this firm and so have several firms in this city, and the facts here given ought to give the inquirers a fairly good idea of the Perrine Drug Co.

In June last, when the Perrine Drug Co. was located at 41 Dey street, a representative of a drug house called at that office, on the second floor, and asked the man in charge to make a statement in regard to his business. This he declined to do, saying that he could furnish references, if necessary, to parties who wished to have dealings with him. This statement must be compared with the answer to a Western concern printed below, in which references are refused even after an order had been sent for goods.

Not long after the interview told above the Perrine Drug Co. moved to 221 Fulton street, next door to Maris' and almost opposite Bruen, Ritchey & Co. From that address an inquiry was sent to the Era for a druggists' directory and a representative of the Era went to the office. The caller was received very curtly, the person in charge stating that he was too busy to talk, but that anything the Era had to say might be put in writing and submitted to him. Later on the party seen then, presumably C. Gerrish, sent for a directory, which was sent C. O. D. and paid for.

About a month later inquiries began to come in about the concern and Gerrish. It appears that on Oct. 17 the Perrine Co., through "C. G.," ordered from the Nerve Seed Co., of Chicago, "one gross nerve seeds." The order was written on a letter head which read as follows: Perrine Drug Co., C. Gerrish, proprietor. Wholesale patent medicines and druggists' sundries. Removed to 221 Fulton street. Sole manufacturers of Spanish Wine Tablets. Sole agents in New York City, Saratoga County Artesian Lithia Water."

The Nerve Seed Co. had no knowledge of the standing of the Perrine Co., so a request was made for references. This remarkable answer was received: "Gentlemen: Your favors of the 19th and the 26th inst. rec'd, and we will say in response that we do not deem it necessary to burden our business friends or acquaintances with a matter so small. You can fill the order or not, as you please. Resp'y, Perrine Drug Co."

There is but one impression left on a business man's mind after reading such an answer. No reply, of course, was made to this by the Western firm. It forwarded the letters in the case to the Era and on Saturday last another representative called on the Perrine Drug Co. The man seen was probably C. Gerrish, as he spoke of the house as "we." He was told that the trade was making inquiries about the concern, as to its rating, etc., and that it might be a good thing to make a statement for the benefit of the trade. The reply was that the concern was doing a particular kind of business "which we are not yet ready to describe, but will in our own time." As the concern has been in an office since June at least it has not hurried, evidently.

The store of the "company" is a large room, principally filled up with bags, boxes and such things as are found in a drug house. There was no smell of drugs about the place last Saturday, everything seemed to be arranged very neatly and looked as if nothing had been disturbed that day. Beside the person the Era reporter talked to there was only a little girl in the store and she was doing nothing but gazing out of a window. Altogether the place had a very unbusinesslike look.

Several firms in this city have had order, and the Keasbey & Mattison Co. goods, but so far as can be ascertained nobody sent the goods. Edward A. Olds, proprietor of Packer's Tar Soap, did not fill an order because of the omission of the customary consideration on first order, and the Keasbey & Mattison Co. had the same experience.

The out-of-town druggists can form their own idea of the Perrine Drug Co. from the foregoing. If asked to send an order to that concern they had better ask for cash or references and in the interest of the trade the Era would be pleased to hear what the result is. The Perrine Co. may be all right, but it has not used the usual means of demonstrating that fact.

——Kennelly & Walter, druggists of Lincoln, Ill., have removed from their former location to one block further West.

ST. LOUIS DRUG FIRMS CONSOLIDATE.

St. Louis, Nov. 1.—The Daugherty-Crouch Drug Co., one of the large wholesale drug concerns of this city, has been absorbed by the Meyer Bros. Drug Co., also of this city, which gives St. Louis, it is said, the largest single drug house in the world. The deal was consummated last evening at 6 o'clock and the amount involved is reported to be in the neighborhood of $300,000. The reason given for the sale is that the chief stockholders in the Daugherty-Crouch Drug Co. are extensively engaged in other business enterprises which take up the biggest portion of their time. It is understood in pharmaceutical circles, however, that the affair is a sort of flank movement on the part of the Meyer Bros. Drug Company against a prospective competitor. An effort, it will be remembered, was made some time ago to induce Mr. J. Cliff Richardson, of the St. Louis Chemical National Bank, to remove the business of the Richardson Drug Co. from Omaha, Neb., to St. Louis and to consolidate it with the Daugherty-Crouch Co. This would have placed a strong competitor against the Meyer Bros. Drug Co. in St. Louis. The absorption of the Daugherty-Crouch Co. by the Meyer Bros. Drug Co. was an unlooked for move and the latter company is given credit in pharmaceutical circles for having stolen a march on a prospective competitor.

The Daugherty-Crouch Drug Co. was organized in 1890, immediately after the fire that wiped out the building and stock of the Richardson Drug Co. The incorporators were Daniel P. Daugherty, John Crouch, W. H. Tinker, William Graham and Henry Vogelsang. Messrs. Tinker and Vogelsang furnished the money, and Mr. Crouch, who was a practical wholesale druggist, was general manager, while Mr. Graham had charge of the office affairs. Mr. Daugherty sold out his interest over two years ago. The firm has been doing a business of about $750,000 per annum and employed eight traveling salesmen. Under the provisions of the purchase all of the old employes of the Daugherty-Crouch Co. will be retained by the Meyer Bros. Co. Mr. Graham will be assistant treasurer, while Mr. Crouch will also be given an important position. The Meyer Bros. Drug Co. has long had the reputation of being one of the biggest wholesale drug houses in the world. It is capitalized at $1,750,000, and, with the traveling men of the Daugherty-Crouch Co., will have fifty-two men on the road, covering nearly every State in the Union. The firm was founded at Fort Wayne, Ind., in 1850, by C. F. G. Meyer, the present president of the company, and the original house is still doing business in that city. Four years later, in 1854, a branch was opened in St. Louis, but it soon became the more prominent, and a few years later the main office was moved to this point. At one time the company had branches in Kansas City and Dallas, Tex., but these were sold out in 1892 and 1893. Mr. Meyer is still at the head of the house and exercises a general supervision over its affairs. The active management, however, is in the hands of Theodore F. Meyer, general manager; Gustave J. Meyer, secretary, and Charles W. Wall, buyer and treasurer of the company.

The change in the firms took effect to-day, but the employees went on with their work as though nothing had happened. The work of checking up the stock also began to-day under the direction of Theodore F. Meyer and Charles W. Wall, of the Meyer Bros. Drug Co. The present quarters of the Daugherty-Crouch Co., at Seventh and Clark avenue, will be retained until Jan. 1, and shipments will be made from there until the stock has been sufficiently reduced to justify removal to the Meyer Bros. Co.'s building, a few blocks away.

The following official announcement of the change has been made public:

To Whom it May Concern.

Our friends and the drug trade generally are hereby advised and notified that we have this day sold our entire business, including our good-will and trade-marks, to the Meyer Bros. Drug Co., of this city, and we bespeak for them your kind consideration and patronage. Respectfully yours,

DAUGHERTY-CROUCH DRUG CO.,
Per Z. W. Tinker, President.

Oct. 31, 1895.

Referring to the foregoing, we beg to add that we shall be pleased to hear from the friends and customers of the Daugherty-Crouch Drug Co., and to be favored with a continuance of their patronage.

All employees of the Daugherty-Crouch Drug Co. will have situations in our establishment.

We will serve the trade to the best of our ability. MEYER BROS. DRUG CO.

Oct. 31, 1895.

Ohio Items.

Cincinnati, Nov. 1.—The Standard Drug Co. expects to close out its line of stock by Dec. 1. When an accounting was made last July some profit was shown, but as the company had gone through three years without paying a dividend it was decided to go into liquidation, which is expected to be accomplished without loss. Mr. Calvert will engage in some other line of business as will also Mr. Rauchfuss, another member of the firm.

The report that Dr. Forscheimer is ill in Berlin is denied by his brother.

A Louisville druggist proved the model suicide. He is Philip F. Smith, who took poison last week. He left two notes containing together just seven words. One was "morphine," the other, to his landlord, read, "Sorry to cause you this trouble."

Patrick Nolan has sued druggist Louis Kybitz for damages. Nolan, while running after another boy, fell into the druggist's cellar through an open hatchway. The defense is that the boy was running heedlessly and that the accident was his own fault.

Political capital is being made of the pure food prosecutions.

John Billingslea, the Hamilton dairyman who was recently arrested by the officers of the State Dairy and Food Commission on the charge of selling below standard milk, charges conspiracy and malicious persecution against the officers of the local branch of the commission. He asks $20,000 damages from Assistant Commissioner Luebbing, $10,000 from Inspector Rentrop, $10,000 from State Chemist Fennel and $10,000 from Constable Weber, who made the arrest.

At the same time E. Martindale, another defendant in a case prosecuted by the commission, has filed suit against State Drug Inspector Sterrett for $10,000, Inspector Rentrop for $10,000 and Constable Weber for $10,000.

Assistant Commissioner Luebbing said: "It is an attempt to frighten us out of Hamilton. There is not a man of us who has $10,000.

A novel position has been created on the Southern Railway, that of Superintendent of Tests, to which H. B. Hodges has just been appointed.

It will be his duty to inspect all supplies except ties and lumber; to make chemical and mechanical tests to assure their fitness for purposes specified; to conduct all scientific investigations required, and try all new devices and appliances submitted.

Philadelphia Trade.

Philadelphia, Nov. 1.—The wholesale drug trade and importing houses in this city report and unusually large increase in the volume of business over the corresponding period of last year. Mr. Cave, of French, Cave & Co., at 435 Arch street, said to-day that his firm has experienced an excellent fall trade, and they still have all they can attend to. Most of their business up until the present time has consisted of shipments to all parts of the country, but principally in the South, Southwest and Northwest. Their business from now on to the holidays will be chiefly confined to local houses and nearby out-of-town points.

The Drug Exchange of this city began moving to-day to their new quarters in the Bourse Building. They have had their possessions in their old quarters on Third street packed preparatory to moving for a week past. They expect to have everything transferred to their new home by Monday night.

The new quarters in the Bourse could not be finer. The apartments are high, large, airy and well lighted, and face immediately upon Fourth street. The Exchange will be firmly established in the new rooms before the end of next week.

Half a Century Old.

St. Louis, Nov. 1.—The J. S. Merrell Drug Co. is celebrating its fiftieth anniversary this year in a manner that is characteristic of this well-known firm. Jacob S. Merrell, who founded the institution in 1845, is now dead, but the business is being conducted by his survivors. The house has never had a boom, but its business is constantly increasing in a substantial and satisfactory manner. The president of the company is Hon. Cyrus P. Walbridge, mayor of the city of St. Louis. The other officers are H. S. Merrell, vice-president; Edward Binschadler, secretary, and George R. Merrell, treasurer. "The secret of success," said one of its officers to your correspondent the other day, "is not to strive to attain bigness so much as excellency of work and fair treatment to dealers. It is advisable to watch carefully the development of trade and to keep fully abreast of the times without a flourish of trumpets."

NEW YORK AND VICINITY.

——S. B. Leonardi, of Tampa, Fla., was here for two days last week.

——G. R. Davis, of Scranton, Pa., was seen on Fulton street last week.

——John P. Frawley, of Bangor, Me., has been spending a few days in town.

——Henry F. Sasse, N. Y. C. P., class of '93, has secured a position with Charles E. Erb.

——W. R. Warner was in town last week. Peter R. Lance has started on his Western trip.

——W. J. Gesell, of Lehn & Fink, is receiving congratulations on the advent of Master Gesell, No. 2.

——B. R. Baxter, a Buffalo druggist, who has been in business for many years, has made an assignment.

——A. Swiedler, formerly in the drug business in Brooklyn, has now purchased the pharmacy at 31 Rutgers street in this city.

——H. Ivah Thompsen, of John J. Thompsen's Sons, importers and wholesale druggists of Baltimore, was in town recently.

——W. M. Davis, formerly at Broadway and Halsey street, Brooklyn, is now connected with Seabury & Johnson's laboratories.

——C. I. Hood, of sarsaparilla fame, is quite an extensive breeder of horses. He disposed of a number at a sale in this city this week.

——Carl J. Ericson, who was at one time in the retail drug business in Florida, has accepted a position with Weis & Chubbuck, Rockaway Beach, L. I.

——Albert H. Bischof & Son will open a new pharmacy at the corner of 161st street and Third avenue, Nov. 15. McKesson & Robbins furnished the stock.

——E. P. Montague, of Schieffelin & Co.'s force, has so far recovered from his attack of pneumonia, that he is expected back at the office in a day or two.

——Among the out-of-town druggists who called on the trade last week were Messrs. Baxter, of South Norwalk, Conn., and Larison, of Madison, N. J.

——Daniel F. O'Connell, formerly in the retail drug business on lower Broadway in this city, is now one of George Kneuper's force at the City Hall pharmacy.

——Charles S. Erb, druggist, corner Sixty-fifth street and Amsterdam avenue, is mourning the loss of his father, Edward Erb, who died very suddenly of apoplexy Oct. 24.

——Oscar Wirth has resigned his position with F. W. Kinsman, Twenty-fifth street and Fourth avenue, to attend the junior lectures at the New York College of Pharmacy.

——Augustus W. Reynolds, connected with the firm of Minett & Co., varnish dealers at 60 Pearl street, died at Kingston, N. Y., last week. He was fifty-nine years old.

——Charles S. Prowitt, a leading druggist of Denver has been visiting points of interest in the East with his bride. They left for home last week, after a month's sty here.

——Dr. Wellman, of Wellman Bros., and F. W. Palmeter, of Jamestown, N. Y., and Mr. Martin, of Martin & Epley, Franklin, Pa., were in town the early part of last week.

——H. P. Reynolds, of Plainfield, N. J., and Mrs. Reynolds have been spending a few days in this city. Mr. Reynolds called on friends in the trade on Friday and Saturday last.

——C. H. Bangs returned to Boston last week after a few days' stay. He was feeling much better than for some time past, and has almost entirely recovered from his recent illness.

——G. R. Banich, formerly at Sultan's pharmacy, Twenty-third street and Third avenue, and lately with B. Liebig at Steinway, L. I., has left the latter position and will soon resume clerking in this city.

——Henry Woodward, a prominent wholesale and retail druggist of Middletown, Conn., and one of the best known men in the profession in that State, came in last week to purchase a line of holiday goods.

——Howard England, who now has an attractive drug store at 858 Elizabeth avenue, Elizabeth, N. J., was for twelve years manufacturing clerk for Alexander Hudnut, and was later on with Dr. Charles Perry.

——George Emerson Manville, N. Y. C. P., '93, now in business at Whitesville, N. Y., paid a visit to his New York friends last week. Mr Manville, was formerly connected with Perry's pharmacies.

——Thomas F. Main, of Tarrant & Co., met with a slight accident the other evening while boarding a cable car. Although his sprained ankle made walking painful, he did not miss an hour from work.

——Friends in this city of Otto P. M. Lieberenz, who graduated from the College of Pharmacy here in 1891, will be glad to hear that he has become a ranch owner near the city of Tampico, Mexico, and is doing well.

——Walter Boston, one of Dr. Charles Perry's clerks, who went to Europe on July 31, returned this week on the Berlin, which left the other side on Oct. 26. Mr. Boston has been visiting his parents in England.

——Ex-Justice Henry Tate, owner of the Depew Opera House pharmacy in Peekskill, was severely hurt about the face by a fall last Thursday. While stepping out of his store he was seized with a fainting spell and fell against a nickel-in-the-slot machine.

——Mayor Strong's appointments to the Manhattan Day Committee of the Atlanta Exposition include the names of Samuel Fairchild and J. Seaver Page. Brent Good was among the representative business men who attended the meeting on the subject in the Mayor's office last week.

——C. F. Boehringer & Soehne's force has been enlarged by the addition of Dr. J. B. Gunter, who has sold his store in Norfolk, Va., and W. J. O'Brien, formerly in the drug business in Lambertville, N. J., and later with Druggist Frye, of Portland, Me. Mr. O'Brien is now working the Northern portion of New York State.

——In spite of Mr. Timkin's previous denials, the rumor will not down that he will shortly lead a charming young lady to the altar. The McKesson & Robbins' bowlers fear the event would deprive the McK. & R. team of Mr. Timkins' valued services, but they have his word that nothing shall interfere with the great game. The victories of the team two weeks ago cost some members a pretty penny for celebration purposes.

——Now that the post-office department has declared the "shaving-stone" to be a fraud, and that no mail shall be delivered to the sellers of the stones, it might go further and stop the mailing of papers containing an advertisement of the fraud. A Georgia druggist sends the Era a copy of the Chicago Saturday Blade of Oct. 26, 1895, in which is boldly displayed a shaving-stone "ad." The advertiser is the Brown Chemical Co., 113 Fifth avenue, Chicago.

——Treasurer McDermott, of the Drug Trade Club, is a very popular man. His many friends wished to give him more than congratulations when he returned from his wedding trip a few days ago, so they selected a very fine set of cut glass and gave it to him at the club rooms last Thursday. There were no formal remarks. Mr. McDermott returned thanks briefly and with feeling.

——D. R. Reed, of the Low Art Tile Co.'s New York office, was summoned to Wilmington, Del., last week by the death of his father.

——The Niederwald Society, which is composed almost entirely of druggists, and of which V. Kostka is president, is one of the German societies that feel the hand of Roosevelt heavy upon them. The custom of the organization was to have the women folks and children gather at the society's meeting place Sunday afternoons and have coffee and light refreshments. Later the men came, a keg of beer was tapped and conversation, singing and other innocent amusements made the time pass very pleasantly. Nothing was done that in any way invaded the rights of others. But the Sunday Kaffeeklatch is tabooed. Now the Niederwald will have its meetings at Teutonia Hall, on Third avenue, on Friday evenings. The first takes place to-morrow evening.

——Francis Henry Loss, a well-known retired druggist of this city, died last week at the age of 73 years. He came from one of the old New Jersey families, Lossburg, a village near Weehawken, bearing the family name. Mr. Loss was a member of of one of the first classes in the New York College of Pharmacy, and was one of the oldest honorary life members of that institution. After studying under the tutelage of his brother-in-law, Augustus Wiseman, a well-known German druggist, and one of the founders of the College of Pharmacy, Mr. Loss began clerking in the drug store of Puston & Hegeman, then went as partner with Mr. Wiseman. Later he started a store of his own near the corner of Sixth avenue and Fourteenth street, and had branch stores in Brooklyn and Newark. About 11 years ago he retired. He always took great interest in the College of Pharmacy.

——Dr. Frederick Hoffman, of the Pharmaceutische Rundschau, is going to Europe soon. He has for thirteen years ably edited that journal, and his retirement is only a partial one. His interest in the journal does not cease, and he will send from Europe valuable contributions from time to time. The active editor will be Dr. Edward Kremers. Beginning with the new year the main part of the Rundschau will be printed in English, but such articles from German contributors as would suffer by translation will continue to appear in German. Among those who will co-operate with Dr. Kremers are Prof. Charles Caspari, Jr., professor of pharmacy, Maryland College of Pharmacy; Prof. Charles O. Curtman, M. D., Missouri Medical College; Prof. J. U. Lloyd, pharmaceutical manufacturer; Dr. Carl Mohr, U. S. Department of Agriculture; Dr. F. B. Power, formerly a professor of pharmacy, and now with Fritzsche Bros.; Prof. A. B. Prescott, M. D., dean of the School of Pharmacy at Ann Arbor, Mich., and Prof. Wm. Simon, of the Maryland College of Pharmacy.

——Manager J. A. Sangston, of the Low Art Tile Co.'s New York office, returned from his wedding trip last week, and is at present one of the busiest men in town. The New York office is being enlarged by the extension through to the next store in the Havemeyer building, and the place is over run with workmen. In about a week Manager Sangston expects to be able to receive his friends in his new office. Meanwhile his calls for cold and hot fountains are numerous. He has supplied apparatus for Tiesler's pharmacy, at Orange, N. J., which store has just been redecorated, and for Brodel Bros.' new store at 1679 Third avenue, this city. Among the hot apparatus purchasers were Hudnut, 1201 Broadway; H. O. Lindsley & Co., Columbus avenue and Eighty-sixth street; A. J. Smith, 360 Bowery; Kellogg & Co., Sixth avenue and Fifty-eighth street; H. England, Elizabeth, N. J.; J. E. Stiles, Morristown, N. J.; F. Johnson, New Rochelle; Clayton Calhoun, Princeton, N. J.; T. N. Willard, Main street, Manayunk, Pa.; L. M. Haanen, 359 Third avenue, Brooklyn; O. R. Gurnee, 1225 Bedford avenue, Brooklyn, and the St. Cloud Pharmacy Co., Seventh and Arch streets, Philadelphia.

Results at the Alleys.

Only one team managed to win two games in the bowling tournament on Saturday last. That was the Dodge & Olcott five, whose members also rolled up over 700 total in one of their victories. The results were as follows: Powers & Weightman, 695, and R. W. Robinson & Co., 678; McKesson & Robbins, 652, and Lanman & Kemp, 513; R. W. Robinson & Co., 596, and Tarrant & Co., 593; Dodge & Olcott, 693, and Lanman & Kemp, 584; Tarrant & Co., 621, and Powers and Weightman, 562; Dodge & Olcott, 715, and McKesson & Robbins, 671. Dodge & Olcott now lead the association with a record of four games won and none lost. Colgate & Co., and Bruen, Ritchey & Co. have won two games each and lost none.

HERE AND THERE.

——Druggists of Irondale, Ohio, are charged with illegal liquor selling.

——The Anderson Drug Co., of Anderson, Ind., intends entering into the wholesale drug business.

——John G. Wiesinger, druggist at 1422 Fort street, W. Detroit, Mich., is dead. He was thirty-one years of age.

——A. H. Bailey, of Boston, manufacturer of Bailey's Extract of Clams, was a caller at the Era office Oct. 30.

——H. Harrison Hopkins, a druggist at Havre de Grace, Md., died there last week. He was 54 years of age.

——E. F. Clarke, a druggist who until recently resioed in Nebraska, has moved to Hagerstown, Md., and opened a pharmacy there.

——The case of Casper L. Cohn, a germicide maker in Boston ,came up in the insolvency court on Nov. 1, and was continued till March 13.

——One of the sufferers by a big fire at Miller's Falls, Mass., was E. M. Partridge, a druggist, who lost $3,500. His insurance amounted to $2,500.

——C. J. Thompson has brought suit at Chester, Pa., against druggist Robert F. Smith, for alienating his wife's affections, and wants $25,000 damages.

——W. L. Purcell, the Missouri druggist who was found dead on the railroad track near South Greenfield, is supposed to have been murdered for the money carried upon his person.

——Bowers Wood, who has been a clerk since 1851 in Barker's drug store in Taunton, Mass., died Oct. 22, aged sixty-nine. He was unmarried, and was much esteemed as a citizen.

——Burglars, attempting to rob Hyde's drug store at Mahoningtown, Pa., used too large a charge of powder for blowing open the safe, and the explosion thoroughly wrecked the store.

——Druggist Ed. Robinson, of Bellevue, Mich., was indicted last spring, by the grand jury for alleged violation of the local option law. On Oct. 24 he was acquitted by a jury in the circuit court.

——At La Crosse, Wis., C. O. Gorder has opened handsome new drug store at 1220 Caledonia street. The fixtures are of birch with show cases to match. It is one of the prettiest stores in the city.

——Frank W. Pollard, proprietor of the Phoenix drug store in Haverhill, Mass., one of the largest pharmacies in Essex County, has made an assignment to Porter Croy. His liabilities are estimated to be $8,000.

——A manufacturer at Red Wing, Minn., has made 600 barrels of excellent vinegar from watermelons, and also a large quantity from muskmelon and watermelon combined. The watermelon vinegar is considered the best, though both are pronounced good.

——A drug clerk at Fairport, N. Y., thinks a jealous rival has designs on his life. On separate occasions he has been struck with a club, stabbed at, and a few nights ago a bullet from a revolver passed through his hat brim. The course of true love never did run smooth.

——It is reported that there is to be a reorganization of the wholesale drug firm of Hurlbut, Ward & Co., of Des Moines. New capital is to be interested, and the business placed in charge of a new company. The details are not yet arranged.

——A handsome girl of seventeen tried to commit suicide in a drug store in Malden, Mass., the other day by taking half an ounce of laudanum, but a companion snatched from her hand the bottle containing the drug after it had been partly emptied.

——The Postmaster General has issued a fraud order against the Brown Chemical Co., of Chicago, debarring them from using the mails for advertising their business. This business consists of the sale of the shaving-stone fraud, which has been several times exposed in these columns.

——John Tomlinson, member of the city council and a druggist at Marion, Ind., has left the city on account of a number of indictments against him for illegally selling liquor. He turned his store over to Wm. Siders, who is conducting the business. The Nicholson bill seems to be making it lively for saloon-druggists in Indiana.

——As six quarts of ale, two of brandy, three of whisky and three of wine, besides other liquors, were seized a few days ago by the police of Malden, Mass., at the drug store of J. R. Colby, there appears to be reason for some of the pungent comment on the drug trade of Massachusetts by the pharmacy board in its annual report.

——A druggist from an interior town, after an evening's dissipation in Albany, N. Y., returned to the hotel at which he was stopping and, wanting a finishing drink, helped himself out of a bottle in the room. The shoe blacking which he swallowed did nearly prove the finishing drink, but the physicians pumped him out and left him out of danger.

——Dr. Frank A. Harrison, who for many years conducted the pharmacy at the corner of Biddle and Eden streets, Baltimore, made an assignment last Friday to Henry King, Jr. He wants to retire from business. Several months ago he practically withdrew from active pursuit of his profession on account of ill health, the store having since been managed by his former clerk.

——After being out for twenty-six hours the jury in the case of Dr. George Nichols, a druggist in Northfield, Vt., reported a verdict of "not guilty." As Dr. Nichols has been president of Norwich University and Secretary of State for eighteen years, the interest in the trial was widespread. He was indicted a year ago by the grand jury for keeping a liquor nuisance at his drug store.

——It is proposed by the overseers of the poor of Salem, Mass., to buy at wholesale the quinine pills required by the department, because somebody discovered that they have been paying at the rate of 25 cents a dozen, whereas the pills could, it is said, be bought for 40 cents a thousand. But just how many hundred dollars will be saved by this master

stroke of economy has not been calculated.

——Ernest Hasenbalg, who formerly conducted the pharmacy on the corner of Eastern avenue and Broadway, Baltimore, Md., and who went to Germany one year ago with the intention of making that country his permanent home, has returned with his family. He returned on the steamer Palatia, which arrived in New York last Thursday. He now says Baltimore is the only place in which he wants to live.

——Edmund J. McGraw, a druggist at the southwest corner of Edmondson avenue and Schroeder street, Baltimore, has purchased the pharmacy of Charles S. Tilyard, on the southwest corner of Greene and Franklin streets, mention of which had previously been made in these columns as being for sale. Samuel Robinson, until now clerk in the Edmonson avenue store, will manage the other establishment, having also an interest in the business.

——John R. Porter, a well-known and old-time druggist, of Rockford, Ill., in attempting to fix a brace in a window on the third story of his drug store on Oct. 28, lost his balance and fell to the street. He died of concussion of the brain, never recovering consciousness. He was sixty-two years of age, and had been engaged in the business in the same location since 1858. He was a high Mason, and with his family was very prominent socially. He leaves a wife, three sons and one daughter.

——Judge Hagner, of Washington, D. C., on Monday, Oct. 28, dismissed the case in which Dr. W. A. Hammond sought to have a receiver appointed for the Hammond Sanitarium Co., but another suit has been filed to keep the subject before the courts. Dr. Mahlon Hutchinson, of the Sanitarium Co., has entered suit for libel against Dr. Hammond, alleging that the latter said of him, "He is a consummate scoundrel, and I'll have him put in jail in fifty hours." For this Dr. Hutchinson wants $25,000 damages.

Mr. Frederick Stearns, of Detroit, has made another magnificent gift to the Detroit Art Museum in the shape of a valuable archæological and ethnological collection which he has spent much time and money in gathering. This is but one of Mr. Stearns' benefactions to the institution, in which he is greatly interested. The formal presentation of the collection occurred Oct. 31, at which time a reception to Mr. Stearns was given at the Museum by those who felt that they must in some way publicly acknowledge his great generosity and munificence.

——From Natick, Mass., a correspondent writes that the report that the Wellesley Hills pharmacy was sold is incorrect.—L. E. Clark is to open a drug store in the Hogan Block, about Dec. 1. —Wm. Hunna, of Boston, has temporarily entered the employ of C. H. Hoey, whose store was ordered closed by the State Board of Pharmacy, it being without a registered clerk for two months.—A Mr. Chase, of Lynn, will soon assume the management of the store.—F. W. Reeves was in town recently and organized a branch of the New England Retail Druggists' Union.

Colorado Notes.

Denver, Oct. 27.—The drug trade in Denver has been rather quiet for the past three weeks. Some of the knowing ones attribute it to the workings of Schlatter, who is posing as the new Jesus, and is supposedly curing thousands of invalids who daily flock to see him. Office hours, 10 to 3, in front of a vacant lot in North Denver. At early dawn the crowds line up in front of this vacant lot, and from then until office hours are over, at 3 P. M., they await, with a degree of patience that could never be found in one waiting the compounding of a prescription, to have the healer lay on his hands, bless and cure them. The daily press has seen fit to give this man great prominence, and many supposedly sick, some halt and blind, have flocked to him with a vain hope that he would make them perfect. As yet no bona fide cures have been authenticated. The Deaf and Dumb Institute, situated at Colorado Springs, seventy-five miles away, has had a large number of its inmates brought to Denver by doting parents, who lived in hopes that the healer would restore the speech or hearing of their loved ones. This thing went on to such an extent that Professor Dudley, in order to satisfy and please all, tried to make an agreement with Schlatter to go to the Institute and take the whole business in a wholesale way and at jobbing prices, but it appears the signs were not right, hence he did not go. Chicago, we understand, is the next place to be visited and doubtless some remarkable cures will be reported from the Windy City.

John Flemming, of Flemming & Michling, is a candidate for County Commissioner on the Republican ticket. He is a well-known and popular man and will make an excellent officer if elected.

A. B. Levi, druggist at Fifteenth and Curtis streets, is taking a course in medicine at the Gross Medical College, in this city and will place M. D., as well as Ph. G., after his name.

Certain well-known and go-ahead Denver druggists have been making a tour of the best mining camps in the State with a view of putting in an "ideal store" and running it upon a city basis. Stores, as a rule, in camps of this kind are not as elegantly fitted up, nor are they as well kept, as those in the larger towns and cities, and it would seem that in a place where money flows as freely as it does in a prosperous mining camp the best would be advisable, both in stock, fixtures and service.

Charles D. Barnes, Seventeenth and Pearl streets, leaves for the Atlanta Exposition in a week or ten days. He intends enjoying a well-earned vacation and doubtless he and Mrs. Barnes will make the most of the trip.

L. A. Jory is an enthusiastic wheelman and has many friends and patrons in the numerous wheel clubs.

C. H. Skinner takes great interest in the coming (?) fistic encounter between Corbett and Fitzsimmons. He is said to be quite handy himself.

ASSOCIATIONS, CLUBS, SOCIETIES.

——A meeting has been held at Salem, Mass., by the druggists of Essex County for the purpose of putting new life into the old association of which they are members. Fully fifty gentlemen were present, and a committee was chosen to formulate plans and report at a later meeting.

——Monthly social meetings have been resumed by the Boston Druggists Association. At that just held Mr. Henry Canning presided, and the chief guests were President Whitney, of the board of pharmacy, and Mr. Curtis Guild, of the Commercial Bulletin, who gave a remarkably interesting series of reminiscences to illustrate the growth of trade in Boston.

——The New York Branch of the Interstate Retail Druggists' League held its regular monthly meeting at 64 Madison avenue, Oct. 10. No business of importance was transacted, the time being taken up with a discussion of the proposed poison law, a draft of which appeared in the Era of Oct. 10. Attorney Leo was asked to take it under consideration and report his criticisms to the legislative committee of the league. Mr. Barnaby in a speech scored those druggists who sell patent medicines at cost and charge exorbitant prices for prescriptions. Similar remarks were made by others. Another $100 purchase on the co-operative plan was ordered, when the league adjourned, to meet Dec. 6.

Ohio Board of Health.

Columbus, O., Oct. 30.—At the meeting of the State Board of Health tonight Dr. Byron Stanton, of Cincinnati, was succeeded by Dr. S. P. Wise, of Canton, as president of the board. A plan for a sewerage system at Greenville was approved. Prof. C. C. Howard, of Starling Medical College, presented the results of his analysis of the drinking water furnished to the chief cities and towns of the State. It shows that Toledo has the worst water in the State, and that Findlay, Circleville and Zanesville come in that order after Toledo in the dangerous character of their water. The Cincinnati water, Professor Howard said, came within the class called "permissible."

What Ohio Doctors Want.

Columbus, O., Oct. 24.—To-day the Columbus Academy of Medicine sent out copies of a letter to every legislative candidate, both Republican and Democratic, demanding an expression for or against the Mosgrove bill. At the annual meeting of the Ohio Medical Society last spring a similar course of boycotting all candidates to the Legislature who would not pledge themselves to vote for the Mosgrove bill, was agreed upon.

The letter sent out to-day shows that the physicians mean business. The Mosgrove bill was defeated in the last Legislature. It provides for a registration of physicians, compulsory State examination, etc.

The letter is as follows:

"I am instructed by the Columbus Academy of Medicine to address you in regard to the Mosgrove bill. We earnestly desire its passage, and will support no legislative candidate who does not pledge himself to vote for its enactment. We want no substitute bill. Will you, if elected, vote for the Mosgrove bill? Please let me hear from you before Saturday, Oct. 26, as all communications will be presented to the Academy Oct. 28, and final action taken. A failure to reply will be interpreted to mean that you will not support the bill.

"DR. H. M. PLATTER, Secretary."

German Apothecaries Society of New York.

The members of this organization had a most enjoyable entertainment on Thursday evening, Oct. 31, at Maennerchor Hall. Owing to the tempestuous weather the attendance of the members was rather slim, compared with the number who usually attend the society's entertainments, yet still there were about 150 present. Prominent among the members were Messrs. Ramsperger, Kostka, Kessler, Schur, Schleussner, Pfeiffer, Roller, Behn, Dr. Ad. Tsheppe, Wortmann, Stolzenburg, Leinecker, Faber, Walters, Bischof, Albert, Heidingsfelder, Alexander, Dr. Boeker, Dr. Pfingsten, Lenz, Thum and Wurthmann, and there were present a great many others with their ladies and friends. Dr. Ed. C. Goetting, of Pike Spike fame, chief of the editorial staff of the society's publication, also graced the occasion with his presence. Mr. John Pfeiffer, chairman of the Committee on Entertainments, seconded by Mr. Ramsperger and Mr. Roller, had provided a very select and enjoyable programme for the evening. The first number consisted of Mr. Cornelius Van Brunt's lecture, "Wild Flowers in the Vicinity of New York," illustrated with the stereopticon. The first dozen slides shown were photographs of Van Cortlandt Park, showing the localities in which the flowers that formed the subject of the lecture were found. Then Mr. Van Brunt showed the most exquisitely colored slides, depicting flowers in their natural colors, eliciting round after round of applause from the audience. Mr. Van Brunt accompanied his slides with a very instructive lecture calling attention to the characteristic features and habits of the flowers. At the conclusion of the stereopticon exhibition Mr. Van Brunt was highly applauded, and President Ramsperger tendered him the society's thanks in appropriate words. Miss Maud Mason succeeded Mr. Van Brunt, and the manner in which she sang, "What Could the Poor Girl Do?" "Oh! You Great Big Darling!" and "The Teacher and the Boy" completely took the audience by storm. In singing "Oh! You Great Big Darling!" she glanced and winked so mischievously at the society's handsome young poet laureate, Mr. Emil Roller, who occupied a front seat, that Mr. Roller had to incontinently beat a hasty retreat out of the line of fire. Miss Mason was presented with a beautiful floral basket. A string quartette, composed of Messrs. C. Windrath, Edwin and Oscar Walther and H. Farchow, rendered Haydn's Opus No. 64 most artistically. Mr. Herman Behn then declaimed Fritz Reuter's "De SoKratsche Method" in low German dialect (Platt Deutsch) amid great plaudits. Messrs. Sippel, Bierseck, Schaider, Gauss and Rockar, of the Arion Society, distinguished themselves by their acting and singing in the one-act comedy, "Ein ländlicher Heirathsantrag" (Country wooing). The acting of all was excellent and was thoroughly enjoyed by the audience. The comedy over, an excellent supper was served, wine flowed, good humor and good fellowship reigned supreme. It would be impossible to record all the toasts proposed and the responses thereto. Dancing then occupied the members' time and was vigorously kept up until early morn. Everybody was pleased with the efficient management of the affair by the committee of entertainments.

The New England Movement.

Cambridge, Mass., Oct. 28, 1895.

To the Editor:

Since my last letter to you, in which I spoke about the meetings which we were to hold, we have had those meetings and others. All have proved a great success, even more so than we expected they would. They were largely attended and those present showed a great deal of interest in the union work and a very strong desire to co-operate with the union. I believe the friends of the union in the wholesale trade, and the manufacturers, are receiving recognition from these retailers in the form of orders and in pushing the sale of the preparations of those who have joined in with us.

We have held meetings in Worcester, Springfield, Pittsfield, Greenfield and Turner's Falls, and Holyoke and Northampton. The speakers at these meetings were Henry Canning, G. W. Cobb, W. P. Draper, J. J. Curran and C. P. Alden, and their presence and remarks have helped the union work a great deal. We are to continue this form of work now for some time. I shall visit other places in which meetings are to be held, making preparations in advance, as I suggested in my last letter.

We have made arrangements for next week so far for meetings in Dover, N. H., Salem and Essex County, and Haverhill, Lawrence and Lowell in Massachusetts.

The finances of the organization are still in good condition. We have now in the three branches about $1,400, and it is increasing daily, so that we shall not suffer, I believe, for want of funds, and after we have demonstrated that we can do something there will be money flowing in without calling for it. The retailers are determined to correct this evil, and I believe are going to do all that can be expected of them as a rule.

F. W. REEVES.

——The drug clerks of Lawrence, Mass., have formed an association, the object of which is to assist them to improve, by means of quizzes, which will be held frequently during the winter. The following officers were elected: President, George E. Wardrobe; vice-president, N. Burke; treasurer, Albert Kelley, financial and recording secretary, P. H. Matthews.

BOARDS OF PHARMACY.

——C. S. Porter, of Somerset, Ky., has been appointed by Gov. Brown a member of the State Board of Pharmacy.

——The Iowa State Board of Pharmacy announces that it has learned that many druggists who have no liquor permits are renting such at the rate of $1 to $3 per day from persons who do hold them. The board intends to commence proceedings at once to forfeit the permits.

——The secretary of the New Jersey Board of Pharmacy calls attention to the amendment to the pharmacy law in that State which orders a triannual re-registration of all registered pharmacists and assistants. This law was approved Mar. 20, 1895, and the date for such registration has been fixed by the board for the first day of January, 1896. Present holders of certificates must remit to the secretary, Albert S. Elwell, Bridgeton, the fee of 50 cents, together with their registration numbers, addresses, etc., in return for which a certificate of renewal will be issued.

——At a meeting of the Board of Pharmacy of Virginia, held in Richmond Oct. 22-24, the following passed as registered assistant pharmacists: J. A. Branch, Ellrick; A. H. Bowie, Richmond; C. R. Claiborne, Lynchburg; R. Gibson, Alexandria; M. G. Lassiter, Suffolk; W. R. Matthews, Norfolk; E. W. Sanford, Richmond; T. A. Murry, Alexandria; J. E. W. Timberman, Alexandria. The following as registered pharmacists: R. G. Bickle, Neapolis, Va.; J. M. Benson, Danville, Va.; R. L. Dixon, Milton, N. C.; J. A. Hays, New York; E. S. Keyser, Honeyville, Va.; M. C. Judd, Bedford City, Va.; M. K. Lupton, Luray, Va.; E. A. Morrison, Petersburg, Va.; F. Nelligar, Norfolk, Va.; W. H. Roethlein, Lynchburg, Va.; W. H. Wenger, Baltimore, Md.

——The North Dakota Board of Pharmacy held its regular meeting at Fargo Oct. 24 and 25 and organized by electing H. L. Haussamen president and W. S. Parker secretary. The following applicants received certificates as registered pharmacists: R. F. Ottens, John W. Broadwater, W. C. Clemens, W. M. Ross, E. M. Bentley, B. W. Boyd, A. G. Ulm, C. C. Young, George Necher, J. W. Peterson, J. W. Sullivan, E. P. Diment, D. McGruer and J. R. Craigue. Registered assistants: C. A. Langdale, P. C. Remington, M. M. Borman, C. A. Elliott, O. H. S. Irgens, C. O. Heckle, E. Buck, J. A. Livingstone, G. E. Strout, F. S. Kempton, L. M. Arnason, T. R. Shaw, F. L. Griffin, J. C. Eddy, J. R. Anderson, A. F. Peterson, E. B. Rice, W. T. Reilly, J. Bager, O. E. Penski, R. McGrath, F. S. Henry and F. Hamilton.

Ohio Board Investigate.

Zanesville, O., Oct. 31.—The Ohio State Board of Pharmacists is after the druggists of this city who do not employ registered pharmacists. Harold B. Gatch, attorney for the board, has filed affidavits in Squire Humphrey's court against E. T. Conwell, Frank Haas and Fred Conrad, charging them with con-

ducting a retail drug store without having the certificates of a registered pharmacist.

The investigation was brought about by a young pharmacist, who was out of a position, making a complaint to the board, and about two hours after the attorney arrived in the city the young man had a good position in a store where there was not a registered pharmacist.

Michigan Board Active.

Detroit, Nov. 4.—Readers of the Era will remember that a few weeks ago a notice appeared in its columns to the effect that the State Board of Pharmacy had made a thorough canvass of the drug stores of Detroit with a view to finding out those that were not supplied with registered help. No threats were made, but some of the city druggists took the hint. Others, however, were not so astute, and the result is that complaints have been entered against eighteen of them for alleged violations of the State law requiring all pharmacists and their clerks to be registered. The first one against whom a complaint was lodged, Archibald M. Reid, 257 Joseph Campau avenue, pleaded not guilty. He will be tried Nov. 4. Complaint has also been made against Mrs. Harriet A. Seaman, mother of Dr. Dennis J. Seaman, for running her son's drug store, while not being a registered pharmacist. Dr. Seaman is the druggist doctor who was convicted of criminal participation in the death of Emily Hall, the young Englishwoman whose mysterious and pitiful history created such a sensation in Detroit last winter. While Dr. Seaman's trial was pending his store was said to be in the hands of competent help, and business flourished. Since his conviction things have changed and it is said the store will be closed.

The others against whom complaints are entered are Herbert Jenkins, 183 St. Aubin avenue, no registered clerk; Myron E. and Lewis W. Knapp, 569 Grand River avenue, no registered clerk; Mrs. Leon F. Freytag, 213 E. Congress street, no registered clerk; James R. Warner, 259 Joseph Campau avenue, not registered as a pharmacist; John Newman, 192 Hastings street, no registered clerk; E. A. Patterson, 284 Chene street, no registered clerk; Frank Pierce, 751 Grand River avenue, not registered; Edward S. Navaun, 284 Chene street, no registered clerk; Breyer (first name unknown), 933 Champlain street, clerk not registered; Herman Naecker, 385 Russell street, clerk not registered; Henry Dedenbach, 835 Gratiot avenue, not a registered pharmacist; Charles Wimans, 188 St. Antoine street, clerk not registered; Irving Beck, 215 Randolph, clerk not registered; Cadeaux (first name unknown), 259 Joseph Campau avenue, clerk not registered.

Mr. Alvin E. Ewing, attorney for the State Board, is leaving no stone unturned to convict the alleged offenders. Their trials will come off Saturday, Nov. 9. It is rumored that several of them will "shut up shop" before that time.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ALABAMA.

Cullman.—A. L. Grude & Co., sold out.

CALIFORNIA.

Antioch.—Antioch Palace Drug Co., incorporated.
Fernando.—N. C. Edmiston & Co., sold to E. J. Eastman.
Needles.—Rees & Hart, now D. W. Rees.
Nevada City.—Carr Bros., sold to H. Dickerman & Co.
Pasadena.—Weck & Wood, now J. W. Wood.

COLORADO.

Denver.—Graves & Scott, have given bill of sale to J. J. Riethmann, Jr., and others.
Victor.—R. P. Davie & Co., sold to Scholtz & McClellan.

CONNECTICUT.

Bridgeport.—H. Fisher & Son, dissolved; E. E. Fisher now proprietor of the Park ave. store; H. Fisher retains Broad st. store.
New Haven.—C. E. Jones, 15 Shelton ave., new store.
I. B. Klock, Dixwell ave., new store.
South Norwalk.—Central Pharmacy, J. I. Linsky, proprietor, new store.
Waterbury.—L. I. Munson, president Apothecaries' Hall Co., deceased.

FLORIDA.

Starke.—B. P. Smith, is now proprietor of Starke Drug Co.

IDAHO.

Idaho Falls.—Dr. J. H. Bean, sold to Maguire & Co.
Changnon & Baker, dissolved.

ILLINOIS.

Chicago.—Gaul & Romano, Clark and North ave., dissolved; Mr. Gaul continues.
Pastor Kneipp Medicine Co., increased capital stock to $10,000.
W. Lloyd, 251 35th st., damaged by fire.
Renner & Hostler, Albany ave. and W. Madison, new store.
A. Romano, Indiana and N. Halsted, new store.
C. Volini, Desplaines and Madison, will open new store.
Freeport.—Freeport Chemical Laboratory, incorporated; capital, $25,000.
Penfield.—Charles Hamphrey, sold to Fillmore & More.
Rockford.—John R. Porter, deceased.
Summerfield.—J. M. Crowell, removed to Salem, Ill.

INDIANA.

Brownstown.—Mrs. Stillwell, sold to Pat O'Mara.
Fort Wayne.—J. A. Dallas & Co., Schroeder Block, new store.
Marshall.—William Duncan, deceased.
Marion.—G. R. Fravell, in hands of receiver.
Nineveh.—George W. Flake, deceased.
Terre Haute.—M. Kizer, 13th and Locust, sold to A. M. Katz.

IOWA.

Alta.—C. E. Cameron & Co., and H. Morey, both damaged by fire.
Burlington.—The Ortleb Drug Co., succeed North Hill Drug Co.
Colfax.—E. B. Tainter, sold to E. F. Tahler.
Des Moines.—F. W. Sells Drug Co., failed.
Iowa Falls.—Catlin Drug Co., succeeded by Fiddler & Mathews, instead of B. H. Brooks, as reported.
Jolley.—S. E. Law & Co., sold to J. R. Thompson.
West Union.—C. W. Douglass, sold to Raymond & Brooks.

KANSAS.

Eldorado.—A. J. Lesh, sold to Peck's pharmacy.
Haven.—W. O. Lenhart & Co., of Mt. Hope, Kan., opened branch here.
Leon.—George Westacott, new store.

KENTUCKY.

Morehead.—C. M. Crain, burned out.

LOUISIANA.

Algiers.—Leon Bartlett, burned out.
Breaux Bridge.—Marten & Durio, sold out stock.

MAINE.

Caribou.—M. Alward, succeeded by Alward & Ireland.
Sangerville.—John Scales & Co., sold to H. Dinsmore.

MARYLAND.

Baltimore.—T. A. Harrison, Biddle and Eden, closed.
L. C. Horn, Jr., Myrtle ave. and Pitcher, closed.
C. S. Tilyard, Green and Franklin, sold to Robinson & McGraw.
Easton.—Edgell & Co., Corner Drug Store, sold to W. T. Hassinger.

MASSACHUSETTS.

Boston.—Capt. J. P. T. Percival, proprietor of City Hall Drug Store, deceased.
Fall River.—A. A. Keeley, new store.
Fitchburg.—Dr. P. Duquet, 152 Water, sold to J. H. Chadwick.
Natick.—L. E. Clark, will open new store in Hogan's Block.

MICHIGAN.

Cheboygan.—Sangster & Gaban, sold to Ives & Marks.
Grand Rapids.—Stock of D. S. Kimm bought by W. H. Ross, removed to O. H. Robinson's store, 711 Wealthy ave.
Mears.—R. G. Beckwith's store, sold to J. H. Chapman.
Ontonagon.—Meloche Bros., now H. N. Meloche.
Pierson.—D. L. Day, sold to W. F. Nagler.
Saginaw.—F. E. Langeman, has sold his stock to Frank Jones, who added it to his Genesee ave. store.
T. C. Maynard, Genesee ave., E. S., new store.
St. Louis.—G. L. Charles, succeeded by F. W. Blair.
Unionville.—J. W. Steiner, sold to H. J. Spring.

MISSOURI.

Hannibal.—Edwd. Degaris, has opened new store, Broadway, between 3d and 4th.
Hume.—H. J. Bergman, sold out.
St. Louis.—Scheel Pharmacy, 14th and Clark, sold to A. Crusius.
Allan-Pfeffer Mfg. Co., burned out; insured.
Vane-Calvert Paint Co., burned out; insured.
J. M. Borton, Washington and Jefferson aves., sold to J. Lehman.
Daugherty-Crouch Drug Co., sold to Meyer Bros. Drug Co.

NEBRASKA.

Wymore.—G. O. Laflin, succeeds R. W. Laflin, in firm of Laflin & Tout.

NEW HAMPSHIRE.

Concord.—J. W. Terrell, involuntary petition in insolvency.
Nashua.—Hallisey's drug store, damaged by fire; insured.

NEW YORK.

Bayport.—C. E. Slosson, in hands of sheriff.
Buffalo.—Robert R. Baxter, 404 Massachusetts ave., assigned.
Cassadaga.—M. J. Skill, new store.
Cooperstown.—Jarvis & Bliss, succeeded by C. E. Winegar.
Gouverneur.—S. Dandurand, agent, sold out.
Newark.—J. E. Welser, new store.
N. Y. City.—Wasself & Co., 2161 7th ave., sold to A. S. Horn.
Tsheppe & Schur, 1010 3d ave., sold to H. M. Wasself.

NORTH CAROLINA.

Wilmington.—G. L. Harmon, 128 S. Front, sold to H. L. Fentress.

NORTH DAKOTA

Langdon.—H. D. Allert, new store.

OHIO.

Columbus.—Husbands & Co., 567 N. High, sold to the Park Pharmacy.
Gibsonburg.—S. B. Stitson, burned out.
Liberty Center.—G. U. Foncannon, reported sold out.
Modeste.—J. L. Woods, damaged by fire.
Springfield.—Siegthalers drug store, burned out.

OKLAHOMA.

Oklahoma City.—F. M. Hawley, burned out; loss, $1,700; insurance, $1,000.

OREGON.

Albany.—Hodges & McFarland, now Hodges & Burkhart.

PENNSYLVANIA.

Allegheny.—C. L. Walther, sold both his stores to E. E. Eggers.
Christy Park.—Dr. A. L. Black, sold to Dr. M. Coates.
Delta.—M. L. Holloway, assigned.
Mahoningtown.—F. E. Hyde, damaged $500 by explosion of dynamite.
Media.—A. W. Smedley, sold to W. N. Flemming.
Peckville.—Dr. D. Kelly, deceased.
Philadelphia.—Warington & Penngpacker, dissolved; each continues.

RHODE ISLAND.

Bristol.—J. N. Morris, deceased.
Providence.—E. F. Mattison, sold out.

SOUTH CAROLINA.

Pelzer.—W. W. Griffin, burned out.

TEXAS.

Waco.—Kelly & Ilse, now L. H. Ilse & Co.

WASHINGTON.

Washougal.—Dr. W. L. Freeman, removed to La Center.

WEST VIRGINIA.

Ronceverte.—A. A. Hodge, sold to Mr. Thompson.

WISCONSIN.

Port Washington.—F. Courtland, new store.

NOVA SCOTIA.

Truro.—D. L. Tremaine, new store.

Philadelphia College.

Philadelphia, Oct. 31.—The preliminary examination of the "first year class" at the Philadelphia College of Pharmacy began this afternoon at 2 o'clock and continued for five hours. In all 300 students participated with excellent results.

The examination is held at this early period in the regular college year, not only to test the knowledge of the students upon the lectures already held during the past month, but also to examine them upon their general education.

Following this there will be another examination of almost a similar character, upon Dec. 1, to determine the attainments of the young collegians during the month of November. After this examination there will be no more until March, which is by far the most important one.

——The Chicago College of Pharmacy will open its evening talks to the students by members of the local drug trade on familiar subjects pertaining to the business on Thursday, Nov. 7, at 8 P. M. Mr. A. E. Ebert will open the series with a talk on "The Apprentice and How to Teach Him the Business." This will be followed by other talks on Thursday evening of each week. The list of speakers is not yet completed, but the following gentlemen are slated: William Bodemann, "The Burning Question of the Drug Trade;" Emil Thiele, "How to Meet the Difficulties in Handling the Trade of the Foreign Population of This Country;" H. W. Palmer, "Practical Instruction How to Fit and Sell Trusses;" A. E. Hiss, "The Present Aspect of Pharmacy;" Thomas Whitfield, "How to Be Successful in the Drug Business;" Thomas V. Wooten, "Co-operative Manufacturing Plans;" W. G. Morris, "Insurance of Drug Stores;" Frank Fleury, "Comparison of Pharmacy Legislation of This Country;" W. K. Forsyth, "The Sale and Handling of Cigars by Druggists;" Frederick Schmidt, "The Present Pharmacy Law;" Louis Lehman, "How to Obtain Manufacturers' Samples;" Herman Conradi, "Window Dressing;" George G. Pflegler, "Perfumery and Its Manufacture;" H. T. Clark, "The Handling of Physician's Supplies;" R. E. Rhode, "The Presentation of New Remedies to the Medical Profession;" E. P. Stewart, "Milk Inspection;" E. Von Hermann, "Points on Fitting Up a Drug Store."

Book Reviews.

HANDBOOK OF INDUSTRIAL ORGANIC CHEMISTRY. Adapted for the use of manufacturers, chemists, and all interested in the utilization of organic materials in the industrial arts. By Samuel P. Sadtler, Ph. D., F. C. S., Professor of Chemistry in the Philadelphia College of Pharmacy, and in the Franklin Institute of the State of Pennsylvania, etc., etc. Second revised and enlarged edition. Large 8vo, 537 pp. $5. Philadelphia: J. B. Lippincott Co.

The rapid absorption of the first edition of this work in less than four years is evidence that it has been appreciated. The plan of treatment adopted by the author in this second edition is the same as that outlined in these columns for the first edition, and no one can open its pages without being impressed with the sense of its evident superiority and value, particularly with the fact that it covers in systematic manner a field not hitherto fully treated by writers, especially in the English language.

In taking up the several industries the author first enumerates and describes the raw materials which serve as the basis of the industrial treatment; second, the processes of manufacture in outline; third, the products, both intermediate and final, illustrated in many cases by tables of analyses; fourth, analytical tests and methods used either in the control of the processes of manufacture or in determining the purity of the product, and fifth, bibliography and statistics of each industry. In this edition the bibliography has been entirely rewritten and brought carefully up to date. Statistics of the various industries have also been brought down to the present wherever new figures were attainable. A number of new statistical tables have been added. In the appendix two new tables have been added, giving the physical and chemical constants of oils, fats and waxes, classified for reference and comparison.

The work is one which will continue to be accepted as authority upon the more important chemical industries, and the student or chemist in any one of the manufactures represented cannot fail to appreciate the bibliography of the literature pertaining to the industry in which he is engaged. To our mind this is a most valuable feature of the work. The mechanical workmanship is well done and characteristic of its publishers.

MARINE MOLLUSKS OF JAPAN. A catalogue with descriptions of new species and notes on others collected by Frederick Stearns. By Henry A. Pilsbry, of the Academy of Natural Sciences, Philadelphia. 196 pp., 11 plates. Paper, $1; cloth, $1.50. Detroit: Frederick Stearns.

The announcement that forty species and eight varieties of mollusks have been discovered will undoubtedly excite the interest of the enthusiastic conchologist, and by him this work will be received with the keenest appreciation. But to us, to whom a shell is a shell and nothing more, there remains but the expression of our gratification that this notable addition to the literature of an interesting department of natural history comes from one who has already gained distinction in our own special field of pharmacy. Mr. Stearns especially disclaims credit for results which may attach to his labors, except those which may be rightfully claimed by the enthusiastic amateur who applies himself to a field of investigation for a love of the subject, and an earnest desire to add to that store of the knowledge of the lower forms of life so important to the comparative naturalist and the student of evolution. The material for the compilation of this catalogue, which will replace Dunker's Index Molluscorum Maris Japonici, Leipsic, 1882, was gathered by Mr. Stearns during two visits to Japan, in 1889 and 1892 respectively. Almost the entire eastern coast line of the Japanese islands was visited in the search for shells, and in addition the Loo Choo islands and inland waters were searched for their peculiar forms of marine life. The description and diagnosis of the thousands of specimens collected by Mr. Stearns have been accomplished in a very painstaking manner by Henry A. Pilsbry, Conservator Conchological Section of the Academy of Natural Sciences, of Philadelphia, and the work is, therefore, one which will be highly prized by both the student and specialist in this particular field of research.

OXYHEMOGLOBIN AND ALLIED PRODUCTS. A Monograph. 56 pp. Published by the Scientific Department of Frederick Stearns & Co., Detroit, Mich.

This work is the third of a series of monographs emanating from the Scientific Department of Frederick Stearns & Co., and the appreciation accorded these previous publications, due in part to the obvious absence of bias which distinguished their authorship, may be freely extended to this latest work, which is devoted to a consideration of some medical and pharmaceutical attributes of certain preparations of iron. The work is divided into three parts, as follows: Part I. Oxyhæmoglobin, Albuminate of Iron, and Peptonate of Iron, by F. E. Stewart, M. D., Ph. G., Director of the Scientific Department. Part II. The Absorption of Iron in the Animal Body, by Prof. A. B. Macallum, of the University of Toronto, republished from the Journal of Physiology. Part III. The Hæmoglobins and Related Products of the Market, by Charles H. Williams, Ph. B., Ph. C. The work is intended for free distribution to those who are interested in this particular field of investigation, and the table of contents shows a value which reflects great credit upon the authors and publishers.

According to market reports glycerin has gone up, but that need make no difference with the druggist in specifying Gordon's C. P. He will get the best on the market at the lowest market price, just the same.

The Searle & Hereth Co., Chicago, publish in their advertisement a list of their pharmaceutical specialties of which they send free samples to physicians. These preparations are ones which the druggist should know all about. The firm's catalogue describes them, and they will be glad to send it upon request.

PHARMACY IN AUSTRALASIA.

Sydney, N. S. W., Sept. 30, 1895.

The event of the month in New South Wales is the terrible end of a fine young girl named Jessie Nicholls and the arrest of a chemist, Thomas Meredith Sheridan, on the charge of causing her death by an illegal operation. The facts of the case from beginning to end are of a horrible description and Sheridan's position is made the more heinous as he was only recently liberated from jail after serving nine years for a similar offense. In the early part of September the girl left her home in the country, unknown to her parents, and visited Sydney with the special object of having an operation performed. Search was instantly made for her, and nothing of her movements could be traced until her cold and mangled body was found in a box at Cowper's Wharf, the former berthing place of the 'Frisco mail steamers. An examination showed that the operation had been unsuccessfully tried and that the abdomen had been cut open by some one with a knowledge of surgery. The day following the finding of the body the police dropped into a place in the heart of the city, termed the "British Medical Institute," where they got Sheridan, together with a man named Thomas, who owned the "show," Sarah Chapman, the caretaker, and a friend of hers, John Seawell. The last two named made a confession of all they knew about it, but nothing is so far proved that Sheridan did the operation. He admits having cut the body open after death, as well as the means taken to conceal it, and it is understood that his defense will be that, the girl having died in the institute, he was afraid of being accused of bringing about her death, and thought he would drop the box and body into the harbor. It may be that he cut the body open to prevent its rising to the surface. Sheridan was a doctor's assistant in the Franco-Prussian war of 1870 and received this diploma: "Aug. 20, 1872.—I have much pleasure in informing you that you have passed your examination in the fol'g order—Medicine, 51.2; surgery, 27.5; surgery, descriptive, 11; anatomy, 7.3. Thus having passed satisfactorily as a premier licentiate, you henceforth rank." This was signed by Alfred Denier (notary), Department of the Seine. In 1882 he was admitted to registration by the Pharmacy Board of New South Wales. In 1885 he was convicted and sentenced to twenty years' imprisonment for causing the deaths of two women, but owing to ill-health he was liberated when he had done nine years. The pharmacy board struck him off the register at the time of the conviction.

The Pharmaceutical Society of New South Wales has just discovered that the arrears of members' subscriptions amount to the solid figure of £3,534. A great many members appear to have paid nothing but their first subscription of one guinea, which secured them the society's diploma, and never after troubled about the society. When confronted with this statement of arrears at the September meeting, the council were fairly staggered and could not give expression to their intense feeling of disgust at the way things have been managed. The secretary through being the oldest pharmacist in the colony and a man whose end is rapidly approaching, the council decided—in his absence through illness—to say nothing to him for fear of causing him any trouble and making his conditon worse than it is. The meeting agreed that it would be futile to make any effort to collect the arrears, and decided to wipe them out and allow the defaulters to start afresh, on payment of the current year's subscription and a fine of half a guinea. The council realize that some vigorous action must be at once taken, and they are preparing to appoint an assistant secretary who will take charge of the whole work pending the retirement of Mr. Pinhey. Out of 650 members enrolled there are not 150 financial. In the sister colony of Victoria the Pharmacy act empowers the society to remove from the register the names of unfinancial members, who are then compelled to hand back their certificates and diploma and dare not attempt to practice until they have paid up and are reinstated by the board. The law in Sydney "is a perfect h'ass" and pharmacy can hope for little progress until there is a proper pharmacy act.

The New Zealanders are pegging away at the Government for the resumption of the Pharmacy bill where it was left off sometime back, but they don't seem to meet with much encouragement from the ministers. The central pharmaceutical association at Wellington recently interviewed the Government concerning the new tariff, but met with disappointment, the Government being determined not to listen to any modification of their ideas.

The question of protecting trade interests was the principal topic handled at the annual meeting of the Auckland Chemists' and Druggists' Association held in August. The president, while admitting that selfishness is a law of our being, without which humanity could never have progressed, thought it possible to modify and soften the struggle so that the more repulsive and severe side of it should not predominate. It was only in matters of common interest that the society could do anything in the way of protecting trade interests. They should all unite in securing a legitimate amount of protection against unqualified usurpers, and he felt that as regarded local interests they had done very good service in getting a standard of retail prices. He urged the necessity of observing good faith in this matter and of consistently avoiding any tendency to undersell or obtain an unfair or temporary advantage with the public by "cutting."

During the past two months the Pharmacy Board of Queensland has four times prosecuted at Brisbane an unqualified man named Dixon for unlawfully exhibiting carboys containing colored liquid which might be construed to represent that he was a qualified chemist and druggist. In the first three instances the magistrates could not agree, but the fourth case has been fatal to the defendant, who has been fined heavily. Dixon intends appealing to the Supreme Court.

The remarkable restrictions imposed under the Pharmacy act of Western Australia have given rise to something like a national discussion. The presumption of a handful of people, who were only a little while ago granted representative government by the Imperial Parliament, passing a measure which shuts out qualified men from every other colony and all the world over, is just the strongest thing we have ever heard of. It never occurred to the wise legislators of the rising gold field that at least a few more chemists and druggists might be required in the immediate future, seeing that the population is going up by leaps and bounds, and that they had no means themselves of educating their own chemists. Since this has been pointed out the Government has altered the regulations, and the following appears in the Gazette: "The diploma of competency as a chemist of the Pharmaceutical Society of Great Britain will be recognized, also the diploma of any Australasian pharmaceutical society or board established by act of Parliament, always provided that such diploma has been obtained by the passing of the major examinaton of such colony."

The September examinations in chemistry, materia medica and botany, held at the Victorian College of Pharmacy, proved most disastrous to the candidates who presented themselves, not a single student having succeeded in passing.

An effort was recently made in the Victorian Legislature to have the duty of 25 per cent. on patent medicines reduced to 15 per cent., on the ground that the poor people would be benefited. It was contended, on the other hand, that consumers would not benefit and the chemists only would reap the advantage. The motion was lost. The revenue received from patent medicines in Victoria during 1894 was £11,470; the proposed reduction would have meant a loss of £4,000.

Rocke, Tompsitt & Co., wholesale druggists of Melbourne, have established their right to the exclusive use of the word "Insectibane" in both Victoria and Queensland. The firm in question registered the word some years ago and advertised the preparation so extensively as to establish quite a big business with it. The two chemists who thought it a good line to imitate and take advantage of the advertising money spent by the originators, now find themselves on the wrong side, injunctions having been granted and orders made for the taking of accounts.

Mr. Miller, of Hobart, Tasmania, who was unfortunate enough to lose his fine pharmacy business and property at the time of the banking crisis, has again got into occupation of the premises which have long been the pride of his life. When the Van Dieman's Land Bank smashed, Mr. Miller's building and business were one of its assets and all of these were put into a lottery sanctioned by the Government. The lucky winner of Mr. Miller's place turned up in a West Australian gold seeker, who has come to terms with the respected pharmacist to enable him to reopen in his old-established quarters.

DR. JOHN W. TURNER.

DR. THOS. J. TURNER.

THE TURNER BROTHERS.

The portraits presented herewith represent the faces of two men who are well and favorably known to the greater part of the drug trade, wholesale and retail, of this country. Both have at frequent intervals during the last ten years visited nearly every town of importance from Maine to California, but their visits have been so crowded with business relative to two prominent proprietary medicines that their many friends, while holding in keen remembrance their jollity of demeanor and those other taking qualities which endear the calls of the traveling salesman to his customers, are more or less ignorant of those interesting points of personal history, of which every successful traveling man usually has a good share. The present opportunity, therefore, offers for presenting a few of these.

The Turner brothers, Drs. John W. Turner and Thomas J. Turner, are both in the employ of the multi-millionaire, Col. G. G. Green, of Woodbury, N. J., manufacturer of Boschee's German Syrup and Green's August Flower. They have been in the employ of Col. Green for twelve years, starting in at the bottom rung of the ladder and working their way upward through various positions of honor and trust, until to-day they are considered the most successful salesmen in this line of business in the world, and rumor has it that they draw perhaps the largest salaries ever paid any men in the proprietary medicine business in this country. Their friends, however, claim that this good fortune is wholly justified by the largeness of the orders which they are in the habit of securing.

The Turner brothers are Southerners, Tennessee being the State of their nativity. Both left home at an early age, and as both have been compelled to depend upon their own resources for advancement, the term "self-made men" is peculiarly appropriate in speaking of their business careers, and their experiences in coming in contact with all sorts, conditions and nationalities of people render the word "cosmopolitan" quite as appropriate when applied to their mental characteristics and tastes.

Dr. John W. Turner is thirty-five years of age, and his globe-trotting experience includes visits to every town of any importance in every State and territory of the United States, and he has as well covered the Dominion of Canada. He has also visited Cuba and Mexico, and made a three-years' trip around the world, sailing from San Francisco, stopping at the Hawaiian and Samoan Islands, going thence to New Zealand, Tasmania and Australia, thence to China, Japan, India and South Africa, returning by a course which included a visit to all the countries of Europe. This trip resulted in the placing of August Flower and German Syrup in all the countries above named, which has been followed by a large and steadily increasing export trade.

Dr. John W. Turner now holds the position of general manager of salesmen for G. G. Green and has control of a force of over thirty men, who cover every part of the globe. He pays occasional visits to all of these men, and as he is thoroughly acquainted with all the inconveniences and hardships of continuous traveling, the men find in him an appreciative sympathizer with the difficulties which they have to encounter, and one who is always ready to cull a leaf from his personal experience for their benefit.

Dr. Thomas J. Turner is thirty years of age and his traveling experiences have been much the same as those of his brother, as far as a personal acquaintance with the trade of all the principal towns of the United States is concerned, and he has also visited many foreign countries in the interest of the various preparations made by G. G. Green. He is a phenomenally successful salesman, and although "Tom," as he is familiarly called, is known to the trade from Maine to California, his greatest acquaintanceship is confined more particularly to the Pacific Coast. He has had charge of all territory west of the Rocky Mountains, including Colorado, with headquarters at San Francisco, for the past seven years. He is now special agent for New England, with headquarters at Boston, and has a number of travelers working under his immediate direction.

The successful careers of the Turner brothers are striking illustrations of that hustling, wide-awake activity so necessary in these days to the achievement of business success, and they both deserve credit for the attainment of their present positions through untiring effort in one direction and the devotion of their entire ability to the building up of the business with which they are identified. Not a little of their success is due to the attachment which has always existed between them, and this feeling has always operated to make the success of one the success of the other.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS

Issued Oct. 29, 1895.

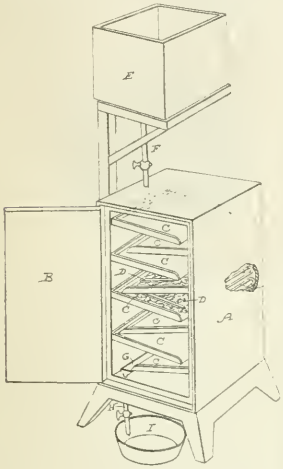
548,630—Lorenz A. Deuther, Buffalo, N. Y. Truss.

548,661—William S. Scales, Everett, Mass. —Labeling collapsible tubes.

548,719—Pierre P. Monnet, Lyons, France.—Making rhodinol.

548,751—Erwin S. Ferry, Mt. Vernon, N. Y. —Apparatus for dispensing carbonated beverages.

548,797—Frederick A. Beckett and W. C. Spencer, San Francisco, Cal.—Process of and apparatus for extracting perfumes.



Claim.—1. A process of extracting perfumes from flowers consisting in passing dilute sulfuric acid over the leaves containing the odoriferous element and afterward neutralizing the acid in the product.

2. An apparatus consisting of a series of inclined acid-proof shelves, such as glass or porcelain, alternately inclined in opposite directions, and having connecting passages between the lower ends of each shelf and the upper ends of the next adjacent shelf below, an inclosing case surrounding the shelves, a tank from which dilute sulfuric acid is supplied to the upper edge of the upper shelf so as to flow through the leaves thereon and be delivered to the upper edge of the next adjacent shelf, means for maintaining the leaves upon the shelves so that they will not be displaced by the passage of the acid, and a heating coil inside of the case for regulating the temperature thereof.

548,890—William S. Scales, Everett, Mass.—Collapsible tube.

548,942—John H. Wingfield, Montclair, N. J. —Extracting suint from and cleaning wool and products obtained thereby.

549,036—Raymond Vidal, Paris, assignor to La Société Anonyme des Matières Colorantes et Produits Chimiques de St. Denis et Raymond Vidal, St. Denis, France.—Treating sulfur compounds of aromatic series with sulfites.

549,041—John H. Wingfield, Montclair, N. J. —Cleaning wool and recovering wool fat.

549,082—Raymond Vidal, Paris, assignor to La Société Anonyme des Matières Colorantes et Produits Chimiques de St. Denis, St. Denis, France.—Treating Cachou de Laval.

TRADE-MARKS

Registered Oct. 29, 1895.

27,165.—Dyes. Monroe Drug Co., Unionville, Mo. A pictorial representation of General Putnam riding down historical stairs.

27,166.—Depilatory. Joseph Turner & Co., Ltd., Queen's Ferry, England. The word "Depilene."

TRADE NOTES.

From information furnished by manufacturers and dealers in regard to their products.)

The firm of Gray & Bryan, Chicago, Ill., well known as publishers of Gray's Quiz Compend and other works of similar character, has been succeeded by Gray & Co., who will continue the old business at the same address.

The one advantage in purchasing a sample line of suspensory bandages of Flavell's, 1005 Spring Garden street, Philadelphia, is that the money is cheerfully refunded if the goods are not satisfactory. But in all their sales they have never been called upon to make the exchange. Six bandages are sent upon receipt of $1.10 or satisfactory reference.

There are lots of things around the house that need painting, even if the regular painting season is about over. People need hints about such things, and the easiest way to give these is by using the color cards and other advertising matter furnished by John Lucas & Co., Philadelphia, to advertise their goods. With the aid of these an active paint trade can be kept up all winter.

Bunte, Frank & Co., the manufacturing confectioners of Chicago, make the Magnetic Cough Drop, into which they put the same degree of excellence which has made their other goods so popular. This is equivalent to saying that people will prefer the Magnetic. A sample box, which will show just how good it is, will be sent free to any druggist who will send his business card.

James W. Tufts, of Boston, is now mailing a big edition of a very handsome booklet describing and illustrating in half-tone five very attractive hot soda fountains. The designs include apparatus made of Japanese Koro ware, real bronze, silver-platel metal, and imported earthenware. Every druggist interested in the hot soda trade should see this booklet.

Every druggist uses pens, and A. G. Moore & Co., 47 Court street, Boston, will send a box of them free, to pay for the trouble of reading their circulars and looking over sample pages of the "Boston" Petty Ledger. Mention the Era when writing.

Celery is popular as a medicine—no question about it, and the Celery Medicine Co., of Kalamazoo, have a line of celery preparations which will not fail to meet the present demand. Their list includes Celery Tonic Bitters, Kolarina, containing celery, coca, kola and viburnum, Beef, Wine and Iron with Celery and Celery Cough Drops. Their new catalogue describes these, and they will be glad to mail it upon request.

S. Liebmann's Sons' Brewing Co., 36 Forest street, Brooklyn, N. Y., have recently issued a very handsome booklet which will delight all lovers of art, poetry and Teutonic Malt Extract. It gives extracts from Teutonic history, legends, etc., and choice selections from the poets accompanied by appropriate illustrations, and is well worth sending for, which the makers of Teutonic will be glad to have all druggists do.

Chas. Lippincott & Co., Philadelphia, Pa., announce in this issue the removal of their Philadelphia offices and salesrooms to 930 Arch street. In addition to new offices, they have some new designs of tilting jar apparatus which will interest every druggist who does a soda water business, and if one of the several agencies named cannot be visited, a catalogue, which will be sent upon request, is the next best thing.

"Corks and Williamsburg" have long been synonymous terms to druggists all over the country. For many years the Williamsburg Cork Works, of Brooklyn, N. Y., have kept themselves in close touch with the trade, and enjoy a reputation for straight dealing, good quality and prompt attention to orders. When you need corks, write them for prices and samples—both will be furnished cheerfully.

AUTUMN MORNING.

"Up-to-date" advertisers will learn of something novel to use to make a lasting impression upon the public by writing to Albert Fries, Art Publisher, 97 Reade Street, New York. High-grade art for advertising purposes, in the shape of a genuine etching, signed by the artist, is certainly of more value for such purposes than anything that has been used up to the present time. Mr. Fries has also recently completed a fine line of steel plate, etched calendars, which are superior to any calendars ever placed upon the market and which can be purchased at reasonable rates. It would be well worth any one's trouble to correspond with Mr. Fries before placing orders for advertising or lithographed matter.

The above illustration represents a new etching, size 24 x 34, which the publisher offers, with its mate, "A Steady Point," to any one in the drug trade at greatly reduced prices for the coming month, no more than one copy each of the two subjects to be sold to the same person at the special rates.

The Flag Salt Remedy Co., Savannah, N. Y., now give 100 sample powders with their offer of 1 dozen 25-cent size and 1 dozen 10-cent size of Flag Salt, delivered, for $2 cash.

It does just what the customer wants done—it kills. It gives the druggist just what he is after—100 per cent. profit. Include Stearn's Electric Paste, the great vermin killer, on your next order to your jobber. Costs $1.50 per dozen, retails for 25 cents. Discount on gross and half-gross orders.

There should be no doubt about the quality of the wines the druggist handles, and it is best to settle such questions before buying than afterward. Samples of Duroy wines are sent when requested for the purpose of satisfying the dealer that he is getting what he wants. This is one of the best and fairest ways of doing business. Address Duroy & Haines, Sandusky, O., if you are about to purchase wines.

The fifty-second edition of W. H. Horn & Bro's. catalogue is a publication of 112 pages, and in it the druggist will find much of interest regarding lines of goods which he can handle with profit. Their manufactures include trusses, belts, supporters, shoulder braces, suspensories, elastic hosiery, bandages, crutches, etc., and the firm has an experience of over fifty years in the production of such goods.

The rubber goods for winter trade are hot water bottles and atomizers, and the quality and styles of these are so varied that the druggist usually has to specify on his order the brand wanted. This requires study of the goods of the different manufacturers, and it is at this time that the catalogue of the Davol Rubber Co., Providence, R. I., becomes an interesting publication for the druggist. Consult it, or send for a copy if you haven't one, and study the merits and prices of the "Household" brand of these articles.

The name "Huyler" is such a well-known synonym for good things in confectionery, that his Licorice Tablets for coughs and colds have an immense advantage when people call at the drug store for such an article. They are more likely to think of Huyler's, because they are advertised. All jobbers have these tablets, but if prices are desired, address Huyler, Eighteenth street and Irving Place, New York.

No druggist, no matter how large his store, ever complains of having too much room. It is always the other way. In hunting for more room the "Silent Salesman" show case should not be overlooked. It serves as a counter and utilizes all the space down to the floor for storage and display purposes. It furnishes a place for goods, and allows customers to inspect them. Send for descriptive circular to John Phillips & Co., Detroit, Mich.

Chas. Allen Reed, 9 Cliff street, New York, simply says in his advertisement that Calisaya La Rilla is well advertised and in demand. He means this quite emphatically, for he has in mind his "Book of Sense," which he has gotten up especially for the drug-buying public to read. No argument in favor of the druggist's buying Calisaya La Rilla is necessary after he reads this little booklet. He sees at once that it is something his customers will call for. Send for a copy of this publication.

Chicago, Ill., Oct. 23, 1895.
The Merz Capsule Co., Detroit, Mich.
Gentlemen: I, and my assistants, all indorse your soft capsules, a specialty well worth its place behind any first-class prescription counter or on any well equipped laboratory table. At first they seem a little impractical, but, like all good things, to be appreciated they must be tried. We are using them and find that they are practical, convenient and very economical. F. M. MARES.

Druggists who handle cigars and tobacco can sell the "Tyrian" Self-closing Tobacco Pouch, because it is new and different from the other kinds. The illustrations show the pouch, also the design upon the bottom, which shows that it is the "Tyrian." The Tyer Rubber Co., Andover Mass., will be glad to quote prices.

If you want a chemically pure Cocaine Muriate, in handsome, large crystals, free from every impurity, the highest standard product—specify Boehringer's.

If you want an absolutely pure quinine sulphate, in light, flocculent crystals, the finest and best made—specify Boehringer's.

If you want standard chemicals, alkaloids, etc.—such as atropine, codeine (pure, phosphate, sulphate, etc.), chloral, eserine, resorcin, terpin hydrate, etc.—specify Boehringer's.

Wholesale and retail druggists throughout the United States carry Boehringer's (B. & S.) products in stock to promptly supply all demands; and if information is wanted, inquiries addressed to the firm (see adv. on page 5) will receive prompt attention and response.

The New Mulford Laboratory.

The accompanying illustration, showing the new laboratory of the H. K. Mulford Co. of Philadelphia, is a gratifying evidence of the growth of the business of that firm, which is the more creditable to the management of the company for the reason that this extension follows so closely a period which is supposed to have been unfavorable for such development. This new laboratory into which they have recently moved is located at 412 to 420 South 13th Street, and it gives them an increase of about 40,000 square feet of floor space over their old quarters at 2132 Market Street. The latest improvements and appliances for manufacturing have been adopted in the various departments, and with these greatly increased facilities the firm is now in a better position than ever before to serve their patrons, both in promptness of attention to orders and in increased variety in their manufactures.

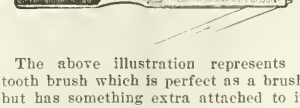
Visions of the Perfect Drug Store.

I think it is safe to say that no man in the world has been so persistent an advocate of fine stores as myself. Sometimes in thinking it over, it seems as though those reading my many claims in that direction would deem me a little "off" on the subject, putting it mildly. Now I am thoroughly rational and herein depose that I am sound of mind, as they say in making wills. It is true, I sometimes see visions of a perfect store, but have never yet been quite able to bring one into material existence, and perhaps never shall. I have often, however, aproximated it close enough to create a very favorable impression and to accomplish, in a large measure, the purpose intended for my customer. It is an easy matter for anyone to make statements, and having made so many, it has seemed to me recently that in order to place myself right in the eyes of those who may have been so kind as to read them, and to prove myself a man of veracity, it would be desirable to show at least my justification for making such statements. For that purpose I have selected prominent and unimpeachable witnesses. The first I shall call to the stand to testify is Mr. Wm. C. Durkee, of the firm of Kelley & Durkee, Boston. Boston is called the Hub of the universe: Copley Square is the center of the Hub and is bounded on its various sides by the magnificent Public Library, the Art Museum, Natural History Building and School of Technology. Messrs. Kelley & Durkee are situated a few rods from this center of learning, wealth and fashion. They have done business there for twenty-four years. No druggists in the U. S. serve a more wealthy or educated class of customers, among whom are many who have visited every part of the globe, and who assure Messrs. Kelley & Durkee they have the finest store they have seen in their travels around the world. Well, what of this? Mr. Durkee permits me to say, from him, that since having their new fixtures about a year ago their trade has averaged larger by from $500 to $2,500 per month than ever before during their connection with the drug business. Those who know Mr. Durkee, and there are thousands of druggists who do, since he has occupied many prominent positions in the city, State and National council of the druggists, will give him credit for careful, candid and well considered statements. When in Boston, with a little time at your disposal, you cannot use it to better advantage than in seeing this store and forming the acquaintance of its agreeable proprietors, who are never too busy to shake your hand and give you a pleasant greeting.

What druggist in the country can glance at his shelves without seeing evidence of that most enterprising city in the medicine line, Lowell, Mass. Everybody, even the Hottentots, know of C. I. Hood of that place; of the druggists not everyone, however, knows that Mr. Hood at one time was, like themselves, an humble apothecary, racking his brain to devise some way to raise the limit of trade in the sales of postage stamps. Such, however, was the case, and while he was perfecting his world-renowned decoction for "that tired feeling," his right-hand man was Mr. Edward Ellingwood, than whom no more genial, agreeable or obliging druggist or gentleman is to be found in that populous borough. After Mr. Hood, by the sale of his sarsaparilla, had become too independent and haughty to longer meet cut prices on postage stamps, he decided to sell out and Mr. Ellingwood was his successor, and has always done a most prosperous and successful drug business in Lowell, under the firm name of Ellingwood & Co. It is only a few months since they decided to have me see what I could do to promote their business, resulting in an unusually elegant store. Under the date of Oct. 17 they write: "We are willing to go on record that it has been of great benefit to us, and that already our trade has largely increased. We certainly would not go back to the old arrangement at any price."

"Straws show which way the wind blows," but when large trees are bent, its direction is unmistakable. I think these two will be sufficient to convince any reasonable person, even had I not hundreds of others, equally as strong, if not as prominent witnesses, to the facts upon which my beliefs and statements are founded. Having, therefore, I trust, established some proof of my ability to help your business, I shall proceed to ask a pertinent and then an important question. Do you wish to improve your business? Undoubtedly, this I can answer. Have you the nerve, the push, the up-to-date and go-ahead-ativeness to put yourself in the front rank? This I cannot answer. If you are this kind of a man, I will tell you something I have discovered. The world will meet you half way, and if you are very much that kind of a man, they will crowd one another in order to patronize you. When you have made up your mind that you are that sort of a man, I wish to meet you in a business way. I am looking for just such men. They are to be the successful druggists of the future, and I can speed them on their way. You have the qualities of a captain or a general and only lack the shoulder straps to be recognized as such. I can furnish them.

C. H. BANGS.



The above illustration represents a tooth brush which is perfect as a brush, but has something extra attached to it. This something is an ivory tongue-scraping attachment. The brush sells at the same price as other good brushes, but this "extra" makes it the choice ahead of all others. Hamburger & Co., 75 Spring street, New York, are selling agents, and they will send a sample to a druggist for 15 cents. As a novelty, Fredrick's Sanitary Tooth Brush commands attention.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Alcohol, Balsam Tolu, Balsam Peru, Canary Seed, Caraway Seed, Gamboge, Jamaica Ginger, Oils Anise, Cassia, Camphor, Peppermint, Trieste Rosemary and Artificial Sassafras, Spermaceti, Sugar of Milk.

Declined: Codeine, Coriander Seed, Cubeb Berries, Damiana Leaves.

New York, Nov. 5, 1895.

Another week of satisfactory business activity can be recorded in the drug department of the general commercial situation, with no perceptible abatement of the movement into legitimate consuming channels. During the period covered by this review there has also been some revival of speculative interest in several articles, but so far as we can judge, the speculation is not of a disturbing character; it is rather more the result of keen foresight, than a desire to operate wholly on a theoretical basis. Only a few commodities have received speculative attention, but there are enough to show that dealers are on the alert, to take advantage of all favorable developments. Supply, demand, statistical position and probable consumption have apparently received careful consideration, and the conservative manner in which the operations have been conducted seems to warrant the sanguine expectations of profitable returns to the operators. Quinine, Jamaica ginger, gum gamboge and orris root have all shared in the movement, the first named article being almost exclusively for foreign account. Jobbing orders for all leading descriptions have been coming to hand rather freely, and seasonable varieties show increased activity, which gives the general market a fairly animated appearance. The majority of price changes is again favorable to sellers, and there is no reaction from any of the recent advances. The few declines noted below are of no special significance, and have no depressing influence on the general condition of affairs.

OPIUM.—The demand during the week has been almost exclusively for small lots, the sales of unbroken packages being exceptional. Consumers are evidently keeping very close to actual current necessities, when making purchases, and it is claimed that the reason is that they desire to avoid carrying surplus stock through the approaching period of annual inventories. On the other hand, the assertion is made that they have so little faith in the present firm position of the market that they prefer to buy from hand-to-mouth, until something definite can be learned concerning the true condition of affairs, which seems to be very much in doubt, according to the varied views expressed by those largely interested. The situation abroad is as perplexing as it is here, and both mail and cable advices fail to give positive and reliable information. Powdered opium continues firm in sympathy with the gum, and seems to be at-

tracting more attention from buyers, but there is no special activity.

MORPHINE.—The steadier feeling noted last week is maintained, and a continued fair business is reported in the quantities usually taken by the consuming trade, but manufacturers' quotations remain unchanged.

QUININE.—Domestic manufacturers and agents of foreign makers all report the continued receipt of liberal orders from regular consumers at the old schedule of prices, and the market has a decidedly strong undertone. The prevailing opinion now is that a general advance will be announced on the 1st of January, and speculators abroad are apparently operating on that belief. On Thursday last the market was excited owing to orders from London to buy round lots of 20,000 to 50,000 ounces at full ruling prices, and in one or two instances a fractional advance was said to have been paid to outside holders, willing to take advantage of the flurry. Many of the orders are yet unfilled, as offerings were withdrawn when the actual condition of affairs became known.

ALCOHOL.—There is a decided improvement in the condition of the market for grain, which has been unsettled and irregular for many months. The various interests have satisfactorily adjusted their differences by agreeing to limit production and establish a uniform schedule of prices on a profitable basis. It is a part of the policy of the combined interests to keep the margin of profit at a point so low as to debar competition. The revised quotations are $2.35 for one to five barrel lots and $2.33 for larger quantities, terms, ten days.

ACIDS.—No changes have occurred in values of any description, but the tone of the market is firm and business in leading varieties continues of satisfactory volume.

BALSAMS.—Copaiba is quite active in a jobbing way, but without quotable change or other noteworthy feature. Tolu has again been advanced, and some speculative interest has developed. Values for small lots are about 10 cents per lb higher, and the tendency is still decidedly upward. Peru also shows a marked advance; recent transactions have resulted in closely concentrating the available stock, and the principal holders have added 25 cents per lb to the former quotation, but a few outside parcels might yet be had at a shade under.

BEANS.—Tonka and vanilla are both in good request for consumption, and strong at the recent improvement in prices.

CAFFEINE—Continues unsettled, but without further quotable change.

CODEINE—Is irregular owing to competition between importers of foreign and manufacturers of domestic, and quotations show a wide range with the former extreme figure about 10 cents lower.

CUBEB BERRIES—Have been arriving quite freely, and the spot stock is large. The demand is light, and values rather easy and a shade lower than last week.

GUM GAMBOGE. — Considerable business has been done during the past few days, and the spot stock is closely concentrated in few hands. The statistical position is decidedly favorable to holders, and prices have been advanced fully 5 cents per lb.

COD LIVER OIL—Is meeting with a continued active trade demand, with prices firm but unchanged.

DAMIANA—Is ruling easy, notwithstanding recent reports of crop damage, and sales are reported showing a decline of ½ cent per lb.

CAMPHOR. — Foreign markets for crude have recently developed an easier tendency and cable advices report a material decline in values; this has influenced a weaker feeling among holders of refined, and on Monday last manufacturers reduced their quotations 5 cents per lb. Previous to the decline, considerable business in Japanese was completed at prices above the present figures for city refined.

GLYCERIN—Is strong at the recent advance, with a continued active demand from manufacturing consumers.

ESSENTIAL OILS.—The general market is strong and fairly active. Anise shows a further advance of 15@25 cents per lb, according to the holder. Cassia is 10 cents higher. Camphor has been advanced 3@5 cents as to quantity, and only small lots are obtainable. Lemon is unchanged, but firm in sympathy with advices from Messina, reporting the primary market buoyant and tending upward. Peppermint in bulk is about 10 cents per lb higher. Large sales are reported in the Western producing sections, and some business has been done here at full prices. Trieste rosemary is 5 cents higher, and manufacturers of artificial sassafras have advanced their quotations 1 cent per lb.

JAMAICA GINGER—Has been advanced 1 cent per lb, owing to light stocks of prime, and an increased export demand.

CANARY SEED.—All varieties are fractionally higher under an improved demand.

CARAWAY SEED.—Dutch has been advanced slightly in sympathy with an improved primary market.

CORIANDER SEED—Is unsettled and weak, with prices ½ cent lower.

SPERMACETI—Shows a further advance of 1 cent per lb for both block and cakes.

SUGAR OF MILK.—The demand is very active, and all grades have been advanced 1 cent per lb.

London Market Report.

London, Oct. 26, 1895.

Business generally has been very quiet this week, and some articles which have risen considerably lately, such as camphor, tartrates, etc., have been rather inclined to fall in value.

ACID CARBOLIC—Is slow at 5d. for 35° crystals and 5½d. for 39°-40°; cresylic, 90 per cent. Contracts are being booked over 1896 at 11d. per gallon.

CAFFEINE—In good demand, makers being fairly full of orders for the rest of the year, and they will only book small quantities for December delivery at 18s. per lb; 20s. has been paid for American account for spot delivery.

CAMPHOR.—Crude quiet for far forward delivery; sellers for December shipment at 190s. cost, insurance and freight for Japan. Refined quiet.

BALSAM TOLU—Is again higher, 2s. 2d. per lb having been paid this week for genuine, at which price no more can be got.

BUCHU LEAVES.—Short rounds are again dearer this week, 6½d. per lb having been paid for fair green.

CREAM OF TARTAR.—Various lower quotations are given in some directions. English ground powder being offered at 101s. per cwt., while crystals can be had at 98s. per cwt.

MENTHOL—Very firm at 14s. per lb in case lots. Crop is reported to be about one-third of the usual quantity and of poor quality.

OIL (Cod Liver)—Dearer at 170s. per barrel for finest; second quality appears to have been sold out.

OILS (Essential.)—Star anise firm at 9s. per lb; cassia quiet at 8s. per lb; bergamot very firm at 11s. 6d. to 11s. 9d; sweet orange dearer at 6s. 6d. per lb.

OPIUM.—Prices in Smyrna close 1s. per lb dearer, the Dutch Government having bought about 120 cases. No business doing here, but holders are very firm.

QUININE.—Market firm, although in some directions lower prices are circulated, but these refer to old stock which would probably show a loss in weight.

SANTONINE—Is again dearer at 6s. 9d. to 7s. 3d. per lb, according to quantity; one maker has ceased selling on this market.

SCAMMONY.—Fine virgin has been sold this week at 32s. per lb.

The lowest possible prices when the goods are all right is what the druggist is after. The bronze pill boxes, sizes 20, 24 and 28, made by the E. N. Rowell Co., Batavia, N. Y., are all right, and the price, 45 cents per gross, is as low as any one can reasonably expect. It will pay to stock up on Rowell's pill boxes.

When people get a prescription filled they like to have a cork put into the bottle that stands well and can be drawn easily. The Armstrong Cork Company's extra long "Circle A" prescription corks are made especially for this purpose, and are being adopted by all the leading pharmacists throughout the country.

In their advertisement in this issue the F. Hammar Co., St. Louis, Mo., simply request correspondence from Atlantic coast dealers before closing 1896 contracts for combination white lead. Their position as large grinders enables them to offer special inducements, and their prices will undoubtedly interest large buyers.

All throat remedies are not necessarily stimulants or expectorants, and there is quite a demand for soothing applications in cases of hoarseness and irritation. Roworth's Glycerine Jujubes fill this demand and are very popular with speakers and singers. The Roworth Mfg. Co., New York, announce these goods in this issue, and they invite correspondence regarding them.

THE PHARMACEUTICAL ERA.

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A. PH. A. OFFICERS.

We have just issued, and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the present.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address The Pharmaceutical Era, New York.

BOARDS OF PHARMACY AND COLLEGES DIPLOMAS.

Nov. 4 was an important day for the Louisiana State Board of Pharmacy, not because it was the day before election, nor because it saw the election, minor in interest to the national event, of its own officers, but because on that day the board took action which constitutes a real event in its history and in that of pharmacy in general. This event was the adoption of the following resolutions:

"Whereas, The various colleges of pharmacy are departing from the custom of requiring of candidates for graduation a stated term of experience in practical pharmacy; and

"Whereas, New colleges of pharmacy are being from time to time established, whose requirements are not as stringent as they should be, and the status has become a hard matter to judge of; therefore, be it

"Resolved, That from this time henceforth the Louisiana State Board of Pharmacy shall refuse to approve of the standing of any college, and that hereafter the diplomas of no colleges be recognized.

"Resolved, That henceforth no applicant for registration as a registered pharmacist or qualified assistant shall be registered without first giving evidence to the committee on examination of possessing a grammar school education, the fact to be judged by an examination or otherwise."

There are other boards which do not accept college diplomas, but, so far as we know, this is the first time when reasons for this position have been so plainly stated. The Louisiana board is to be congratulated upon the stand it has taken. The "practical experience" requirement of the colleges is and always has been a farce. In certifying on this matter, the college diploma vouches for something of which it knows nothing. It says this graduate "having had four years' experience, etc., is *therefore* qualified to be a pharmacist," but it does not know and holds no examination to ascertain the quality of this experience. This journal has always maintained that until the college really knows the character of this experience and its value, it has no right to expect that its diploma shall be accepted as a voucher that the graduate is competent in all that constitutes practical experience, to conduct a pharmacy with safety and credit. We have contended that this practical experience is an absolute essential, but that the board of pharmacy, not the college, is the proper body to inquire into its nature and extent.

Were all our colleges of pharmacy on the same basis, requiring the same and teaching the same, this matter of practical experience might be satisfactorily adjusted; but, as the resolutions above somewhat ingenuously state, "the status has become a hard matter to judge of." As now conducted, one college may require, may teach, twice or thrice as thoroughly and as much as another college, and vice versa. There is no definition which may be attached to the Ph. G. degree, and yet we are asked to consider that they are all equal. The Louisiana board has done wisely in ruling that hereafter the diplomas of no colleges will be recognized.

In another particular this board, and there are one or two others as well, notably the Michigan board, has taken into its own hands a measure of qualification which the colleges as a rule have neglected to exact. This qualification is that of a good general education, and it is a matter for congratulation to learn that every pharmacist in Louisiana hereafter must demonstrate his ability to read and write, must possess an education equivalent at least to that of the ordinary grammar school. Is it not true, taking these several facts into consideration, that Nov. 4 was indeed a red letter day for pharmacy? It is to be hoped that similar action may be taken by all other State boards, which till now have been accepting, in lieu of an examination into the real qualifications of their candidates, college diplomas which, as we have seen, are no real guaranty of the applicants' professional ability.

THE DRUGGIST IN POLITICS.

This caption may or may not be strictly apropos in view of the recent occurrences of Nov. 5, but there is a matter to which we have often referred with a feeling of grief which the printed words never adequately portrayed, viz., the failure of scientific men, including the pharmacist, of course, to climb to those heights of distinction which are attained through the expression at the ballot-box of the regard of one's fellow-citizens. It is true that there are exceptions, as we frequently hear of the showering of minor political honors upon druggists, and we point, with pride of course, to a few mayors, aldermen and occasional Congressmen who, we are sure, serve their fellow-citizens officially with superior efficiency because they are druggists. It will not do to say that the profession is indifferent to such things, as such an assertion would convey the suspicion that it is not thoroughly American, and needs naturalization, or some education upon the functions or prerogatives of American citizenship. The only excuse, and it has nothing to do with the sour-grape fable, is that there is danger that the

druggist might be wanted behind the prescription case at the same time that his political duties might call him to the platform to explain the tariff, silver or the various rascalities of the contemptible opposition. This coincidence cannot be helped, but we think the sacrifice should be made just to show that the inventor of a new pill or the skilled artisan in plasters is really a great man, and that the discovery of a new alkaloid or something in coal tar really qualifies a man to find equally strange things in political mire, give them a name and tell us what to do with (or without) them.

The thing which has stirred us to rush into print with this matter is a recent incident in French politics. M. Berthelot, whom the secular press refers to as the distinguished French chemist, has accepted the portfolio of Minister of Foreign Affairs in the new Bourgeois cabinet. Other professional gentlemen representing literature and medicine are also found upon this new list of functionaries, and in noting this French method of conferring honors, we are compelled to admire the good taste and judgment displayed.

The name of M. Berthelot appears often enough in our literature to allow us to convey to him our most esteemed pharmaceutical consideration, with the hope that the Waller incident, affairs in Madagascar and several other little matters now before the French Foreign Office will prove as easy to him as the theory of polyatomic alcohols and the synthesis of fats, sugars, etc. M. Berthelot was also Minister of Public Instruction in the Goblet cabinet from Dec. 11, 1886, to May 30, 1887. Although a French cabinet is apparently one of those things which is here to-day and there to-morrow, we are charitably inclined in thinking it is the nature of the thing, and not in any way due to the peculiarities of character of the distinguished writers, doctors and chemists who usually help make up the slate.

In the career of M. Berthelot is found a bright example for our scientists who yearn for such public recognition as only brass bands and murmurs of assembled multitudes can furnish. We can only guess at the secret of M. Berthelot's success with the masses. We know that he has always been ready to favor us with fairy tales upon the synthetic production of foods, which the newspaper reporter has worked up in most admirable style. He has always been ready to talk—to tell us what he knew, and a great deal that he imagined. Is it possible that we have none of this sort in this country? Proceedings of the A. Ph. A. forbid the thought.

We have plenty of scientific material to fill the highest offices of the country. We know of editors who could take to the platform and "make Rome howl" should the question of pure food and drugs ever become one which justified torchlight processions and impassioned oratory. We have others who have spoken so vehemently upon trade abuses that their presence in an American cabinet would cause foreign nations to admit that the Monroe doctrine applied to the whole earth.

Many of our leading pharmacists now regard each other with a feeling which would give life to a political campaign, and much of it might be expended in the glorification of science or of scientific men in the political arena.

A NEW PHASE OF THE LOST-HEIR SCHEME.

Every American who indulges in retrospection concerning his ancestors reaches a point where he is compelled to cross the water to completely investigate the roots of his genealogical tree. This is an inconvenience which attaches to all comparatively new countries, and we simply have to put up with it. Part of us find recompense in imagining what fine people our grandfathers and grandmothers several times removed must have been, and the rest of us don't care a rap, or have an idea that where ignorance is bliss it is folly to know too much about such matters, especially when history records the existence of many mighty mean people a few centuries back. The part of us first mentioned has enjoyed for some time a stimulation of the imaginative processes, furnished by some very smart people who have made a study of the business.

Any one in this country whose name bears evidences of antiquity is quite liable at any time to be staggered with the startling news that his several times great-grandfather, who died some years ago, left a considerable fortune which, for lack of available heirs, has been lying and accruing unto itself interest in the vaults of the Bank of England, or some other supposedly sound European banking institution. All that is usually necessary to secure a share of this fortune is a small remittance to pay the expenses of certain persons who possess unusual skill in getting rusty fortunes from out the deep vaults of old world banks. In spite of the scoffings of those envious ones, whose ancestors left nothing worth mentioning, this industry of raising fees from American heirs of visionary European estates has thriven remarkably well. We were almost ready to claim it as an exclusive American industry, and recommend a tariff to protect it, but we are too late. The wide-awake and persistent Frenchman has already stolen our thunder. We would not feel particularly bad about it were the circumstances not so exasperating. According to reports from France, "John Grundey, of Ohio, a famous American chemist (sic), died recently and bequeathed to one Jacques Boyer the sum of $15,000,000, which is now on deposit at the Chicago Chambre des Notaires." It is further reported that Boyer dropped dead when he heard the news, and we don't blame him, as we felt a sinking sensation ourselves when we read the words "chemist," "$15,000,000" and "Ohio."

Of course our protests against this stealing of an American idea will be unavailing, but our curiosity is aroused to the boiling point to know how the idea ever got abroad in France, or any other part of Europe, that American chemists were able to die and leave $15,000,000. There is but one solution of this problem that occurs to us. We are called upon from time to time to chronicle the fact that Mr. ——, of the firm of ——, chemical or pharmaceutical manufacturers, or dealers, or Professor ——, of —— College, sailed for Europe on the steamer —— last Friday for a —— weeks' sightseeing trip. When they return we usually interview them, get a word or two about "pharmacy in Europe," and a column or so, which we don't print, about the sights of Paris, Monte Carlo, etc. Is it possible that these esteemed citizens of ours are mistaken for millionaires while abroad, and is the impression thus conveyed that all of us in this country who have anything to do with chemicals or chemistry are making money hand-over-fist and incidentally creating a surplus to be distributed upon our demise to our European heirs? The scheme will not work. The only possible way for a foreigner to secure an immediate fortune in this country is to come over personally and marry it.

INSURANCE ON DRUG STORES AND STOCKS.

No discussion of a technical character is intended, nor of the relative advantages of "druggists' mutuals," "old line" and other forms and varieties of insurance companies, but it is desired to direct attention to a few obligations devolving upon him which the druggist is apt to neglect. It is taken for granted that all drug stores and contents are insured: that is a business procedure of such undoubted wisdom that it is hard to imagine there is any druggist so careless and unobservant of ordinary business caution that he neglects it. Being insured, the druggist expects, in case of loss, that the company will carry out to the letter every promise and obligation of its contract. But is he so careful and honest in the observance of his side of the contract? We have been in drug stores where things are allowed which would or should vitiate every self-respecting insurance policy.

Let us go into the back room and look around a little. Here is an oil barrel, a large grease spot on the floor beneath where the oil has been allowed to drip and not been cleaned up. The insurance man would not like this. Here comes a clerk; he goes down cellar with a lighted lamp in one hand and an empty alcohol or benzine can in the other. He returns soon, and unharmed, the can full. It is not his fault he is still alive. The insurance company would say he ought not to be, for he has violated a most important part of the agreement. How many druggists do observe the requirement regarding the quantity of dangerous inflammable liquids which may be kept in stock, and how many who keep gasoline, etc., in quantity keep it stored at the required distance?

But aside from the obligations specifically stated in the policy and those governed by local ordinance, there are numerous bits of carefulness which many neglect to observe. Easily vaporizable liquids are kept in a warm place, corks tightly driven in, and an explosion with resulting fire is a probability rather than a possibility. A tightly corked bottle of

peroxide of hydrogen may explode, causing damage which may start a fire.

Then straw, sawdust, excelsior and other packings are sometimes heaped in a corner till convenient season for their final disposal. A slight thing is sufficient to cause combustion here.

And so we might continue to enumerate instances and habits of carelessness which endanger the premises and even invalidate the insurance policy, but it is sufficient merely to remind the negligent druggist that he would do well to "put his house in order" in this respect.

IT NEVER TOUCHED US.

About a year ago we received a postal card from Paymaster Rodney, U. S. N., author of "Alboin and Rosamond," calling attention to the dangers of either accumulating or allowing other people to accumulate fortunes in excess of one million of dollars. The propriety of this plea so impressed us that we did not hesitate to express our sympathy for this new restrictive movement, and in plain print we assured the mover of our esteemed consideration, etc.

We are now in receipt of another postal card upon which the same subject is again referred to, and an amendment to the Constitution is proposed, by which all those who find that their wealth exceeds one million dollars shall be compelled to pay the excess into the United States Treasury. It was hardly necessary to send us this postal card, as we have hitherto expressed our approval of the plan, and during the past year we have been quite careful (at no personal inconvenience, however) not to allow our holdings to exceed the million-dollar mark, and in addition have strenuously labored, in a business way, to keep other people from exceeding the dangerous limit. We trust that this evidence of deeds, rather than words, will prove satisfactory to Paymaster Rodney, and would suggest to him that he refrain in the future from wasting his missionary efforts upon undoubted converts.

The pharmacy law of the Territory of Oklahoma has been amended so that it is in part as follows, the old provisions on the same subject being inclosed in quotation marks: "Any person in order to be qualified (as a pharmacist), shall be 21 years old, and shall have passed a satisfactory examination before the board of pharmacy of the Territory of Oklahoma," or shall produce a certificate of pharmacy, regularly issued to him under the authority of any State or Territory, and prove that he is in good standing in that State or Territory, "or shall be a graduate of pharmacy, as hereinafter provided:" Provided, however, That nothing in this chapter shall be construed to prevent any physician duly authorized to practice medicine in this Territory from keeping drugs for use in his profession, and compounding his own prescriptions. Pharmacists having passed the examination provided by the board of pharmaceutic examiners, and being duly registered, as provided by law, it is also enacted, are to be exempt from all jury service.

PRACTICAL HINTS.

——Children asking for picture cards are frequently a source of annoyance, and the druggist cannot forget that most of them have drug-buying parents who may easily take offense if his bestowal of these much-prized childish favors is anything but impartial. A great deal of first-class diplomacy often has to be wasted upon just such little things as these. The druggist whom all the children like is, however, usually a pretty good druggist all around.

——The clerk should remember that he is engaged to perform certain duties, and he should discharge them to the best of his ability, cheerfully, ungrudgingly. Do not cultivate a brusque, uncivil manner and carry a sullen face. They displease and insult customers and are not just to your employer. If you think your work is too hard, that you are imposed upon, have a frank explanation with "the boss" and secure a readjustment of the matter, or, if this fails, seek another situation. So long as you are engaged and on duty look pleasant.

——To the clerk: Your employer's interests are yours. By serving him honestly and industriously you best serve yourself, for a reputation gained for faithful and intelligent service is of all importance to you and will stand you in good recommendation in other business connections and fields of labor. Without being officious, make yourself conversant with every detail of the business and do not be afraid of work, even though some of it may be very distasteful. There is no disgrace nor loss of prestige and dignity if you occasionally demonstrate to the porter and the apprentice how their duties can best be performed.

——As every one familiar with the country drug store knows, the proprietors of these establishments find themselves obliged by circumstances to reach out into wider fields than that of compounding medicinal preparations for the sick, in order to make both ends meet. Frequently they take up a side line for which a natural bent fits them best, and divide the time between their regular business and the humbler, but perhaps more remunerative occupation. One druggist in a Maryland town of considerable size has a partner who is a practical paperhanger, and sells wall paper from a counter adjoining that over which physic is dispensed. Another commends himself to the attention of an esteemed public and solicits custom for steel engravings and artotypes. He is also prepared to make picture frames to order.

——A contemporary trade journal mentions a hint that a retailer dropped the other day when he said that he didn't miss a clerk who had resigned. "On the contrary," he said, "this new man of mine is just as good a salesman, and, moreover, looks neat. His clothes are of a stylish cut and he has a more inviting look all 'round.'" There is not very much occasion to criticise drug clerks on this score, for as a class they bear a reputation for nattiness and style. There are some, however, who have not the habit of personal cleanliness and neatness. Soiled linen, finger nails in mourning, unblacked shoes, are not calculated to impress the customer, and he is apt to think a corresponding carelessness and lack of order attend your dispensing work. Coat off, shirt sleeves in evidence, may indicate that you are very busy, but the customer does not like to believe you are so busy as all this. He is afraid his own needs will not be attended to with that care and deliberation he has the right to expect. Carelessness and slovenliness of person and address offend and shock the drug store caller more than they do in a coal yard. It is not suggested that you be a dude, that you devote hours to the selection of a necktie or the harmonious combination of a costume, but it is urged that your apparel be clean, your hair neatly combed, your coat brushed, your hands clean and nails in order. This will give you "a more inviting look," and your employer expects you to be inviting. These are little things, but they are trade-winners.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

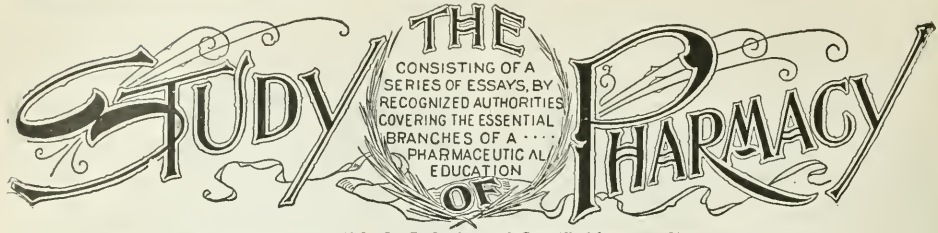
The advertising druggist, of course, desires to say something about perfumes, and he wishes to say it so that his efforts will stimulate trade just as people are laying plans for holiday buying. We believe the sample advertisement will solve the problem for many people who are racking their brains over the question of the right thing to buy. The illustration will perhaps suggest certain ideas which can best be conveyed by not putting them into words. Advertising perfumes during the holiday season is essentially one of the druggist's opportunities, as a new customer secured by such means for such goods is pretty sure to be a customer during the rest of the year. Push the perfume advertising now.

(No 39)

There are two pleased faces that belong to this picture, but we don't feel like intruding upon such occasions. We merely furnish the perfumes—the finest of odors, put up in dainty boxes and handsome bottles. There is nothing better for a holiday, or any other day, offering. You will have to see our stock, as we can't describe it, and this si our personal invitation to you. Our prices will suit every pocket-book—50 cents per ounce for bulk extracts, and $1.00 and upward for fancy bottled perfumes.

KNIGHT & DAY, Druggists.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.



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[Continued from page 584, November 7.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

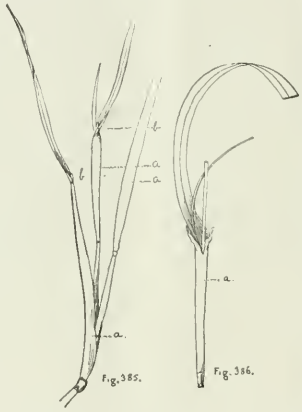
XXIV. BOTANY.

[*Continued.*]

By Henry H. Rusby, M. D.
Professor of Botany, Physiology and Materia Medica, New York College of Pharmacy

THE LEAF.

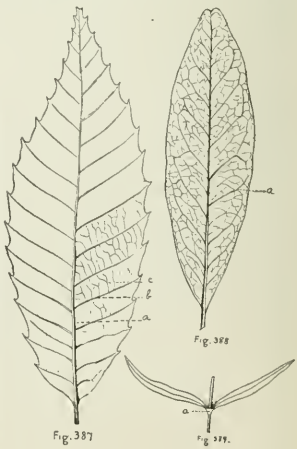
It is possible to determine but very little of the leaf structure without the aid of a microscope. The gross parts of the leaf have already been defined (see Fig. 3) as the base, consisting chiefly of a pulvinus, the stipules, petiole and lamina. In addition to these we have to note that many leaves possess a basal portion which sheaths the stem, but which is not exactly in the nature of a petiole or of stipules, and is denominated the Sheath (Figs. 385 and 386a). Leaves possessing a sheath frequently bear at the point of its junction with the lamina a blade-like appendage, usually very small, and analogous, if not homologous, with the crown of a petal, denominated the Ligule (Fig. 385b). It has also been shown that the leaf originates and develops as an extension of the periblem, covered by that of the dermatogen, and that it develops a stele (or more than one) which becomes continuous with that of the stem. In other words, its mode of development is precisely like that of a stem-branch. We have in it, therefore, all the elements which characterize primary stem structure. Just as branches of the cauline stele pass into leaf and branch, so do those from the foliar stele pass laterally into its expansions, and secondary and tertiary ones successively pass from the latter. These branches are very frequently joined at their distal ends to others (Fig. 388a), as well as at their proximal ends to the parent system. Whether such is or is not the case, the result of the branching is the production of a framework or skeleton which forms a support to the parenchymatous tissue which fills its meshes and covers its surface, being in turn covered by the epidermis. Bundles which obviously separate from one another at or near or below the base of the blade, and maintain their course well toward the apex or margin, are called Costae or Ribs if equally prominent (Fig. 474). Nerves if lateral and markedly less prominent than one or more of the central ones (Fig. 412).



The central one, whether there be others or not, is the Midrib (Fig. 387a). Branches of ribs or nerves are called Veins, and they are distinguished as Primaries (b) when departing from the midrib, Secondaries (c) when departing from primaries, and so on. Primaries of lateral ribs or nerves must be specially so designated in description. When there is connection at the distal ends (Anastomosis or Reticulation Proper, Fig. 388a) it is essential that the order (Primary, Secondary, and so on) of the anastomosing veins be stated, also the region of the leaf where the anastomosis takes place. Very small veins are called veinlets.

Except as to the general terms which follow under leaf classification, it is impossible to ascertain the structure of the cortex and epidermis of the leaf by ordinary methods, so that this subject is relegated entirely to the department of histology.

Very rarely has the leaf a terete form and a radial structure as seen in transverse section. Typically it is a flattened body. One flattened surface, the Ventral, faces upward or toward the stem which bears it and is ordinarily spoken of as the upper leaf surface. The under or outer surface is technically known as the Dorsal. By a partial twist in the petiole the surfaces may become laterally placed, the edges vertical. In a few leaves the surfaces are normally in the latter position. Between the dorsal and ventral surfaces there are usually differences sufficient to necessitate their description separately. In such descriptions it is better to speak of the dorsal surface as being underneath rather than "below," as the latter term may confuse it with the basal region. The connection of the leaf with the stem is usually by its base, consisting of a pulvinus and forming an articulation, the structure of which is designed to afford a prompt and ready separation of the leaf at the conclusion of the performance of its function, as well as to provide for certain movements and changes of position during life. In this case the stipule is often present as a prominent organ and of exceptional value and importance in classification and diagnosis, as in such families as Rubiaceae, Salicaceae and Violaceae. It is to be studied as to duration, falling sometimes before the expansion of the leaf, or persisting to various degrees after this period, and as to the scar which it leaves, as to its freedom from or degree of adna-



tion to the leaf, the stem or to the adjacent stipule in case of opposite leaves. In the latter case the organ formed by the union of two stipules belonging to opposite leaves is designated an Interpetiolar

stipule (Fig. 389a). Especial importance attaches to the characters of these, as they frequently develop into remarkably formed and appendaged bodies, as especially in the Rubiaceae, a most important medicinal family. Cases even occur in which the two stipules of a single leaf become contiguous and connate. The stipule is, moreover, to be studied in every detail in which the leaf is to be studied in connection with the classifications which follow. Leaves which do not possess stipules are called Exstipulate; those which do, Stipulate. Stipulate leaves are very frequently mistaken for exstipulate when the stipules are caducous or fugacious. It is frequently the stipules which are modified to form the scales of scaly buds.

At other times the connection of the leaf to the stem is by means of the adnation of more or less of its petiole, or even of its blade thereto, producing in the former case a ridge, in the latter a pair of herbaceous wings upon the stem (Fig. 395). In this case perfect articulation does not occur, and stipule characters are either wanting or greatly modified.

The petiole instead of being adnate may be wanting, or it may be very short. In this case the relative position of the base of the blade to the stem will depend upon its form.

The attachment of the petiole to the blade is always really marginal, though by the cohesion of basal lobes (Fig. 390) it is often apparently intra-marginal or even central. Basal lobes may, upon the other hand, be adnate along the petiole, or the same appearance may be produced by the gradual differentiation of petiole into blade. When the margins of the petiole throughout are herbaceous and in continuation with the blade, the petiole is said to be Margined or Winged. In the blade of the leaf the cortex and epidermis bordering each branch system of a rib and its veins may be entirely continuous with that of the adjacent one upon either side, so that the blade will be entirely unsegmented, and its margin entire (Fig. 388), or, upon the other hand, cortex and epidermis may, at the end and for a variable distance toward or even to the base of its branch system, be separate from its neighbors, thus making a margin more or less toothed, lobed or divided. When the division is thus carried entirely to the point of origin of such branch system, the lamina of the latter may still be connected at its base with the midrib, or it may be entirely separate from that also, so that the connection of that branch system with the rest of the leaf will be by its principal vein only (Fig. 391, &c.). An articulation will then form there, and the lamina will consist of a number of distinct blades of secondary rank, thus giving us the Compound Leaf. These secondary blades may be similarly divided, giving us the Decompound Leaf. The divisions of a compound and decompound leaf are called Leaflets, and are subject to the same conditions, description, and classification as primary leaves. Decompound leaves are spoken of as once compound, twice compound, and so on. Stipules, called Stipellae (Fig. 391a) may develop at the base of leaflets, but buds do not form there, a distinction which is sometimes useful in determining whether a body is a branch, bearing simple leaves, or a compound leaf. The continuation of the petiole throughout the blade of a compound leaf, is called its Rhachis (Fig. 391b).

Leaves, considered in the gross, are to be classified as to duration, their retention upon the plant, texture, surface, attachment to the stem, attachment of the blade to the petiole, form, including general outline, special form of base and of apex, venation, margin, division, modification of form and function.

As to duration leaves are Annual and the trees producing them Deciduous, when their duration is through a single season only, and Evergreen, when they remain in their normal and active condition into the succeeding season. Evergreen leaves may be either biennial, the ordinary form, or perennial. Persistent leaves are those which remain upon the tree, but in a dead condition, until forced off by the growth of the following season.

As to their texture and consistency, the ordinary form of leaf, in which it possesses active chlorophyll tissue, is denominated Herbaceous, in contradistinction to the Scarious or Scariose form, in which

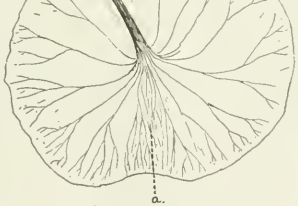


Fig. 390.

it has a dry and papery texture. Herbaceous leaves are Membranaceous in their ordinary form, that is, not excessively thickened, Coriaceous when tough and leathery, Fleshy or Succulent when largely parenchymatous, thickened and juicy. A leaf which exhibits translucent dots when held against a strong light is called Punctate. The surfaces of leaves may be classified in two ways, first, as to the characteristics of the individual trichomes (Indumentum) which they bear; second, as to the general surface effects which result from the latter. The former method, while not admissible in this article, is of very great importance in the characterization of medicinal herbs and leaves, especially as it constitutes one of the greatest aids to the identification of powders. The latter method can only be studied with advantage by the actual examination of type specimens, it being almost impossible to characterize the different forms by definition. A surface is Opaque when it is not shining or lustrous. It is Glabrous when it does not possess any trichomes in such forms as to detract from a smooth surface. It is Glaucous

Fig. 391.

when covered with a waxy exudation, imparting to it a peculiar whitish appearance ("bloom"), such as characterizes the surface of an ordinary black grape. It is Scurfy when covered with more or less of an appendage in the form of granular or detached scaly masses. When the matter of such masses is more thinly distributed, appearing in the form of a powder rather than a scurf, the surface is called Pulverulent. A Pubescent surface is a hairy surface, which is not readily distinguished as pertaining to any one of the other specific classes. If the hairs of a pubescent surface are very short and fine, so that the consequent roughness is reduced to a minimum, the surface is called Puberulent. If a hairy indumentum is fine and of an ashy gray color, the hairs not arranged in any regular direction, the surface is Cinereous. If the hairs all lie in one direction, are closely appressed and have a shining or silky lustre, the surface is called Sericeous. If this lustre is intensified and of a strongly whitish color, whether the trichomes be hairs or scales, the surface is denominated Argenteous. Such hairs as are capable of producing a sericeous surface are themselves denominated sericeous or silky, even though they be in insufficient numbers to impart this character to the general surface. A surface tending toward the sericeous, but not sufficiently pronounced, is called Canescent. When there is a dense covering of more or less elongated and matted hairs, the surface is called Tomentose. When such a covering is thin, its hairs less elongated, it is called Tomentellate. When there is a covering of thinly distributed, elongated, moderately soft hairs, which are not closely appressed, the surface is Pilose. When hairs are similarly distributed, but are elongated and coarse, the surface is Hirsute. When similar coarse hairs are rather stiff, lie in one direction, somewhat appressed, and particularly when each develops from

an elevated base, the surface is Strigose. A surface which possesses an indumentum of scales is called Lepidote. When the indumentum consists of hard, elevated points, giving a roughness to the surface, the latter is Scabrous. When such elevations are more pronounced, unyielding and sharp pointed, the surface is Hispid. A surface which is roughened by the presence of numerous, closely set wrinkles is Rugose. When a surface is made up of small, blister-like elevations consisting of the arching interspaces between the veins it is Bullate (Fig. 392). The opposite surface, containing the cavities of the bullae, is called Cancellate (Fig. 393). When the hairy covering is chiefly confined to the margin, presenting itself in the form of a fringe of hairs, the term Ciliate is applied (Fig. 391). Finally it is to be noted whether the veins or ribs, and which of them, are prominent upon both sides or either side, or whether, upon the contrary, they are depressed (called Impressed) below the general surface. At times a rib or vein will not be impressed, but will yet be channelled, so as to appear impressed upon casual observation. A surface

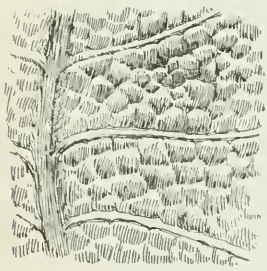
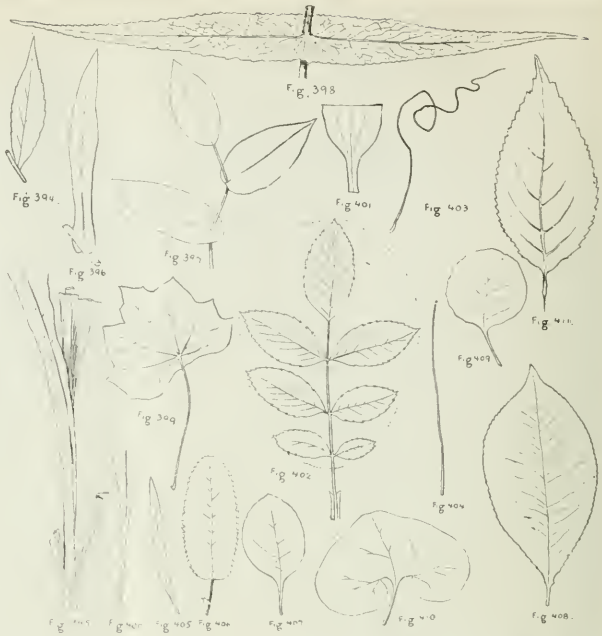


Fig. 392.

Fig. 393.

which is marked by spots, differing in color from the remainder of the surface, is called Maculate.

As to their attachment to the plant stem, leaves are Sessile (Fig. 394) when they possess no petiole. When a petiole or a lamina has grown fast for a portion of its length, to the plant stem, it is Adnate (Fig. 395). One whose base is



heart-shaped and surrounds the plant stem, whether growing fast to it or not, is called Amplexicaul or Clasping (Fig. 396). When the basal lobes of a clasping leaf entirely surround the stem and become connate upon the other side, so that the stem appears to be growing up through a perforation in the leaf, the leaf is called Perfoliate (Fig. 397). When opposite leaves are connate by their bases they are called Connate or Connate-perfoliate (Fig. 398). When the base of the leaf has its ventral surface brought into contact with and surrounding the stem it is called Sheathing (Figs. 385 and 386). When the bases of sheathing leaves clasp the stem in such a manner as to present a V-shape in transverse section, and one is superposed upon another in the same manner, they are called Equitant. Leaf sheaths are divided into two classes, according to whether the edges are connate upon the opposite sides of the stem (Fig. 386), giving us the Closed Sheath, or merely meet or overlap there without becoming connate (Fig. 385), giving us the Open Sheath.

As to the attachment of the blade to the petiole, the leaf is Peltate when this insertion is intra-marginal through the connation of the edges of basal lobes. A peltate leaf may be Centrally (Fig. 390) or Eccentrically (Fig. 399) peltate. When the petiole changes so gradually into the lamina that it is impossible to say where one begins and the other ends, we say they are Continuous (Fig. 400). When the margin of a blade is continued downward along the sides of a petiole, the latter is called Margined (Fig. 401). When these margins are manifestly herbaceous it is sometimes distinguished as being Winged, although this application of the term is not to be commended. Some of the terms here given connect this aspect of leaf classification with that which follows in reference to the distinctive form of the base.

By the Outline of the leaf, we refer to the general form of its margin, whether that be entire, or not. If not, then the general form of an outline is formed by connecting the extreme points of its margin with one another (Fig. 402, an obovate outline). It matters not, therefore, whether a leaf be entire, toothed, lobed or parted, or even if it be entirely compound or decompound, its outline will be the same provided a line connecting its extreme marginal points with one another possess a given form. The forms of leaves on this basis may be divided into three general classes—(a) those broadest at or about the middle, (b) those broadest at some point above the middle, (c) those broadest at some point below the middle. Of the first class, beginning with the narrowest, we have the Capillary or Hair-like forms, the Filiform or Thread-shaped (Fig. 403), the Acerose or Needle-shaped (Fig. 404), as those of the pine, and the Linear or Ribbon-shaped (Fig. 405), all of which are so elongated that they present the appearance of being about of uniform width throughout. A leaf similar to but shorter than the linear in proportion to its breadth, without regard to the character of its apex or

base, is Oblong (Fig. 406). One of similar form, but having a length not more than twice or thrice its breadth, and narrower than a circle, is Oval (Figs. 407 and 408), a term which must not be confounded with Ovate. If an oblong or an oval leaf possess a regularly rounded outline into and through the apical and basal portions it is called Elliptical. We have, therefore, two forms of the elliptical leaf, denominated respectively Oblong-Elliptical (Fig. 406) and Oval-Elliptical (Fig. 407). A circular leaf (Fig. 409) is called Rotund or Obicular. Finally we have the leaf which is broader than circular—that is, its lateral diameter is greater than its vertical, and this is called Transversely Elliptical.

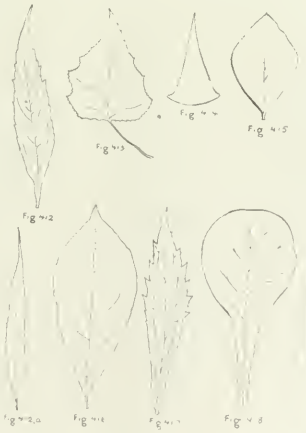
Those which are broadest at some point below the middle or above the middle should, in description, besides being designated by the class name of their form, have it specified in some way as to about the portion at which the greatest breadth occurs. Beginning with the broadest ones we have that which is broader than long and with a heart-shaped base, called Reniform (Fig. 410). One which possesses a length greater, but not more than two or three times its breadth, is called Ovate (Fig. 411). One of similar form, but its comparative length greater, is called Lanceolate (Fig. 412). One which is ovate, but with the greatest breadth at the very base, the margins not or but little curved, so that it is approximately triangular, is called Deltoid (Fig. 413). One still narrower, but of similar form, bearing the same relation to the lanceolate which the deltoid does to the ovate, is called Subulate, or Awl-shaped (Fig. 414). An ovate or oval leaf whose outline instead of being regularly curved is made up of four comparatively straight lines, is called Trapezoidal or Angularly-ovate. Another term which is applied to it is Rhomboidal (Fig. 415).

Most of the forms just referred to are paralleled by exactly similar forms in which the widest portion is above the middle. The names for these are formed by prefixing the syllable *ob* to the corresponding name of the other form; as, Obovate (Fig. 416), Oblanceolate (Fig. 417), and so on. When an Obovate or Oblanceolate leaf possesses a broad, rounded apex, and a somewhat elongated lower portion, it is called Spatulate (Fig. 418).

The outline of a leaf is greatly modified when the portion upon one side of the midrib is longer or broader than that upon the other, giving us Inequilateral, Unequal or Oblique forms (Fig. 419). When such a leaf has its midrib laterally curved it is styled Falcate or Sword-shaped (Fig. 420). Modifications of this as regards the comparative length and breadth of the leaf are Sickle-shaped, Scimeter-shaped, and so on.

A large number of terms are employed to indicate especially the form of the apex of the leaf. Beginning with one which is inversely cordate—that is, with the sinus at the apex—we have the Obcordate form (Fig. 421). When the sinus is smaller it is called Emarginate (Fig. 422), and when very slight, Retuse (Fig. 423). If the sinus be an angular one with straight sides, it is called Notched (Fig. 424). If the apex be abruptly terminated, as though cut across in a straight line, it is called Truncate. If any portion of the apex of the leaf be narrowed into a point, the leaf is called Pointed (Fig. 425). If such narrowing be gradual, so that the point is considerably longer than broad, even though it be preceded by an abrupt narrowing, it is called Acuminate. If the acumination is preceded by an abrupt narrowing, then it is distinguished as being Abruptly Acuminate (Figs. 426 and 427). If the narrowing be very gradual and not preceded by an abrupt narrowing, the apex is said to be Tapering (Fig. 428). If the point of the leaf be extremely abrupt and very small, it is Mucronate when soft and herbaceous, Cuspidate when hard and stiff, like a tooth. Any of the above mentioned forms may be either Acute, when the ultimate apex is sharp (Figs. 427, 428 and 429), Obtuse when not so (Figs. 425 and 426), Blunt when very obtuse (Fig. 430), or Rounded (Fig. 431). A leaf which has the midrib only extended into a bristle-shaped point is called Apiculate (Fig. 432), and this condition can apply to a cordate as well as to other forms of the apex.

The special forms of the base of the leaf-blade yield a correspondingly large number of terms. The terms cordate,



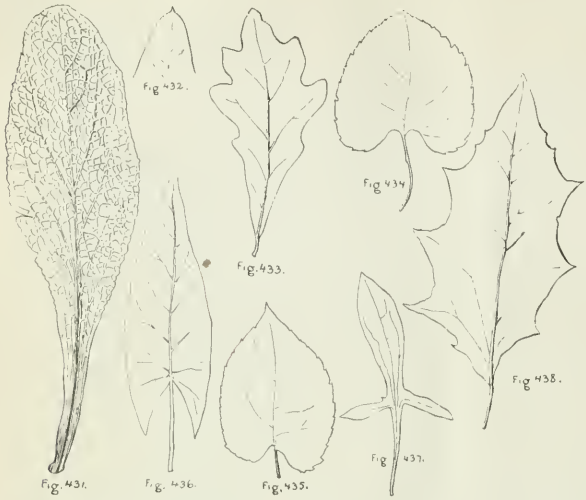
truncate, rounded, blunt, obtuse, acute, acuminate, abruptly acuminate, require no additional definition to those which have been applied to similar forms of the apex. When the two sides of the base are straight and come to an acute point the base is called Cuneate or Wedge-shaped (Fig. 433). A base which at first assumes a form which later yields to a sudden downward prolongation, or acumination, is called Produced. In all forms of the cordate base the greatest care must be taken to specify the precise character both of the sinus and the lobes. The former must have its form or outline specified as well as the angle which it makes. It should, moreover, be carefully noted whether the leaf base at the summit of the petiole be produced into the sinus, in which case it is called Intruded (Fig. 434).

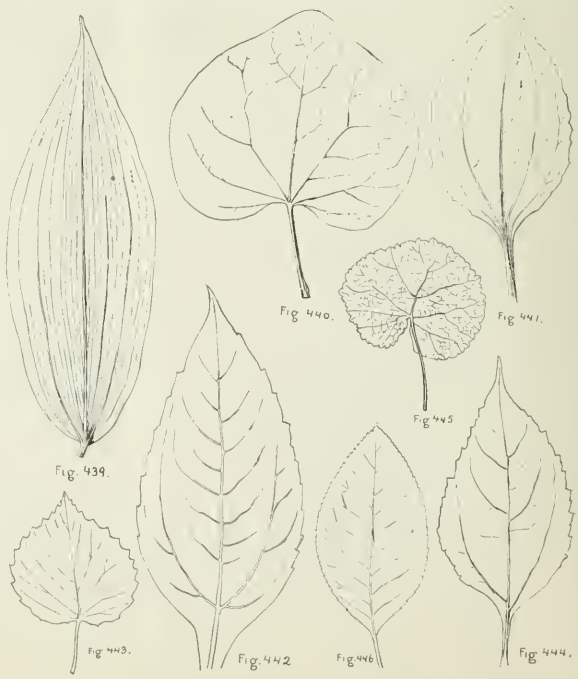
Sometimes the lobes of a cordate base will meet one another, or even overlap. The forms of the lobes are also capable of taking descriptive titles similar to those characterizing the lamina in general. The principal of such terms are Auriculate when the lobes are rounded similarly to the lobe of the human ear (Fig. 435), Sagitate when pointing downward and acute, like the lobes of an arrow head (Fig. 436); Hastate or Halberd-shaped when turned outward (Fig. 437). A base is Oblique or Inequilateral when descending lower upon one side than upon the other (Figs. 435 and 438).

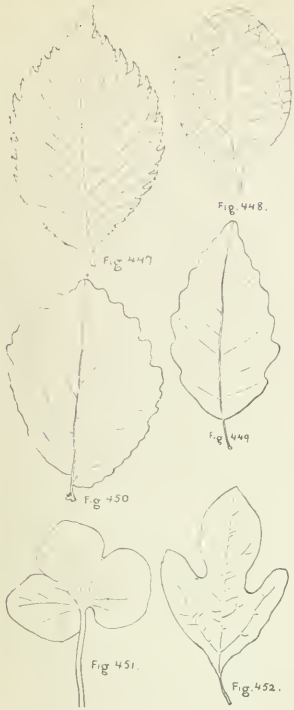
The greatest importance in descriptive terminology pertains to the classification of leaf venation, owing to the frequency with which leaves must be identified in such a fragmentary state that there is little beyond the surface and venation,

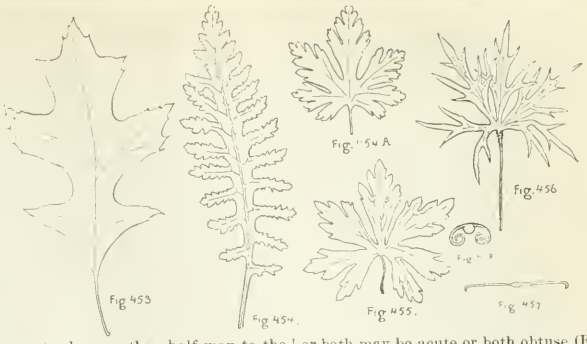
with possibly a portion of the margin, to assist us. The forms all fall within two principal classes, which in general characterize respectively the monocotyledons and the dicotyledons. The former bears its principal veins more or less parallel with one another, and these are numerous. Such leaves are called Parallel Veined (Fig. 439). In the second form there is but one, or a comparatively few, original veins, and these give rise to successively developed branch systems, the whole forming a network or Reticulum. Such leaves are called Reticulated or Netted veined (Fig. 387, &c.). These may or may not anastomose or intercommunicate at their distal ends. When they do, the term Reticulate is applied to them in a special or restricted sense (Figs. 388 and 421). In leaves of the last-named class the details of the method of intercommunicating are very important. Thus, in some cases, the end of each primary is arched upward into the next primary above (Fig. 388). In such case it is important to note the comparative distance from the margin at which the communication takes place and the angle at which the two meet, as these characters are always constant in the same species. In other cases the primaries (or the ribs, as in Fig. 474) are directly connected by straight and parallel secondaries, or in still others (Fig. 421) by an irregular intervening network of small veins. Primaries connected by the first method are usually also connected near the base with the midrib by a number of curved secondaries. When the principal veins or nerves of a leaf are straight they are called Rectinerved, when curved, Curvinerved. The latter term refers to a regular and characteristic curve, not to a crooked course. Some leaves are characterized by possessing waving or crooked nerves or veins. Two great classes of netted veined leaves are recognized, the one in which there is a main Rhachis or midrib, from which primaries extend regularly toward the margin. This form is known as the Penni-nerved or Pinnately veined leaf (Fig. 387). The number of pairs of primaries, whether they originate exactly opposite to each other or somewhat irregularly, is within fair limits characteristic of the species and should be stated. The same is true of the angle at which they radiate from the midrib. In the case of additional ribs or nerves of such a leaf, the number and stoutness as compared with the midrib, their comparative length and the position which they take in the leaf are all important. The second great class of netted-veined leaves is that in which a number of approximately equal ribs radiate from the basal region. Such leaves are known as Palmately or Digitately Veined (Figs. 440 and 441). There are, of course, many forms of intergrading (Figs. 442 and 474) between such leaves and pinnately veined leaves with secondary ribs or nerves. Sometimes the nerves start from the very base of the leaf, in which it is called Basinerved (Fig. 440); at others from the lower portion of the midrib, when it is called Costi-nerved (Fig. 442). When the ribs or nerves are manifestly continued downward into the petiole, the leaf is called Flabellately nerved (Fig. 441).

The manner in which the leaf margin comes to deviate from an entire condition has already been indicated. Three special forms of toothing are recognized, in accordance with the form and direction of the teeth. When the latter point in an outward direction the margin is called Dentate (Fig. 443); when directed toward the apex of the leaf, Serrate (Fig. 444); when, instead of being pointed, the teeth are rounded, the margin is Crenate (Fig. 445). Diminutives of these terms, indicating that the teeth are very small, are Denticulate, Serrulate (Fig. 446) and Cren-









ulate. To any of these terms the word "Minute" may be prefixed as indicating that the teeth are still smaller. Of each of these three principal forms there are a number of sub-forms. When the teeth bear smaller or secondary teeth, the word "Doubly" is prefixed (Fig. 447, doubly serrate). When serrate teeth have their points very strongly directed toward the apex or appear as though pressed inward against the margin, they are called Appressed (Fig. 447, partly). They may even be Incurved. When, upon the other hand, the ends of the teeth are turned outward, they are called Salient. When the points of the teeth are very fine and produced in the form of bristles they are called Spinulose (Fig. 387). When a margin shows indications of being dentate, serrate or crenate, but the teeth are not distinctly pronounced, the adjective Obscurely is prefixed. For this word that of "Obsoletely" is prefixed when the leaf possesses a relationship such as to make it probable that its ancestral forms were more strongly characterized by this condition (Fig. 448). When the teeth and their sinuses are all connected in such a way that the margin represents a wavy line, the latter is called Repand or Undulate, or Sinuate (Fig. 450). When a leaf is so deeply toothed that the sinuses reach well toward the middle portion (Figs. 451, 452, 453) the term Lobed is substituted for those above defined. When the division, by a sharp sinus, extends more than half way to the middle, yet not very near to the midrib, it is called Cleft (Fig. 454A). When reaching almost to the midrib (Fig. 454) or to the base in case of a digitate leaf (Fig. 455), it is called Parted, and when all the way. Divided (Figs. 456 and 469). The divided leaf is, however, not the same as the compound leaf, inasmuch as the separation of its blade into distinct leaflets is not complete, as our preceding description calls for. The cleft, parted or divided leaf, is either Pinnatifid (Figs. 454, 463a, &c.) or Palmatifid (Figs. 455 and 456), according to the character of its venation. In all forms of lobed, cleft, parted or divided leaves, it is necessary that the detailed characters of the lobes and of the sinuses should be specified. The lobe may be acute, while the sinus is rounded (Fig. 453), or the reverse may be true (Fig. 451), or both may be acute or both obtuse (Fig. 452). The sinuses as well as the lobes frequently possess definite and characteristic outlines, indicated by terms such as have already been defined in connection with the leaf. When the teeth and sinuses are outlined by straight lines and sharp terminations, as though notched out by a pair of scissors, the margin is said to be Incised (Fig. 454a). When the divisions and sinuses are long and narrow in addition to being incised, it is called Laciniate (Fig. 456). When the margin of a leaf is turned downward or backward or rolled backward, it is said to be Revolute. Ordinarily the revolution is very slight (Fig. 457), but occasionally, particularly upon drying, it will be found extreme, each half of the leaf forming a roll, the two meeting back of the midrib (Fig. 458).

(To be Continued.)

The Nerve of Barnabee Jones.

When Barnabee Jones was a little boy and got a penny to buy candy with he would sneak off by himself and buy it, taking good care that none of his mates were around to share his toothsome goodies; but when some other little urchin patronized the confectionery store, Barnabee would fawn on him and toady him until he got at least a lick of his candy. While Barnabee never lent any of his toys, he was the greatest borrower among all the lads who attended the district school. When Barnabee grew up he looked around for a way of earning a living and persuaded a good-natured associate who had invented a little article to take him into partnership. Barnabee knew the value of advertising, but was unwilling to pay for it unless he had to. So he commenced to systematically work the trade press. He had a lithograph taken of his little specialty and had a dozen electros made thereof. He then wrote a dozen eulogistic write-ups of his specialty and sent them around to all the papers asking them to confer a favor on their readers by giving valuable space to said matter as "news." The greenness of some of these papers was such that most of them printed this article. When their advertising solicitors went around to see Barnabee Jones that individual praised their respective papers to the skies and promised to advertise by and by, and such hopes did he awaken in their bosoms that he persuaded them all to put in large cuts of a six story building supposed to represent the ramshackle shed where his goods were made, and a flowery description of the same. And when a few more months came around, the advertising men, all confident, again flocked to Barnabee's door, and he received them with great joy and told them that in a few weeks he would place big contracts, and assured each and every one of these advertising solicitors that his would be the biggest and fattest contract of all, and as each solicitor took the outbound train he carried in his gripsack a fine halftone of Barnabee Jones, the rising manufacturer, and an able autobiography of that illustrious man of nerve—but nary a contract. Besides these coups d'etat Barnabee Jones had been by no means lazy during this period of time. Every time he issued a catalogue or circular he sent a nice description to all the trade papers, which many of them printed. Besides this he got in a news item or two about his "orders" or "improvements" every week or so, and he found his newspaper friends most profitable acquaintances. One by one they caught onto "B. J.," however, and his "news" found lodgment in waste baskets. In converse one with one another newspaper men found out the duplicity of Barnabee and wrote to him saying if he wanted his notices printed he must sign a contract. His field is played out, as only new and inexperienced papers can be worked by the likes of Barnabee Jones. His business is not what it used to be in the days when he received hundreds of dollars' worth of free advertising, and if reports are to be believed Barnabee, finding his sponging tactics of no avail, has about resolved to pay for his advertising, as other and fair-minded people do. (Amer. Artisan.)

(Written for the Era.)

THE FAMOUS HOLLIS POISONING CASE.

Being a Detailed Account of the Tragedy and of Druggist Ayer's Connection with it.

By HOWARD FIELDING.

(Continued from p. 586 Nov. 2.)

This story was commenced in the October 10th issue.

VI.

THE TEST.

In response to Gordon's questions, Ayer disclosed all that he knew about the scrap of paper; but he let it be understood that he expected equal frankness in return. Gordon made no objection. His disclosure was exactly in line with Stanley's theory.

"Dr. Barker told me that he suspected Edward Hollis of poisoning his uncle with eserine," said the oculist, "but he was puzzled to know how the young man could have obtained it. Dr. Barker asked me if I had used the drug upon the patient, and I replied in the affirmative. Then he asked if I had told Hollis what it was, and I said I had not."

"But you had," said Ayer quietly.

It was an experiment, and it worked.

"How do you know?" exclaimed Gordon. "Has Hollis confessed? Did he really do it? How did you find out about it so quickly?"

"I saw it in your eye," responded Ayer with a smile. "Come, doctor; you can trust me, I hope, even if you are a little shy of your professional brother, Dr. Barker. I'm interested in this case personally, but I don't want to get any advertising out of it, and I won't drag you into it."

"Don't, for heaven's sake," cried Gordon; "if there's anything I hate, it is to be mixed up in an affair that gets into the newspapers. I'm scared every minute that Barker will set the reporters on me, though I didn't tell him much. The fact is that Ed Hollis asked me what I was using, and I told him. Then he asked some questions about eserine. I don't remember what they were or what I said to him, but no doubt I told him the facts in a general way. This was weeks ago. I'd forgotten all about it, naturally. Now, however, I remember the occurrence, and I also recall that Hollis seemed to take considerable interest in poisons. I found him reading one of my books on toxicology one day. I think it was the one in which you found the paper. He shut the book hastily and tucked it on that ledge where you found it. I suppose it's been there ever since."

"He was probably making notes," said Ayer. "When you came in he closed the book suddenly and his paper was caught between the leaves so that a corner was torn off."

"That seems probable," rejoined Gordon with a sigh. "I suppose you'll have to turn the paper over to the authorities, and I shall have detectives taking up my carpet and reporters going through my clothes in search of the remainder of the document."

"Of course the rest of it isn't here," said Ayer. "Hollis must have taken that away with him."

"Would a detective ever think of that? Or a reporter either? No, no. I'm in for it."

"Not immediately, at any rate," said Ayer. "I'm going to keep still about this for a day or two. For my own part, I don't believe Hollis is guilty, and I'm not going to add to his troubles till it's necessary to do so."

"Suppressing evidence is dangerous business."

"I'm not going to supress it. I'm only going to go slowly."

"Go as slowly as you please," said Gordon with a smile; "I'll wait for you."

Ayer returned to the store. He hoped that Stanley would be there, for he wished to consult with his friend, but the doctor did not appear. A press of work during the afternoon acted as a merciful counterpoise, preventing the balance of his mind from sinking too far under the weight of his anxiety, but as daylight faded there came an interval of rest in which he heard the newsboys crying, at first far off, by the elevated station where the papers are delivered; then drawing nearer till the avenue rang with their distressing minor chords and cadences: "Extra! Full account of the poisoning case!"

There was one lusty youngster, who stood just outside Ayer's door, and bellowed as if he meant something personal. To spite him, Ayer bought a paper of another boy who made less noise. The story occupied two columns, but there was nothing in it except the arrest of Hollis, and a disquisition on poisons by a person who evidently didn't know what he was writing about, nor care, so long as it brought him eight dollars a column.

Ayer read the story as an appetizer for his dinner, and it worked so well that he ate next to nothing. When he got back to the store, the cashier told him that a package had been left for Dr. Stanley. Ayer glanced at the package, and his heart leaped when he saw that it was a four-ounce bottle, rudely wrapped in a newspaper.

"Who left this?" he demanded.

"A girl," replied the cashier. "I've seen her in here, but I don't know who she is. Seems to me she was here the other evening, and talked with you and Dr. Stanley."

Ayer took the package, and went into the back room. He tore off the newspaper, and found within it the bottle containing strychnine solution that he had put up for Stephen Hollis.

A scrap of white paper fluttered down upon the desk. There was a scrawl upon it which read as follows:

"Doctor Stanley heare is the bottel you wus luking fur i found it whin you wus gorn. i dident tell nobuddy. heare it is and i think it is worth sumthing to hav dun as i dun. i mite git into trubbell about it.

"P. S. i wunt sine my name."

Ayer had no time to appreciate the many beauties of this specimen of chirography or to consider its striking novelties of orthography. The meaning was plain; and he blessed the shrewdness and the cupidity of Nellie Martin.

It was a tremendous relief to him to hold that bottle in his hand. He had made up his mind that the police had it, in common with others that had been in Stephen Hollis' room. The newspaper had spoken of analyses that were to be made, but vaguely and often ridiculously, so that there was no possibility of deducing the facts from their statements.

Whatever should be the result of the tests which Ayer was about to make, he was rejoiced that he was to make them himself. If eserine should be found, his subsequent conduct would depend upon his own volition. If he decided to remain silent, he need fear no exposure. Only Stanley would know the facts. As to Nellie Martin, a few dollars would suffice to keep her quiet. Even if she foolishly or willfully disclosed what she knew, no proof could result from it, for he could fill the bottle properly and declare that it was just as he had received it. Stanley would bear him out in any statement he might make, and they could make their conduct appear satisfactory by a little judicious lying.

If the poison was there, Edward Hollis was innocent, and could doubtless clear himself. He would undergo only a brief detention; and the worst of it all—the disgrace of arrest—could not be avoided by any action of Ayer's. Hollis had suffered that already. Was it not better to let the affair proceed thus? Why should he injure himself to shorten by a few days the imprisonment of a man who had no claim of friendship upon him? He could square the account to the satisfaction of his own conscience by suppressing the scrap of paper which he had found in Dr. Gordon's office.

These thoughts flashed through his mind with the rapidity which so often characterizes the inspirations of the devil. Man is prone to evil, and his better nature is not always on the alert. Yet Ayer's did not wholly sleep, for beneath the voice of temptation that babbled so rapidly, was a deeper, steadier tone—a voice that not only told him what he ought to do, but prophesied what he actually would do. And that was to tell the truth, and keep his conscience clean, cost what it might.

So, when he prepared to make his tests, he felt in his heart that his own fate, as well as Hollis' depended upon the result.

He got out some test-tubes. Then he stopped. Some one had entered the store, and was walking rapidly toward the rear. Ayer hastily put the bottle out of sight, and, stepping to the end of the partition, came face to face with Stanley.

The physician's face looked troubled. He motioned Ayer back, and then cast a glance over his shoulder to make sure that no one was within ear-shot.

"I've had another hunt for that bottle," he said. "Confound it; the police must have it."

"No, they haven't," said Ayer quickly. "I have it myself."

"Mother of Moses," exclaimed Stanley. "Where did you get it? Have you tested it?"

Ayer answered both these questions without wasting time.

"We must test it at once," said Stanley. "If it's all right, we'll send it back. If it isn't, we'll send the other."

"Have you got that?"

"No, it's at my office. Who's that?"

The question referred to a voice that was heard at that moment in the outer store, asking for Dr. Ayer.

"Jerusalem the Golden!" whispered Ayer, peering around the partition. It's a policeman."

"See what he wants."

"I don't care what he wants. If he has a warrant for my arrest, he'll have to wait till I'm through with this. Pour some of that stuff into a test-tube. I'll get the potash."

Ayer stepped out into the store, and nodded to the policeman with an affectation of calmness which he himself considered to be pretty good.

"I'll see you in a few minutes," he said.

The policeman made no objection to waiting. He deposited his bulky body in a chair, and seemed to be well content.

Ayer got the potash solution and stepped behind the partition. Stanley had poured out a very little of the solution from the bottle into the test-tube. It was colorless as distilled water.

"Better let me take that," he said to Ayer, extending his hand toward the bottle which the druggist had brought.

"Do you think my hand isn't steady?" whispered Ayer with a smile. "You're mistaken, my friend. This little affair broke me up pretty badly at the start, because it seemed like fate. I had just got a chance in life, and I was poor and in love and all that. But I'm no coward at heart, and my nerves are all right. Moreover, I know how this test will come out. It will be negative. Give me the test-tube."

Stanley gave it to him without a word.

Ayer's hand was steady enough, as he sent a few drops of the alkali coursing down the side of the tube. It was steady even when he held the tube on a level with his eyes and saw the deep red flush of the liquid within.

(To be continued.)

POISON IVY.—In a recent issue of the New York Sun, a correspondent called attention to an antidote for ivy poisoning. This antidote is the plant Impatiens fulva, found widely distributed, especially in the South, its habitat being moist, wet lands. It is known by the common names of touch-me-not, silver plant, jewel weed, etc. For use, the stalks are to be crushed, and the juice rubbed upon the poisoned surface, or an infusion may be made, with which to bathe the affected part.

WHAT THE BOOK HUNTER FINDS.

The lover of the curious may discover a mine of wealth in almost any old book store. There he will find reading to suit any taste and any mood. The frequenter of these old shops is generally looked upon as an idle fellow and of no account, but such unfortunates have had an able champion in John Hill Burton, of "Book Hunter" fame, who likens these desultory readers to a busy bee which "passes on from flower to flower" gathering the precious honey to be found there. The writer, too, must plead guilty to this weakness, for he has passed many a pleasant and, he hopes, profitable hour in these same book stalls, and the curious things he finds from time to time but whet his appetite for more, so that his weakness has well nigh developed into a chronic disease.

Not long since he stumbled upon a collection of voyages and travels published 150 years ago, two heavy folios beside which our Webster's Unabridged would look like a 12mo, in which he found curious manufacturing processes, and descriptions of drugs now familiar, but at that time strange and unusual, which were exceedingly interesting to him as a druggist, and which may also serve to entertain some of the readers of the Era. For instance, an old Dutch writer, in telling of the discoveries and settlements of his countrymen in America, thus speaks of vanilla bean: "The vanilla is a Weed that creeps up Trees as Ivy does; the leaves are of a bright Green, long, straight, thick and pointed at the End. When it has been seven Years set in the Ground it begins to bear a kind of Husks full of an oily Matter and Seed much smaller than that of Poppy, which they use to perfume Liquors and Tobacco, and is used in some Parts of Europe in Chocolate."

In 1673 Rev. John Ray published an account of a botanical journey he took through Europe. He was an enthusiastic student of natural history and, it is said, "was the first to lay down correct principles of classification in the vegetable and animal kingdoms." He was a keen observer, and from his description of what he saw at Montpelier, France, the following quotations are made. Montpelier is now an important city in southern France, has a famous medical school founded in the twelfth century, a higher school of pharmacy, and to this day among its principal industries are the manufacture of wax tapers, its distilleries and its chemical works. Speaking of the drug trade in this city, Mr. Ray writes: "Montpelier is a round town standing upon a Hill, the number of Inhabitants at present being about 25,000. The number of Apothecaries in this little city is scarce credible, there being Thirty shops, and yet all find something to do. Their Cypress Powder, sweet Bags, Cassolets, Treacle, Confection al Kermes and Hyacintha having a name all France over. The Queen of Hungary's Water (as they call it), made here, is likewise much bought up. It is nothing but common Spirit of Wine, in which Rosemary Flowers have been macerated and distilled from the said Flowers. The Wines hereabouts are very strong and bear Water well."

Of beeswax he has this to say: "Here we saw also the manner and process of blanching of beeswax. First they melt the wax in a great copper cauldron, then have ready a mold or form of wood, of the figure of a sugar loaf, or the flock of a steeple-crowned hat, which, having besmeared over with slime of snails, they dip into the wax thus melted. This takes up a skin or film of wax, as candles upon dipping do.

"This they smooth with their hands and dip in water, and when it is cold take it off the form, from which, by reason of the anointing of the form with the forementioned mucilage, it will readily slip in the form of a cone or long crucible. These cones are set in a garden in ranks, singly, supported with canes or reeds crossing one another.

Round about they set pots with water wherewith they sprinkle the wax often to keep it from melting. In the summer time when the sun lies hot upon it, some six or seven times a day, otherwise but three or four times. In fourteen or fifteen days the upper end of these cones will grow white, and then they turn them to whiten the other end. In a month's time, more or less, according to the weather, they will become white all over. Then they melt the wax again in earthen pans and run it so melted through the neb of a tin pot into water, and as it runs down into the water a man either breaks it with his hand into grains or works it into round figures like spiral wreaths, and these they expose again to the weather till they become purely white, then melt into great pieces to sell. The mucilage wherewith they besmear the forms is made of snails taken alive, shells and all, and pounded in a mortar till they become a perfect pap or viscous. The form once besmeared well over with this pap will last dipping many times. Wax whitened is almost twice as dear as yellow wax. Yellow wax is solutive, and used where there is an inflammation, and the sore not ripe; white wax, on the contrary, is very astringent."

He has little to say about the chemical works, but describes in detail the process of making verdigris as he saw it. "At Montpelier the best Verdit or Verdegrease, Viridi aeris, is made. They told us that so good could not be made elsewhere, though they used the same method and the same materials, whether it be attributed to the just Temper of Heat, or the Nature of the Wine they use, or some other unknown quality. The manner thus: First, they take grape stalks well cleansed from the raisins and from all filth, and putting in the bottom of a pot a quantity of the best red wine, they set sticks across a little above the wine and upon them lay a quantity of grape stalks, first also drenched in wine, and let them alone about fifteen days, more or less, according to the season, till they come to make (as they call it) a rose, that is, the outsides become to appearance dry, and the middle only wet.

"These grape stalks being thus prepared, they put in the bottom of a large

earthen pot of the best red wine, that begins to be sour, but is not yet come to be vinegar, to the quantity of about two or three inches depth, somewhat above the wine, they set sticks across the pot, and having ready made little plates of copper, they lay upon the cross sticks first a layer of the prepared grape stalks, then a layer of copper plates, and so alternately, S. S. S., i. e., stratum super stratum, till the pot be full. In the middle of the pot they usually leave a hole all along for the vapor of the wine to ascend, neither are the copper plates laid together for the same reason. When they have filled up the pot they cover it and set it in a cellar, and after some five or six days turn the copper plates, letting the pot remain in the cellar three or four days more. In eight or ten days, according to the season, the Verdet will and laying them six or seven on a heap, put them on a trough and sprinkle the edges of them with the same wine for three or four days; next they press them with heavy weights for four or five days, and last of all scrape off the verdet with knives, and molding it with a little wine, dry and sell it. The same plates are again put into pots and used as before. So then Verdet is nothing but the Rust or Scurf of the Copper, calcined by the vapor of the wine."

"At Montpelier is made the best Confectio Alkermes, as reason there is it should, the grain which gives it its denomination being in no country of Europe found so plentifully as here. These grains have formerly been thought to have been proper to the dwarf or shrub Ilex, called therefore Ilex coccifera, and a by-fruit or excrescency of the twigs of that plant. But like grains have been found in England upon the twigs of cherry and other trees, where they are judged to be the work of an insect, and by her affixed to the twigs for nests to breed and harbor her young; and, indeed, to me they appeared to be so, easily receding and falling off from the wood when the young are hatched and gone. As for the grains themselves, they are so like the Kermes grain that they are scarce to be distinguished, and grow to the twigs just in the same places and manner."

Referring to Vichy water, this same traveler says: "The country about this town (Frontignan) is encompassed (on the north) with a ridge of hills in the form of a bow, touching the sea at each end so that the whole is like a theater. In this space are contained two other little towns, the one called Miraval, the other Vich; this last gives name to a mineral water springing near it, much used hereabout. It hath an acid vitriolic taste, but nothing so strong as our spaw waters, and, therefore, I guess the operation of it is much weaker. In this locality is grown the famous muscat grape."

WANTED, A SALESMAN.

Manufacturers and jobbers when in need of good salesmen will find that a "Want Ad." in the Era will bring them many good replies. There are plenty of bright, active and capable drug clerks seeking such positions, and thousands of drug clerks are constant readers of the Era "Want Ads."

AN EXAMINATION OF LIME WATER AND COMPRESSED LIME TABLETS.*

By David L. Greenawalt, Ph. G.

To ascertain the quality of lime water as ordinarily dispensed, samples were obtained from retail drug stores located in Philadelphia and some neighboring cities and towns. These samples were examined in such manner as would decide whether they conformed to the following requirements, which the U. S. Pharmacopœia gives for lime water.

"It gives a strongly alkaline reaction with litmus paper."

"The alkaline reaction of the solution should entirely disappear after it has been saturated with carbon dioxide, and subsequently boiled (absence of alkalies and their carbonates)."

"Fifty cc. of solution of lime should require, for complete neutralization, about 20 cc. of decinormal oxalic acid V. S. (corresponding to about 0.14 (0.148) per cent. of calcium hydrate), phenolphtalein being used as indicator."

Twenty-one samples were examined.

All of the samples were found to be alkaline in reaction.

No. 1 contained alkalies.

Nos. 3, 5, 12 and 19 were cloudy when purchased.

Nos. 7, 16, 18 and 20 did not clear with excess of carbon dioxide.

No. 11 contained chlorides and sulphates, for which all of the samples were tested. Phosphates and barium were absent from all the samples.

The following table gives the number of cubic centimeters of decinormal oxalic acid volumetric solution required to neutralize 50 cc. of the sample (20 cc. being required by the U. S. P.):

Sample.	No. cc.	Sample.	No. cc.	Sample.	No. cc.
1....	19.8	8....	20.0	15....	20.0
2....	21.6	9....	18.5	16....	21.5
3....	18.5	10....	21.9	17....	21.6
4....	18.6	11....	19.2	18....	22.5
5....	8.6	12....	8.7	19....	20.7
6....	26.1	13....	21.5	20....	21.3
7....	18.5	14....	20.7	21....	20.3

Two or three years ago, there were placed on the market compressed tablets and tablet triturates of lime for making official lime water by simple trituration with water.

Samples of these were procured, and, besides determining the strength of the lime water which they yielded, were examined in a general way.

The tablets and triturates were treated with water according to the directions accompanying them for preparing lime water.

None of the several samples were entirely soluble in water, although No. 4 was almost completely dissolved.

Fifty cc. of the mixture, which was obtained when the tablets or triturates were rubbed with the quantity of water directed, were titrated with the oxalic acid solution. After this some of the mixture was filtered and 50 cc. of the clear filtrate were likewise titrated.

The following results of the titrations are stated in the number of cubic centimeters of decinormal oxalic acid volumetric solution required for the 50 cc. titrated (20 cc. being required by the U. S. P.):

Sample.	Form.	No. cc. for 50 cc. product. Cloudy.	Filtered.
1.....	tablet	1.2	...
2.....	tablet	16.3	8.8
3.....	tablet triturate	10.2	8.7
4.....	tablet	13.8	10.1
5.....	tablet	2.7	2.1

All of the samples contained carbonates. All were free from sulphates, chlorides, phosphates and alkalies.

No. 4 was completely dissolved by diluted hydrochloric acid; the other samples were not entirely soluble in this liquid.

No. 2 contained magnesium. Glucose was not present in any of the samples. Cane sugar was found in Nos. 2, 3, 4 and 5. Starch was detected in No. 5, which tablet yielded a product that had but a slightly alkaline reaction toward litmus. Traces of iron were found in Nos. 2, 3 and 4.

The cane sugar had probably been introduced as a diluent in the making of the tablets. Additional quantities of this substance were added, in order to ascertain whether it would increase the strength of the lime water by dissolving any calcium hydrate that might have failed to dissolve in the water supplied; but as no such effect was observed, it would appear that the remaining calcium had assumed the form of carbonate.

The results of these examinations show that but little of the lime water dispensed is of the strength required, and that official lime water was not obtainable from any of the tablets or tablet triturates examined.

*Contribution from the Chemical Laboratory of the Philadelphia College of Pharmacy. Am. Jour. Pharm.

PHARMACY.

MEDICATED GRANULES are a French preparation of comparatively recent introduction. Ordinary coarse granulated sugar is the basis. An extract of the drug is dissolved in twice its weight of 60 per cent. alcohol, and then poured over the sugar, keeping the mixture well stirred. It is then spread out to dry, being stirred or turned over occasionally to prevent adherence of the granules. A typical formula directs 7½ grams extract of kola and 150 grams of granulated sugar, and sufficient alcohol (or chloroform) to conduct the operation as described.

THE SACCHARIN PATENT.—For some time past Messrs. Gilliard P. Monnet & Cartier, of Lyons, have, through their London agents being offering saccharin of 500 strength on that market, guaranteeing to hold buyers harmless from any action that might be taken against them under patents granted to Fahlberg, List & Co., which patents in England are owned by Wilson, Salamon & Co., Ltd., of London. The new product has been largely advertised and has been highly commended by the medical and pharmaceutical press, and this has at last compelled the proprietors of

the patents in question to commence an action against the Lyons firm and their London agents for infringement. These latter have very promptly accepted the challenge and a very interesting lawsuit is before us, the defense appearing to be that the processes covered by the patents do not include that under which the new product is made. Wilson, Salamon & Co. state that they intend to fight out the question to the bitter end, and that if successful they will proceed against all purchasers of the "Monnet" saccharin, and if unsuccessful, they will enter upon a price-cutting contest, until somebody retires, or an understanding is arrived at, so that it seems pretty evident that the lawyers are going to make money if no one else does.

THE TRIPOLI SPONGE FISHERY.—The sponge fishery on the Tripolitan coast is practically monopolized by Greeks from the islands of the Archipelago, Ottoman and Hellenic, who, during the summer months frequent Karcura and other places in the Gulf of Sidra, the ancient Syrtis Major, the navigation of which, though no longer dreaded by sailors as it used to be in classic times, is still dangerous when strong northerly gales blow. Harpoon boats, which can be used in comparatively shallow water, are the most numerous, and next come the machine boats or those which have diving apparatus. These usually secure the best sponges, as the divers have time to examine and cut them, while the trawlers and ordinary divers tear them away indiscriminately. From a variety of causes, the chief of which is the danger of fatal exhaustion attending the divers, who, having to dive to greater depths to get the sponges, are obliged to remain under the water too long, the number of divers is gradually diminishing. The sponges are usually taken to Piræus and Syria, whence they used to be sent to Germany to be prepared for the European market, but some are now sent to Paris. The revenue derived from the issue of licenses, etc., in the year 1893-94 (1,309) amounted to 202,895 pias (£1,844 10s.), and for the following year to 201,225 pias (£1,829), showing in each case a slight decrease in comparison with the previous year. It should, however, be remarked that in both cases the Derna revenue is not included. (Consular Report.)

ADDITIONS TO THE "NATIONAL FORMULARY."

The Monatsblatt has received the following four formulas, which have been suggested as desirable additions to the N. F.:

Syrup Phosphoric Acid with Quinine Hydrochlorate.

Solut. Phosph. Acid. Comp., N. F.	8 fl. ounces
White sugar	10 ounces
Quinine hydrochlorate	8 grains
Strychnine	1 grain
Spirit bitter almond	5 minims
Caramel, a sufficiency.	

Tincture Chamomile Compound.

Tincture cinchona comp.	16 fl. ounces
Tincture calumba	4 fl. ounces
Tincture chamomile	4 fl. ounces
Tincture cardamom comp.	4 fl. ounces
Tincture gentian co.	4 fl. ounces
Tincture nux vomica	2 fl. ounces
Tincture ignatia	2 fl. ounces
Tincture bryonia	2 fl. ounces
Tincture phosphorus.	2 fl. ounces

This formula is said to be an original prescription of the late Dr. Clymer McBride. In the preparation of the compound tincture of cinchona, cinchona calisaya, and not cinchona rubra, should be used; and, in the case of the last four tinctures the homeopathic preparations should be employed. The tincture of phosphorus of this preparation may be prepared by heating, on a water bath, pieces of phosphorus in a flask well filled with alcohol, with occasional shaking, until no more of the phosphorus is taken up, and then diluting the saturated solution with an equal quantity of alcohol.

Solution Thymol, Compound.

Boric acid	600 grains
Benzoic acid	600 grains
Menthol	50 grains
Thymol	100 grains
Oil eucalyptus	100 minims
Oil wintergreen	100 minims
Fluid extract baptisia, to color.	
Water, to make	4 pints

Triturate the four solids and the oils in a mortar with a little water, which has previously been colored with the fluid extract, making in all 4 pints. The mixture is kept at a temperature of about 15° C. (59° F.) for several days, being frequently shaken, and is then quickly filtered through talcum; or:

Oil wintergreen	20 minims
Oil eucalyptus	40 minims
Menthol	40 grains
Thymol	40 grains
Alcohol	18 fl. ounces
Boric acid	2½ ounces
Water, to make	4 pints
Fluid extract baptisia, to color.	

Syrup Hypophosphites, Compound.

Sodium hypophosphites, 6-ounce	3 drams
Manganese hypophosphites	3 drams
Quinine sulphate	1½ drams
Hydrochloric acid	36 minims
Glycerin	16 fl. ounces
Syrup	9 pints

Mix, allow to stand for one week, then filter, and to the filtrate add

Iron phosphate .... ½ ounce previously dissolved in some water; and finally

Tincture nux vomica ..... 15 fl. drams

The syrup made according to this formula is said to deposit a cloudy precipitate in one or two weeks. It is claimed for it that it does not darken by age. (Am. Med. Surg. Bull.)

PHENOL-SULPHONATE OF LIME.—Parozzi prepares this salt by acting upon calcium carbonate with phenol-sulphonic acid. It forms a white, almost odorless, astringent powder, bitter in taste, readily soluble in water and in alcohol, which solution is neutral. The salt has a definite chemical constitution, and keeps well. It should prove a very useful antiseptic, disinfectant, and astringent; its employment is indicated in cases of obstinate diarrhœa, and externally or internally to effect the healing of wounds. It is given internally in 1 per cent. aqueous saccharine solution. (Apoth. Zeit., Phar. Jour.)

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Bismuth Subgallate.

(K. P.) See March 14, 1895, Era, p. 328.

Tooth Ache Gum.

(W. A. P.) See Feb. 7, 1895, issue of this journal, p. 176.

How Register Trade-Marks, Etc.

(F. F.) See Feb.21, 1895, Era, p. 238. We do not answer queries by mail.

Russet Leather Polish.

(I. I. H.) See issues of the Era, March 21, p. 367, and April 11, 1895, p. 462.

Coloring Kerosene Oil Red.

(McL. D. C.) In further reply to your query in the Oct. 31, 1895, Era, p. 557, M. A. Rawson, La Crosse, Wis., writes that he has tried alkanet root for coloring kerosene oil with excellent results. He simply ties up the root in a coarse cloth and suspends it in the oil. His experiments with aniline as a coloring agent were not satisfactory.

Keeping Qualities of Mistura Cretæ. U. S. P.

(M. U. R.) The Pharmacopœia specifically states that this preparation should be freshly made when wanted. There is no excuse for not dispensing a fresh mixture. It spoils readily in warm weather. Glycerin has been recommended as tending to preserve it while in the hands of the patient, but even with such addition it is far from a permanent preparation.

Lavender for Barbers.

(J. I.) The following are typical preparations, the cost, of course, depending upon the quality of material used:

1.) English oil of lavender. 3 ounces

Oil of bergamot	1½ ounces
Essence of Tonca beans (1 in 10)	1 ounce
Rose water	12 ounces
Alcohol	80 ounces

2.) Oil of lavender. 10 drams

Oil of bergamot	1½ drams
Essence of musk (1 in 16)	2 drams
Oil of neroli	4 drops
Oil of rose geranium	6 drops
Oil of sandalwood	7 drops
Alcohol	30 ounces
Water	30 ounces

3.) Oil lavender. 4 drams

Oil bergamot	½ dram
Oil lemon	½ dram
Musk	2 grains
Rose water	2 ounces
Alcohol	18 ounces

Oil Dressing for Floors.

(W. T. C.) We cannot give you the formula for the proprietary article. For ordinary hard wood floors raw linseed oil is about the best treatment. Hand rubbing is the best method of applying it, but it needs a great deal of muscular activity. The next best is a stiff brush,

such as comes for this purpose, with an iron back and a long handle. This gives a dull, clean finish, and may be applied as often as one chooses. For a chamber where a little livelier finish is desired after the first dressing of the oil, take 2 parts of linseed oil, 2 parts of alcohol, 1 part of turpentine, and 1 ounce of ether to a quart of the mixture, and apply it briskly with a rag. Use this as often as needed. Where a higher finish is wanted, wax and turpentine make a good top dressing, and for a parlor shellac is added. Most of the floors of foreign woods are polished with wax and turpentine. The secret of successful application is a small amount of the dressing and a large amount of elbow-labor.

Silver Nitrate and Potassium Permanganate.

(M. U. R.) In the prescription

Silver nitrate..... 2 grains
Potassium permanganate .....½ grain
Distilled water..... 3 ounces

a reaction takes place, silver permanganate and potassium nitrate being formed. Thus:

$$AgNO_3 + KMnO_4 = AgMnO_4 + KNO_3$$

In very dilute solutions, as in the present instance, precipitation of silver permanganate is not likely to occur. When warm solutions of silver nitrate and potassium permanganate are mixed, silver permanganate separates out in large deep purple red crystals. Roscoe and Schorlemmer say this salt is soluble in 190 parts of water at 15° C., and is much more soluble in warm water. Curtman gives the solubility of silver permanganate as 1 in 100 of water. Like all solutions of the permanganates, it is very readily decomposed, exposure to light and heat being all that is necessary to produce it.

Antiseptic Mouth Wash.

(M. U. R.)

1.) Tincture of myrrh... 2 fl. ounces
Thymol ..... 5 grains
Borax, powdered ....½ ounce
Sandalwood, sufficient to color.
Oil of cloves..... 5 drops
Oil of cinnamon..... 5 drops
Chloride of zinc ..... 4 grains
Dilute alcohol ..... 1 pint
Mix.

2.) Thymol ..... 2 grains
Benzoic acid ..... 2 scruples
Bichloride of mercury.. 9 grains
Tincture of eucalyptus. ½ ounce
Oil of peppermint.....11 grains
Alcohol .....¾ ounce

This is filtered and sufficient of the solution is added to a wineglass of water to cause a distinct turbidity. The mouth is rinsed with this mixture twice successively.

3.) Benzoic acid .....45 grains
Tincture eucalyptus.. 4 fl. drams
Alcohol .....25 fl. drams
Oil of peppermint.... 4 minims

Glycerole of Iron Chloride.

(H. A. W.) There is no specific formula under this title. A typical preparation containing glycerin, and one which disguises the styptic taste of the iron very well, is the "Syrup of ferrous chloride" of the National Formulary. Here are two other formulas, the one last given having been published under the title "Neutralized Syrup of Ferric Chloride:"

1.) Tincture citro-chloride of iron (N. F.)..... 1 ounce
Glycerin ..... 4 ounces
Syrup, enough to make.16 ounces

2.) Tincture ferric chloride .....640 minims
Sodium bicarbonate.130 grains
Glycerin ..... 1 fl. ounce
Syrup ..... 6 fl. ounces
Distilled water, enough to make... 16 fl. ounces

Add the tincture to 4 fl. ounces of the water, add the sodium bicarbonate, and after effervescence has ceased add the glycerin, syrup and the remainder of the water. Let stand for 24 hours and filter. See also July 1, 1894, Era, p. 14

Crystallization of Carbolic Acid in Glycerin.

(M. U. R.) The exact amount of glycerin required to liquefy carbolic acid depends upon the melting point of the acid and the temperature, an addition of 10 per cent. of the former generally being necessary to render the crystallized acid permanently liquid. That some of the acid in the liquid made by you crystallized out, is doubtless due to the fact that you did not add enough glycerine. Vulpius experimenting along these lines some years ago (A. Ph. A. Proceedings, 1885) ascertained that 100 parts of carbolic acid, having a melting point over 40° C, and liquefied with 5 parts of water and 5 parts of glycerin, will congeal at 18.5° F., or 65.5° C. The same amount of acid liquefied with 5 and 10 parts of water and glycerine respectively, congeals at 15.5° F., or 60° C. With 10 parts of glycerin and no water, the liquefied acid did not congeal until a temperature of 27° F., or 80° C., was reached. For distinction between liquefaction and solubility of carbolic acid, see April 25, 1895, Era, p. 525.

Powder and Elixir of Pepsin and Pancreatin Compound.

(G. W. M.) A formula for a compound powder of pepsin and pancreatin may be found on page 111 of the National Formulary. An elixir containing these substances, and typical of many of the so-called "digestive" elixirs on the market, is the following communicated to the sub-committee of the A. Ph. A. on additions to the National Formulary:

Pepsin, soluble scales	300	grains
Pancreatin	30	grains
Ptyalin, or diastase of malt	30	grains
Lactic acid	85	minims
Glycerin	16	fl. ounces
Water	8	fl. ounces
Tincture persionis, N. F.	2½	fl. ounces
Talcum purified ..	1	ounce
Aromatic elixir, enough to make.	½	gallon

Add the acid to the water and glycerin, and to this mixture add the pepsin, pancreatin and diastase, and macerate until apparently dissolved. Then add the tincture persionis and enough aromatic elixir to make 4 pints. Thoroughly incorporate the purified talcum and filter through paper.

For methods of pepsin manufacture see United States Dispensatory, page 1014.

Guaiacol Carbonate, Thymol, Menthol and Eucalyptol in Capsules.

(J. S. W.) asks how the following prescriptions should be compounded:

1.) Guaiacol carbonate..... 3 grains
Thymol .... 1 grain
Menthol .....½ grain
Eucalyptol ..... 5 minims
For 1 capsule. Make 20 such doses.

2.) Guaiacol carbonate... 5 scruples
Thymol ..... 1 scruple
Eucalyptol ..... 1 dram
Mix and divide into 20 capsules.

No satisfactory method of massing the ingredients in the above prescriptions can be devised without making the capsules by far too large. Thymol and eucalyptol may be well massed with powdered soap, but in this combination it would not do, as the guaiacol carbonate is likely to be decomposed by it. Several dispensers to whom the query was submitted said they would not try to mass the ingredients at all, but they would introduce the dry guaiacol carbonate into the capsule first and afterward the thymol dissolved in the eucalyptol by means of a dropper. We would like to hear from our readers on the subject.

Barbers' Shampoo.

(C. A. H.) The two following make liquid preparations:

1.) Soft soap ..... 1½ ounces
Potassium carbonate .... 2½ drams
Alcohol ..... 3 fl. ounces
Essence jockey club ..... ½ fl. ounce
Water, enough to make .....25 fl. ounces

2.) Solution potassa.... 4 fl. ounces
Borax ..... 1 ounce
Bay rum..... ½ fl. ounce
Tincture quillaja... ½ fl. ounce
Water, to make....16 ounces
Perfume as desired.

Shampoo Paste.

3.) Conti castile soap..... 4 ounces
Potassium carbonate... 1 ounce
Water ..... 6 ounces
Oil lavender..... 5 minims
Oil bergamot.....10 minims

To the water add the soap, in shavings, and the potassium carbonate, and heat on a water bath for two hours. Stir until creamy and add the oils. The addition of a small quantity of glycerin will prevent the paste from becoming hard upon standing.

4.) White soft soap.....4 ounces
Honey soap, in shavings .....2 ounces
Olive oil .....1 fl. ounce
Water .....1 fl. ounce
Potassium carbonate..1 dram

Melt all together and heat into paste. May be perfumed if desired.

Books on Colored Fires.

(J. B. C.) There are a number of works extant on pyrotechnics, but none of them are hardly adapted to your uses, unless you want to go into the business on a large manufacturing scale. Briefly, in the preparation of colored fires, exceeding care should be taken in the manipu-

lation of the material employed. The ingredients should be reduced to powder, separately sifted, and put into closely corked, wide-mouthed bottles until ready for mixing. Especially is it necessary to observe proper precautions in the powdering of potassium chlorate, which should be done in a thoroughly clean and dry mortar. It is well to do this with all the substances you employ. Strontium nitrate and most of the other crystalline salts, except potassium chlorate, may be gently heated until the water of crystallization is driven off, when they will crumble to a dry powder. Mix with a wooden spatula, and, after mixing, sift through netting or coarse mesh cloth to make sure of intimate mixture. In compounding colored fires for use indoors care must be taken to exclude salts which produce, upon combustion, poisonous products. Preparations containing sulphur, antimony, arsenic and the like are not suitable to burn indoors. No particular directions are necessary regarding their ignition, as your own judgment will tell you. A tin can or a pasteboard box makes a suitable container in which to place the compound for burning. For formulas, hints and suggestions upon this subject you can profitably consult back volumes of the Era. The Era Formulary also contains over 100 formulas for colored fires. Another work containing considerable information is the "Pyrotechnists' Treasury," by T. Kentish.

Antiseptic Tooth Powder.

(M. U. R.)

1.) Precipitated chalk .....15 ounces
Soap, powdered ..... 1 ounce
Saccharin .....10 grains
Thymol .....15 grains
Camphor .....30 grains
Vanillin ..... 5 grains
Oil of rose..... 6 drops

Rub the camphor and thymol together in a mortar, and warm gently so as to render the mixture liquid; then add the chalk in small portions at a time, reserving about 1 ounce; next add the other ingredients, the perfumes being first separately rubbed with the remainder of the chalk.

2.) Powdered orris ..... 3 drams
Powdered licorice root. 2 drams
Powdered castile soap. 6 drams
Precipitated chalk .... 1 ounce
Acid, boric ..... 2 drams
Acid, benzoic ..... 3 drams
Magnesium carbonate, heavy, to make..... 4 ounces
Oil eucalyptus .....20 minims
Oil rose ..... 5 minims
Oil peppermint ..... 5 minims
Oil lemon .....10 minims

Mix in order and pass through fine sieve. If color is desired, add 20 grains carmine.

3.) Precipitated chalk. 7½ ounces
Powdered orris root 7½ ounces
Beta naphthol .... 3 drams
Powdered soap ....2½ ounces
Powdered sugar .. 1½ ounces
Carmine .....30 grains
Oil lavender ..... 1 fl. dram
Oil lemon ..... 1 fl. dram
Oil bergamot ..... 1 fl. dram
Oil gaultheria .....30 minims
Oil rose .....10 minims

Mix and sift.

Gelatin Glycerin Suppositories.

(W. R. P.) Glycerin suppositories may be prepared from 10 parts of glycerin, 5 parts of water and ½ part of gelatin. When properly prepared, this mixture may be poured into moulds. As soon as hard the suppositories should be removed and be dipped into melted wax and cacao butter, which gives them a durable covering.

2.) The British Pharmacopœia (Additions of 1890) gives this formula:

Take of
Gelatin, cut small.... ½ ounce s
Glycerin, by weight....2½ ounces
Distilled water.....a sufficiency

Place the gelatin in a weighed evaporating dish with sufficient water to cover it; after allowing it to stand for a minute or two pour away the excess of water; set aside until the gelatin is quite soft, then add the glycerin. Dissolve over a water-bath, and evaporate until the mixture weighs 1560 grains. Pour the product into suppository molds holding thirty, sixty or one hundred and twenty grain-measures, or having other capacities as required. Each suppository contains seventy per cent. by weight of glycerin.

3.) The following process has also been recommended:

Gelatin .....9 ounces
Glycerin .....9 ounces
Water, sufficient.

Soak the gelatin in water for a few minutes, drain and allow to swell, then add one ounce of water and dissolve on a water-bath. Then add the glycerin and continue the heat until the water is driven off. Cast into molds in the usual manner.

Syrup of Phosphates with Muriate of Quinine.

(G. A. S.) We cannot give you the formula for the proprietary article. We do give, however, a formula published by a contemporary some time ago for a syrup containing the phosphates of potassium, magnesium, calcium and iron, with hydrochlorate of quinine, and which may answer your purpose:

Potassium phosphate .....256 grains
Magnesium phosphate .....128 grains
Calcium phosphate, precipitated ....128 grains
Iron phosphate....128 grains
Quinine hydrochlorate ..... 32 grains
Strychnine ..... 1 grain
Phosphoric acid, 50 per cent.....512 grains
Sugar ..... 11 av. ounces
Water, enough to make ..... 16 fl. ounces
Flavor to suit.

Mix the phosphoric acid (reserving a small portion) with 7 fluid ounces of water, and dissolve in this, successively, the iron phosphate, calcium phosphate, magnesium phosphate, and potassium phosphate, and filter the solution. Triturate the strychnine with the reserved phosphoric acid and ½ fluid ounce of water, and incorporate with the foregoing. Then triturate the quinine hydrochlorate with ½ fluid ounce of water and also incorporate. In the combined solution dissolve the sugar with the aid of a gentle heat, strain, and when cold add enough syrup to make 16 fluid ounces. See also formula for syrup of phosphoric acid with quinine hydrochlorate in another column.

Parts by Weight Again.

(E. D. C.) has a package of assayed digitalis leaves from which he desires to prepare a tincture. The formula for that purpose requires 13 7-11 parts of the digitalis and a sufficient quantity of dilute alcohol to make 100 parts. How can he convert the 13 7-11 parts to its equivalent in grams, etc.?

When parts are used in expressing quantities, parts by weight are always understood, unless parts by volume are specifically stated. Volumes can, of course, only be used where all the substances in a formula are liquids or gases. Now, "parts" is a general term for which you can substitute any denomination you desire, provided you make the same unit, be it the gram, ounce or pound, apply to the whole number of parts in the formula. Thus, if 1 part by weight of a given solid is to be dissolved in 10 parts of water, and we adopt the ounce as the unit, it is evident that we have only to weigh 1 ounce and 10 ounces to obtain the desired result. The formula you submit may be read as one requiring a tincture of digitalis, 100 parts of which shall be made (using a sufficient quantity of dilute alcohol) from 13 7-11 parts of the assayed digitalis. Supposing you wish to make 1,000 grams of this tincture; then all you will have to do is to call the parts in the formula as so many grams, or, 13 7-11 grams of digitalis and enough dilute alcohol to make 100 grams of finished tincture. But you want ten times as much, or 1,000 grams. Multiplying these quantities by 10 ($100 \times 10 = 1{,}000$) we have

Digitalis leaves, assayed .....136.363 grams
Dilute alcohol, enough to make.. 1,000 grams

You will notice that you do not complete your finished product to a certain measure, but to a certain weight. Further, you cannot tell exactly how much 1,000 grams of tincture of digitalis prepared as above will measure until you have tried it, and then your results will depend upon variations in temperature, specific gravity, etc. It is just as easy to percolate to a given weight, as it is easy to percolate to a given volume.

Medicines Affecting the Color of the Urine.

(E. R. B.) There are a number of drugs which, when swallowed, affect the color of the urine to a marked degree; thus, rhubarb and senna cause brown or reddish tints; carbolic acid sometimes causes a black color in the urine, notably after it has stood some time. Similar results follow the administration of naphtalin, hydrochinon, resorcin and pyrocatechin. The decided yellow hue imparted to the urine following the ingestion of santonin is perhaps best known of these color reactions. A green coloration of the urine follows the administration of indigo, the color being due to the combination of the yellow tint of the

urine with the blue of the indigo. A case of this character was reported to the Clinical Society of London early in this year, the specimen of urine being from a child who had sucked a piece of carpet colored with indigo. The reporter proved the indigo to be merely held in suspension, for upon filtering the urine it lost much of its green tint, whilst the filter paper was stained blue. Some years ago a favorite treatment for epilepsy was indigo to the extent of 6 drams a day. Patients taking this course of treatment quite uniformly passed urine of a green color and an alkaline reaction. For effects of these drugs upon the system, see some work on practical therapeutics.

Pathologically the urine is subject to much wider variations in color than in health, being due either to increase or diminution of the normal coloring matters, or to the addition of abnormal pigments. Abnormally light-colored urine is often due to polyuria, as in diabetes, hysteria and convulsions. Highly colored urine, approaching red, is most often induced by acute pyrexia and inflammations. The distinctly red tints of the urine are always due to the presence of foreign coloring matters, most often blood. The dark brown tints may be due to the presence of methæglobin in certain diseases attended by hemorrhage. Green urine, of dull hue, is common in jaundice, the coloring being due to the presence of biliverdin $C_{16}H_{18}N_2O_4$, a substance which is stated to be the first product of the oxidation of bilirubin (Foster). The urine is frequently of a greenish hue in diabetes, notably when it contains a high percentage of sugar. Blue urine, of dull tint, is not uncommon in cholera and typhus, owing to the presence of indigo, or indigo forming substances.

Dry Yeast.

(T. P. A. K.) In further reply to your query in the Oct. 3, 1895, Era, p. 431, we give the following process, known as Schubert's: Four hundred and forty pounds of rye flour and 150 pounds of crushed malted barley are mixed and thrown into a mash tub containing 50 gallons of water at 131°-140° F. After having been thoroughly stirred up, 1 pound of compressed yeast, dissolved in water, is added and mixed in. Half an hour afterward 70 gallons of water at 165°-194° F. are poured on the mixture, the whole well stirred up and allowed to stand for three hours. The mash is now transferred to a cooling apparatus, and left there until the temperature has fallen to about 122° C., which requires two to three hours. It is then transferred to a fermenting vat of such dimensions that it will only be half-filled by the mash and the water subsequently added. Eighty-four gallons of water are now added to the mash, a portion thereof of such temperature that the whole mixt will be cooled down to 77° F., and the remainder is then immediately heated up to 77° F., and added as quickly as possible. Next, 6 pounds of pressed yeast, dissolved in water, and 3 pounds of sulphuric acid, diluted with 24 pounds of water, are added, the whole well mixed, the tub covered and allowed to stand eight to twelve hours. At the end of this period, the yeast which has collected at the top of the liquid will have acquired the requisite ripeness. A sure sign of ripeness is the appearance of the bubbles collecting on the surface; the further the process progresses, the more opaque they become, until they have a milky appearance. As soon as this is noted, the yeast may be dipped out from the surface, and this may be continued until no more yeast is produced, which may be perhaps after twenty-four hours. The liquid dipped out is passed through a strainer of bolting cloth, which retains the skins and chaff of the grain, etc. The liquid running from the strainer is collected in a tall and narrow vat, having a series of tap-poles at different heights, and filled about half-full with the liquid. Water having been poured in to fill the vat completely, it is left at rest for twelve hours, when the yeast will have settled, and the liquid may be run off. A fresh supply of water, mixed with about 3⅓ ounces of sulphuric acid and 4 pounds of potato starch is run in and drawn off after twelve hours. The yeast is now collected on a linen strainer, allowed to drain, and mixed, on the strainer, with enough starch flour to produce a stiff mass. The whole is wrapped in a second, stronger cloth, and subjected to pressure until a solid cake is left. This is then well kneaded and cut into suitable pieces. It may be kept, in its damp condition, for several weeks, if it be kept in a cool place. Or it may be cut into thin slices, and the latter be dried. Spoiling at this stage of the operations may probably be best prevented by means of a cold-air blower.

Infants' or Prepared Baby Foods.

(Dr. Baker.) From Thompson's "Practical Dietetics" we abstract the following: Prepared farinaceous foods are made by the following methods: 1. Application of heat alone. 2. Digestion with malt or diastase combined with heat. 3. After dextrinization, the food is evaporated with milk or cream. The prepared farinaceous foods may be eaten alone or diluted with water, but they are usually given to invalids in a cup of broth or beef tea, which disguises their sweetness. The sweeter varieties are best combined with milk.

1. Farinaceous Foods Prepared by Heat Alone.—Wheat and oats are sometimes prepared by roasting (not steaming), a process which removes all moisture besides producing some chemical changes in the fats and starches. Cereals treated in this manner will keep from moulding in any climate, and are both digestable and nutritious. Flour ball, Ridge's Food, Blair's Wheat Food, Schumacher's Food, Imperial Granum and Robinson's Patent Barley are examples of this class. Starr gives the following rule for the making of flour ball: Tie one pound of unbolted wheat flour firmly in a pudding bag and boil for ten hours. At the end of this time it will be found, on opening the bag, that the outer layer of the ball is doughy, while the interior is hard and dry, it having been baked by the long-continued heat. This hard mass may be used for infant feeding in the latter part of the first year, but is should not be given more than twice a day. The flour ball is grated fine, and it may then be prepared according to Starr's rule, as follows: "Rub one teaspoonful of the powder with a tablespoonful of milk into a smooth paste, then add a second tablespoonful of milk, constantly rubbing until a cream-like mixture is obtained. Pour this into 8 ounces of hot milk, stirring well, and it is then ready for use." the flour ball thus prepared is quite digestible, and it prevents the formation of large curds of milk. As a diluent of milk it is much cheaper for the poor man than the prepared amylaceous foods which are on sale.

2. Farinaceous Foods Digested with Malt or Diastase with Heat are often called "Liebig's Foods." These foods are made of equal quantities of wheat flour and barley malt, with bran, and 1 per cent. of bicarbonate of potassium. These ingredients are mixed into a paste with water and digested for several hours at fixed temperatures, until the starch is transformed into soluble carbohydrates, maltose and dextrin. The food is strained, pressed and extracted with warm water, evaporated, dried, and pulverized, when it is ready for use. Examples of Liebig's type of dextrinized foods are: Mellin's Food, Horlick's Food, Savory and Moore's Infant Food.

3. Foods which are Dextrinized and then Evaporated with Milk or Cream.—These are sometimes called "milk foods." Such are Lactated Food, Malted Milk, Loeflund's Cream Emulsion, Nestle's Food, Gerber's Food. The general process by which foods of this class are made is as follows: Wheaten or other flour is first made into dough, baked, ground, mixed with more or less condensed milk or cream, and then dried at a moderate temperature. By addition of malt or diastase the starch is partially converted into dextrin and maltose, and the albuminoids are rendered slightly more soluble, the casein is dried, and the lact-albumin is precipitated. One form of "cereal milk" is made from a mixture of wheat and barley meal with milk. It is claimed for some of the malted foods prepared for infant and invalid use that the artificial digestion is not wholly completed, and this is said to be an advantage in stimulating the digestive organs.

4. Bread Jelly.—A bread jelly may be made to add to milk for invalids and for use while weaning infants who are old enough to digest a little starch, i. e., over one year of age. The crumb of stale bread is broken into small fragments and covered with boiling water, in which it is allowed to soak until well macerated. The water is then strained off, fresh water is added, and the mass is boiled until quite soft. On cooling, a jelly forms which may be mixed with milk in any desired proportion.

GREEN COLOR FOR TOILET CREAMS.—The Phar. Jour. tells a correspondent that for such preparations as glycerin and cucumber, a very satisfactory and harmless green color may be prepared by treating separately, a few grains of saffron and indigo carmine with water, and mixing the two solutions at the end of twenty-four hours. This color may also be employed for confectionery.

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TRAVELERS IN THE DRUG TRADE.

Baltimore, Nov. 8.—The comments of wholesale druggists in this city upon the advantages and disadvantages of employing traveling salesmen, as viewed in the abstract and without regard to any particular plan, are interesting in that they show diversity of opinion. Some firms believe that the commercial traveler is a necessity, however undesirable he may be, and cannot well be gotten rid of, while others believe he can be dispensed with, and actually do business without the assistance of this intermediary.

Mr. John Jay Gilbert, of Gilbert Bros. & Co., on North Howard street, is one of the jobbers who holds to the former opinion. "The traveling salesman," said he, "is a necessity, and I do not see how he can be dispensed with unless all the firms come to some common understanding about the matter, and this is not at all likely. If any one house were to undertake the abolition of the drummer it would certainly, by reason of its long standing and extensive acquaintance, retain some of its trade, but the greater part of it would be gradually absorbed by other firms who do employ traveling salesmen. Whether the latter are a paying institution is quite another matter. Considering the small profits from the sale of numerous articles they are not, but the system of employing them is not likely to suffer discontinuance to any extent. As for the inducement to customers of dividing with them the expenses of the drummer, I dare say that the reduction in price would be so inconsiderable as not to be felt, unless, as is sometimes done, goods are sold at cost as leaders On the whole, however, such statements will possess little weight and generally they are not credited."

Mr. James G. Stanley, of Boykin, Carmer & Co., 13 North Liberty street, said: "No, I do not think that the employment of the traveling salesman pays, but at the same time he will continue to be a factor in the drug business for the reason that he is what might be termed a necessary evil. When you consider that the traveling man gets 7 per cent. on his sales, and that the gross average profit is only 10 per cent., you can see that it does not pay, as the house assumes all the risk. I doubt very much if any firm in Baltimore would have come out last year had it been obliged to depend solely on proprietary medicines. One manufactures perfumery, another powdered drugs, another fertilizers, etc., and, in this way, by combinations, they manage to pull through."

Mr. M. Joseph Muth, of Muth Bros. & Co., represents the other side of the question. His firm employs no traveling salesmen, except that a representative is sent periodically to Washington, and from all accounts does a large trade. "We have tried several times," said Mr. Muth, "to put on the road traveling men, but we found that it did not pay, and we decided at last to do without them. I do not regard the principle as a good one. It serves to stimulate greatly competition and in the end leads to a reduction in prices. A commercial traveler is bent upon selling something, and if he cannot do it at the regular rates he is tempted to offer inducements. A rival from another house comes along and offers even better terms, and so it goes."

Mr. Herman Thomsen, of J. J. Thomsen's Sons, West German street, declined to express an opinion, on the ground that he had not given the matter sufficient thought. It is rumored, however, that this firm has the whole question under consideration and is disposed to try doing business without the traveling salesman.

Mr. Harry Gilpin, of Gilpin, Langdon & Co., northwest corner of Light and Lombard streets, also declined to make a statement. This is a very old-established house and its position in the trade differs in some respects from many others. It employs salesmen for proprietary articles and also for the specialties it manufactures.

St. Louis, Nov. 8.—Mr. Gustave J. Meyer, of Meyer Bros. Drug Co., said: "In reply to your question whether or not it is profitable to do a jobbing drug business without salesmen, and in their stead use trade journals for advertising low prices on staple drugs, I desire to state that in our opinion a drug house who keeps this up for any length of time will usually come out the loser. Our experience has proven to us that quotations when sent out will only sell staple goods, while if salesmen are sent out on the road, and are properly instructed, they will sell profitable goods in connection with the staples. We find that a number of our friends in the jobbing drug business constantly send out quotations to our trade; instead, however, of getting orders, these quotations are held until our salesmen come around. They meet these prices, or go them a little better if they can, and as an inducement to take the order on these staple goods, the salesman is enabled to take orders for profitable goods. At times these quotations come when there is an advance in the market. The salesman, having instructions from his house, will meet the price made by his competitors, even if the goods have advanced, and will sell enough of good paying goods to show a very handsome net profit on the entire bill. If all the jobbing drug houses would withdraw their salesmen it would no doubt be a very good thing for all the jobbers in the country, but as there seems to be no likelihood of attaining this object, we must keep our traveling salesmen."

Minneapolis, Minn., Nov. 8.—Mr. J. C. Eliel, of the Lyman-Eliel Drug Co., and president of the N. W. D. A., has this to say: "This idea is neither new nor novel, and in fact is straw which has been so well threshed that I doubt if a kernel has been overlooked. It is like other Altrurian theories which from time to time crop out, but the result will always be the same. As long as human nature is constructed upon the present plan the traveling salesman will be with us. Nor must it for one moment be supposed that he is an unmitigated evil or expense without a compensating return. While it is true that the jobbing druggist could do business without the traveling salesman, it is equally true that his business would be materially decreased, and as this expense is always a matter of volume he might find at the end of his experiment that the percentage of his expense would be as great, if not greater, without the traveling salesman than with him. How this very interesting experiment might terminate is one of those things that no fellow can find out, as there is no prospect of a practical demonstration. Business methods now in vogue are modeled upon plans drawn with the traveling salesman as the keel, and it can be readily understood that eliminating him would be to knock the pegs out from under our business structure. The fact that this question of eliminating the traveling salesman is continually coming to the surface only goes to show that as our business is at present conducted it is unsatisfactory to those engaged therein, and that the blame has been put upon the shoulders of the traveling salesman, where, in my judgment, it does not belong. There are other and better ways of bringing our business to a more satisfactory condition than in dispensing with this hardworking and faithful employee. Let us quit cutting prices openly and secretly. Let each merchant be satisfied with his own business and not reach out also after that of his neighbor. Let us forget personal and selfish strife and unite in eliminating the manufacturer who is to-day doing more to injure the business of the distributer than the traveling man. Let us stand together for correct methods and for honest profits and we will find that we will have more use than ever for the traveling salesman, that our business will increase and prosper and that the result will be upon the right side."

St. Paul, Minn., Nov. 8.—As might be expected the St. Paul wholesalers regard the proposition of C. G. Bacon & Co. rather chimerical. Here is the opinion of John F. Broderick, secretary-treasurer and general manager of the Ryan Drug Co.: "It is my opinion that traveling salesmen are a fixture of any progressive business. They are a necessity that cannot be dispensed with. Without them the commerce of the country would take a backward step."

F. B. Pearson, buyer of the same company, believes that should wholesalers dispense with their "drummers" they would have to depend entirely upon their former prestige in holding their own in the commercial field. Even this might fail them in dealings with remote territory, where they are less known than in their immediate bailiwick.

Daniel R. Noyes, of Noyes Bros. & Cutler, ex-president of the N. W. D. A., thus expressed himself to the Era man: "Can traveling salesmen be dispensed with? The fact that such an inquiry is made at all at this late day indicates some doubt as to the entire desirability of such aids in business, for if they entirely 'filled the bill' this question would not now be an open one. Since it is propounded, there can be but one conclusion, namely, that the commercial traveler, even in his present stage of development—as he now exists—lacks perfection. But, imperfect as he may be, can he be dispensed with? I think not, but that he has come to stay. Certainly, at present, our strongest firms are using him to mutual advantage, and our newer and weaker ones must have him, even if he comes high. If he were utterly bad we might and ought to dispense with him, but he is not. At worst he is a qualified evil; at best a positive good. He can, no doubt, be improved; and better employers would go far to make better traveling and other salesmen. I do not look for an immediate outcropping of 'white wings' on the traveling salesman of to-day, useful and ornamental as these would be; but, taken as they are, they are the best, cleanest and most competent body of commercial travelers that ever existed. This calling is a difficult and trying one, and it is an honorable one. If this was recognized as it ought to be, and the commercial traveler treated with more respect, it would do much toward rendering him self-respecting and ambitious for honorable distinction in his important field of work."

In this connection is recalled the result of an attempt some years ago to bring about the innovation now newly broached by Bacon & Co. The N. W. D. A., at one of its annual meetings, adopted the report of a committee which favored the gradual doing away with traveling salesmen. And then the members of the association went home and calmly hired more "drummers."

---Burglars entered the drug store of Lake & Co., in Haverhill, Mass., on Sunday night, and stole property valued at several hundred dollars.

——Peter F. Lally has bought out the store of J. F. Foley at Rendham, Pa.

The Food Commission at Work.

Cincinnati, O., Nov. 10.—The pure food laws of the State, and the manner in which they are being enforced by Commissioner McNeal and his assistants will be considered by the State Board of Commerce, which meets in annual convention at Columbus this week. An effort will be made to get the State Board to condemn both the laws and the methods used by the Commissioner. A set of resolutions has been passed by the Springfield Board of Trade criticising the present laws and recommending that they be so changed that a dealer in goods which are found to be impure may not be held responsible for their presence in the market. The advocates of the present law say that such a change would destroy the effectiveness of the whole law, as the failure to fix the responsibility would prevent the exercise of the protection which the laws now afford. Commissioner McNeal will personally oppose the attack on the present system.

The Food Commission has been at work for the last week or two in Dayton and Middleton. Most of the cases made were against dairymen. Since it was first instituted 154 cases have been tried by the Cincinnati department of the Commission under the present administration. Only one case was lost by the Commission, in the 'squire's courts in which they are first tried. Several have been appealed, however, and some are still pending. Cloves, cream of tartar, wines, distilled water and soap are among the articles in which adulterations have been found. The analyst receives $5 for each sample tested, whether it is found to be impure or not. The expenses illustrate the growth of the work. Before State Commissioner McNeal went into office the Commission was allowed $2,000 for expenses. Now $37,000 is used. During the winter a review of the work so far done will be made in order to test it.

The methods of the Commission have been offensive to many druggists, one of whom designated that body as the "State Detective Commission. The agents of the seekers after adulterations enter a store like ordinary customers, buy an article, test it, and if it is found to be impure arrest the druggist. Mr. Otto Rauchfuss, of the Standard Drug Co., had this to say about the Commission: "I don't believe any druggist has any objection to a pure food law properly administered. The druggists want to be honest. It doesn't help their business to sell a poor quality of goods. The law is all right, but there is a hitch when we come to its administration. Germany has a pure food law which is of the right sort and which fills the requirements for which it is framed. It makes a distinction between mercantile and medicinal drugs. The inspector enters a store and goes to the prescription counter. Everything there must be absolutely of the best or a heavy fine is imposed. Then he goes over the rest of the store. Articles such as common copperas for disinfecting purposes are marked 'mercantile' and are passed without examination. That should be done here. A man who wants 5 cents' worth of copperas doesn't want pure sulphate of iron, because it doesn't answer his purpose any better and costs a great deal more. Another fault I have to find with the system in vogue in Ohio is that the standard required is too high in some points. For instance, take mercurial ointment. The Pharmacopœia requires 50 per cent. of mercury, where it formerly required 30 per cent. A druggist has no business to sell any such quality to a customer, except on a physician's order. It would poison him, and surely the Pure Food Commission doesn't want to have the apothecary knowingly poison a man. These are a few cases. There are others."

Said Alfred Vogeler: "I don't like the methods used by the Food Commission, nor the way in which it is managed. They have gone after samples in an underhand manner and have picked only a few insignificant articles with which to find fault. When it came down to real drugs, which are taken internally and whose quality is of consequence, not a fault was to be found. They haven't accomplished much in Cincinnati because there hasn't been much to accomplish. There should be only tried pharmacists on the Board of Inspectors. Before such men every druggist would welcome an inspection. A good many reforms are needed before the law and the Commission will be what they should."

Apropos of the same subject Mr. N. A. Lloyd remarked: "The standard of drugs cannot safely be lowered. It is not too high and as it is it precludes all possibility of adulteration where it is enforced. I don't say that the law is perfect, but it is the forerunner of a better law. The next law, however, should be national. It is hardly fair to force Ohio manufacturers to compete with men whose products are cheaper because grossly adulterated. Ohio druggists will pay the price for honest goods, but outsiders will not. As I understand it, the Food Commission has been lenient with the druggists. In selecting articles for tests it has aimed to choose such which, if found to be impure, would least injure the druggist's trade. The druggist is fined on a single article. Where fines on these have been promptly paid without a contest the Commission has let the druggist alone on the promise that the quality of his other articles will be brought up to the standard. This has been subject to some misinterpretation, which I believe, however, is not justified."

Philadelphia Trade.

Philadelphia, Nov. 9.—Among the retailers no important trade changes have been announced during the past two weeks, nor is there likely to be any if business continues as dull as it has been for several weeks past. Retail druggists all over the city, but particularly in the western section of the town, are complaining of the exceedingly dull times and they expect no improvement while the condition of the weather remains as it has been during the last two or three weeks.

HARVEY W. WILEY.

Harvey W. Wiley, chief of the Division of Chemistry of the U. S. Department of Agriculture at Washington, D C., was born at Kent, Ind. He graduated from Hanover College in 1867, receiving the degree of A. B. Subsequently the degrees of A. M., Ph. D., and LL. D. were conferred upon him by the same institution. He commenced his public career as professor of Latin and Greek in Butler University, where he remained three years. In 1871 he took the degree of M. D. at the Indiana Medical College, and the following year became a teacher of science in the Indianapolis High School. In 1873 he graduated from Harvard University with the degree of S. B., and in 1874 accepted the chair of chemistry in Butler University, which he occupied for only a short time, being called to a similar position in Purdue University, the Agricultural College of Indiana, where he remained until 1883, with the exception of one year spent at the University of Berlin. From 1881 to 1883 he served as State Chemist of Indiana, and for three years (1874-77) was professor of chemistry in the Indiana Medical College.

When State Chemist of Indiana Professor Wiley directed much of his attention to the study of glucoses and sugars, and his reputation as an expert on these subjects resulted in a call to his present position as chemist of the Department of Agriculture. Under his capable supervision the chemical laboratory of that department has rapidly improved, the scope of the work been enlarged, and methods systematized until at present it ranks as one of the foremost laboratories of the country.

Professor Wiley is connected with various scientific societies. He has served as the president of the Washington Chemical Society; president of the Chemical Section of the American Association for the Advancement of Science; president of the Association of Official Agricultural Chemists, and is and has been for eight years its permanent secretary and executive officer. He was for two years president of the American Chemical Society, a rapidly growing national organization numbering nearly 1,000 members and embracing many prominent American chemists. He has published a large number of scientific papers, together with numerous addresses and government reports, both of a technical and popular character, and is the author of a text-book on "Agricultural Chemical Analysis," one of the most elaborate works of the kind ever issued from the press.

Bismuth Subgallate vs Dermatol.

The Mallinckrodt Chemical Works, St. Louis, state that they are now prepared to furnish bismuth subgallate in any quantity. They also inform the trade that the proprietors of the Dermatol patent acknowledge their inability to prevent manufacturers from making and selling bismuth subgallate, and therefore their customers need fear no legal liability in handling the article.

N. W. D. A. Proprietary Committee to Meet.

Philadelphia, Nov. 9.—Chairman M. N. Kline, of the Proprietary Committee of the National Wholesale Druggists' Association, reports that there will in all probability be a meeting of his committee in New York city during the week of the 18th inst. Among other matters of importance which will be considered and upon which action will be taken is the new "drug jobbers sales plan."

Drug Exchange in New Quarters.

Philadelphia, Nov. 9.—The Drug Exchange is now firmly settled in its new quarters at the Bourse, and they are far superior to the old apartments occupied by the Exchange on South Third street. In the new building there are two rooms, one for the transaction of general business and the other, a small anteroom, for private meetings, etc. Both rooms have been equipped with new and tasteful furniture and carpets, and it must be said that the Drug Exchange of today is a very attractive and cosy little place.

Great Demand for Antitoxin.

Boston, Nov. 10.—Chairman Walcott, of the State Board of Health, says that the demand for antitoxin for the cure of diphtheria continues, and shows no signs of falling off. He will as yet, however, make no statement as to what he considers the value of the new agent, as he thinks that it has not had a sufficient test. He says that the work of getting the serum from horses is largely experimental, as some of the horses prove to be of no use whatever, and others come to the laboratory in such condition that it was some time before they could yield any satisfactory results. Dr. Walcott says that a good strong horse of no particular breed had proved to be a better animal for the purpose than a nervous, high-bred animal. Dr. Smith, who has charge of the laboratory at Forest Hills, says that the most difficult part of manufacturing the serum was in inoculating the horse with poison. It is called "immunization," and means a laborious treatment of the horse for from six to nine months. Only small doses are given at first, and these are gradually increased until the horse can stand a dose of 100 times the first one. Camphor or carbolic acid is used after the serum has been drawn from the horse, in order to keep any of the bacteria which may have gained access to it in the least by the treatment. The horses are in much better condition than ordinary work horses. They do not have much to do, and are kept out of doors most of the time.

Mr. Lillard's Suit.

William O. Allison, of the Druggists' Circular and Oil, Paint and Drug Reporter, returned from Europe last Saturday and was at once acquainted with the facts in the suit of Benjamin Lillard, but owing to the death of a relative he was compelled to leave town and made no statement about the suit. The second move in the legal checker game was made on Nov. 8 before Judge Lawrence in the Supreme Court. Lawyer Patterson, for Mr. Lillard, stated that gentleman's reasons for desiring a mandamus granted. He claimed that the proceedings were not brought to harass the company. Lawyer James, for the company, replied that Lillard's reason for suing was that he is the publisher of a rival paper and quoted precedents to show that the New York courts had no jurisdiction in the matter. One decision quoted was that given by Judge Ingraham, of the same court, only a short time ago in a case that presented some features parallel to those in this suit. Col. James said that if Justice Lawrence chose to overrule the decision of Justice Ingraham his clients were quite willing to go ahead and argue the case on its merits.

Justice Lawrence heard more arguments for a while and the case was then postponed until Friday, when a decision is expected.

Here is a Story.

Cleveland, O., Nov. 10.—A new remedy may find a place on the shelves of the pharmacists. It is cat-skins, warranted to cure pneumonia. A contractor living at 18 Eaton street, who wishes his name to be withheld, is the first patient cured by the new process. The remedy was applied with the approval of Dr. F. O. Reeve, of 2827 Superior street, this city. The patient has been ill with pneumonia for five weeks, but is now recovering.

There was a period in his sickness, however, when his two physicians gave him up for dead. His breath came at the rate of 72 respirations per minute, his pulse was 132 and his temperature 109. At the moment when the doctors expected every breath to be his last, at a neighbor's suggestion the skin of a cat was applied to his chest.

Coincident with the application of the cat skin improvement came. During the first night 13 cats were killed and skinned and the warm skins applied to the sick man's chest. The skins clung to the flesh of the patient for thirty minutes, when they fell off, and a new one was applied. In all thirty-two cats were killed and the local papers say there is no doubt but that they saved the man's life.

Sold for Medicinal Uses.

Stoneham, Mass., Nov. 9.—Jonathan Thompson, proprietor of M. E. Walton's drug store, was brought before Judge Johnson, of the Woburn District Court, this morning on a charge of illegal keeping of liquors.

He pleaded guilty to sales on prescriptions for medicinal purposes and was fined $100, the court ruling that the sale of liquor even on prescription, without a license, is contrary to the law.

Sudden Death of J. P. T. Percival of Boston.

Boston, Nov. 8.—Capt. John P. T. Percival, of Percival & Tilden, druggists, School street, dropped dead on the Common Oct. 30, on his way down town from his home at 157 Newbury street. Mr. Percival was an old sea captain who had been a familiar figure to the business men of Boston for many years. He was born at Hanover seventy-seven years ago and took to a seafaring life in early boyhood. He amassed considerable money and gave up sailing vessels for a land life just after the war. In 1867 he purchased from Frederick Brown the drug store at the corner of City Hall avenue and School street, which was established in 1837, and he had since taken life easy, coming to the store of late about noon and remaining till evening. He had a partner in the City Hall drug store, A. K. Tilden, of the Board of Pharmacy, and to Mr. Tilden the death of his partner is a very severe shock. Perhaps no druggist in the city was more widely or popularly known than Mr. Percival. He was an accomplished pharmacist and in every way a thoroughly responsible and representative business man. He left a wife and a married daughter.

Brief services over the body of Capt. Percival were held on Saturday, Nov. 2, at his home in Newbury street in the presence of a large number of wholesale and retail druggists and other friends. Rev. W. H. Fish, of Dedham, a friend of Capt. Percival for thirty years, and himself eighty years old, made remarks of a consoling nature, in which he referred feelingly to the great bereavement which had come to those present in the death of a faithful husband, father and friend. He spoke of Capt. Percival's many estimable qualities of heart and head, and expressed the hope of a glorious immortality. From the house the body was taken to Cohasset, the former home of the Percivals, where services were held in the Unitarian Church. They were conducted by Rev. Dr. Osgood, an old friend, and, like the clergyman from Dedham, an octogenarian. Many of the town folk were in attendance. The pallbearers were four young men who are, or have recently been, in the employ of Percival & Tilden at the City Hall Pharmacy. The burial took place in the Central Cemetery, in Cohasset.

Louisiana and Sicily Sulphur.

Philadelphia, Nov. 8.—During the past ten days drug trade circles of this city have been discussing the announcement that a powerful American syndicate, composed of New York men, has obtained control of large brimstone deposits under the swamp lands of Louisiana. Through the control of these deposits, it is stated, that the syndicate will be able to deliver sulphur as far West as Cleveland for $5 per ton in place of the present price, which is considerably above that figure. The heavy dealers or importers here are the least startled. They do not believe that sulphur from these Southern deposits can be furnished any cheaper than the product which now comes from Sicily. In speaking of these efforts to bring down the price of crude sulphur, Prof. Henry Trimble, of the Philadelphia College of Pharmacy, said to-day that he did not believe the syndicate mentioned could furnish sulphur at a much lower rate than the present current price.

"Labor is very cheap in Sicily," he continued, "and the sulphur which is dug from the craters of the extinct volcanoes can be put upon board of sailing vessels at a very nominal figure. Vessels oftentimes take brimstone on as ballast, but the regular charge per ton on crude sulphur is about $1.85 to Philadelphia, covering a voyage of ninety days, while the rates from Louisiana to this port would be more than double that amount. This fact alone would prevent the American syndicate from competing in price against the foreign article."

An investigation shows that in this city alone from 10,000 to 15,000 tons of sulphur are received yearly, and within two weeks a sailing vessel from Italy unloaded 1,000 tons here at one of the Delaware River piers.

Minnesota Melange.

St. Paul, Minn., Nov. 8.—Mr. Snow, one of the most prominent members of the Sagar Drug Co. of Duluth, has severed his connection with that company.

R. D. Burke, of Minneapolis, is now running a new store at Langdon, N. D.

J. M. Falohy, late of St. Paul, has taken temporary charge of Mr. Kay's drug store at New Richmond, Wis.

C. E. Rohde, late president of the Minnesota Pharmaceutical Association, now at Waterville, is about to put a new drug stock in Spring Valley.

Mrs. C. B. Walker, widow of H. E. Walker, of Montrose, S. D., is now at Albuquerque, N. M., and thinks of returning to the Northwest and re-entering the drug business with her son.

Mr. Gibbs, late of Minneapolis, has bought out the Davenport Drug Store at Olivia, now the county seat of Renville, Minn. Mr. W. F. Michel, who has for the past two or three years been running Davenport's drug store, has engaged with A. J. Eckstein, at New Ulm. "Will" thought he understood German till he went there. Now, he says, he finds what he does not know of German would make a very large book, but he is young yet and can learn rapidly.

What is intended to be a very extensive undertaking in the Northwestern drug trade was launched a few days ago when the Minnesota Pharmaceutical Mfg. Co. filed articles of incorporation with the Secretary of State. The capital stock of the new concern is placed at $50,000, and the principal place of business will be St. Paul. George Mitsch and C. H. Reeves, of St. Paul, are associated with several Minneapolis and Duluth gentlemen in the enterprise. The object of the concern is the manufacture of medicines for the drug trade. The members of the company, it is expected, will number 100 or more by the time the organization is complete.

William Hamm, a St. Paul brewer, the other day charged that drug stores all over the city were doing a saloon

business without warrant of law. Drug-P. C. Lutz comments on the charge like this: "I don't believe there is anything in the statement. There is not a reputable drug store in the city where it is done, to my knowledge or belief, and I do not believe that any reputable druggist would engage in the business. The drug stores all sell liquor upon prescription and are not allowed to do so otherwise. Taking it as a strictly business proposition, there would be no money in it for a downtown drug store, as the saloons are so plentiful that there would be no demand. I can see how it might be profitable in districts where saloons are scarce, but, as I said, I do not believe that there is a reputable drug store in the city selling liquor as a beverage, and I do not think that the statements made are susceptible of proof."

Bowling Night and Day.

The first installment of games in the drug trade tournament to be played in the evening was rolled last Friday night at Reed's alleys. The scores were: McKesson & Robbins, 678; Merck & Co., 607; Merck & Co., 654; Schieffelin & Co., 538; McKesson & Robbins, 609; Schieffelin & Co., 501; Dodge & Olcott, 738; Powers & Weightman, 547; Colgate & Co., 714; Powers & Weightman, 537; Dodge & Olcott, 773; Colgate & Co., 670.

On Saturday afternoon the winners and losers were: Whitall, Tatum & Co., 692; Seabury & Johnson, 632; McKessou & Robbins, 704; Max Zeller, 617; Merck & Co., 686; Seabury & Johnson, 603; Max Zeller, 718; Tarrant & Co., 559; Merck & Co., 710; Whitall, Tatum & Co., 704; McKesson & Robbins, 648; Tarrant & Co., 582.

Dodge & Olcott still lead the association.

——Seven druggists of Des Moines, Ia., have been arrested for violating the liquor laws.

——Daniel Metzger, a well-known drug clerk in Chicago, committed suicide on Oct. 29 by drinking a mixture of morphine and laudanum.

——The Botanical Drug Co. is the name of a new concern at 805 Jefferson street, Lynchburg, Va. They expect to engage in the collection and sale of medicinal herbs, barks, roots, etc. Mr. J. A. Mahood is said to be the manager.

——Detectives induced certain druggists of Englewood, Chicago, to violate the liquor law, and arrested them for the act. The accused druggists were discharged by the judge, who decided that the detectives' practice was unlawful.

——Peter Bradt, a drug clerk at Morenci, Mich., died from the effects of a dose of strychnine Oct. 30. It is feared that the poison was taken with suicidal intent, as Mr. Bradt has been a sufferer from despondency. He was found lying in an old mill. An emetic was given him and he started for a walk along the banks of a creek. He then drank some water, which hastened the action of the strychnine. His cries of agony were heard by some lumbermen, who carried him to a farm house, where he lingered for many hours before death came to his relief. He leaves a wife and one child.

NEW YORK AND VICINITY.

——Theodore Weicker is back at his desk after a brief illness.

——W. R. Warner was in town for a few days last week.

——Hermon W. Atwood, of 846 Broadway, has been ill for a few days, but is now convalescent.

——Fred Hammelman, one of Lehn & Fink's young men, has returned to work after a brief illness.

——J. H. Van Dursen, of New Brunswick, N. J., was in town last week calling on friends.

——Mr. Russell, of Russell & Lawrie, of Tarrytown, was in town the latter part of last week securing his holiday goods.

——A. H. Elliott, of Wellsboro, Pa., was in this city a few days ago laying in a stock of goods and meeting old friends.

——William Ostinger, N. Y. C. P., '88, has resigned his position with Theodore Tafkin, 153 Franklin street, Brooklyn.

——Charles Hubbard, of Charles Hubbard, Son & Co., Syracuse, N. Y., was in town last week with several ladies of his family.

——Richard W. Jones, who was formerly located at Amityville, L. I., has opened a drug store at 264 Hamilton avenue, Brooklyn.

——John D. Moll, Jr., one of the New York salesmen of McKesson & Robbins, has been ill for several months with rheumatism, but is now back at work.

——President Thomas Tyrer, of the Society of Chemical Industry, has returned home. He spoke of his visit here as being extremely pleasant.

——J. A. McIntosh & Co., who have been located at 711 Ocean avenue, Jersey City, for some time, have closed their doors. Lack of patronage is the reason.

——Fred W. Frost, formerly with W. Weis at Thirty-fourth street and Seventh avenue, has accepted a place with C. Schoenfeld, Tenth avenue and Forty-sixth street.

——Thomas P. A. Kelly, Brooklyn, College of Pharmacy, class of '94, has resigned his position at the Park Avenue Hotel Pharmacy, Thirty-third street and Park avenue.

——Willets Wilson, Philadelphia College, '95, lately with J. A. Carpenter at 123d street and Eighth avenue, has taken a position with C. A. Marsh at 125th street and Madison avenue.

——George Merrell, of the William S. Merrell Chemical Co., is expected over from Cincinnati the latter part of this week, and may make New England a visit before returning home.

——Walter T. Scheele, the chemist whose work in the Buchanan and Bliss poisoning cases attracted so much attention, has bought out the drug store at 55 Whitehall street and reports business as very good.

——A recent notice of the appointment of a receiver for William E. Gump, "pill manufacturer," at 108 Fulton street, draws from Mr. Gump the statement that he is an electrician and not a "pill manufacturer."

——F. W. Koch, of C. F. Boehringer & Soehne, made a flying trip to Philadelphia last week and inaugurated a canvass in the interests of the firm's products. This week he goes to Boston on a similar errand.

——Crandall & Godley Co., 157 Franklin street, who were burned out Saturday night, Nov. 2, were known to the drug trade as manufacturers of crushed fruits and other soda fountain requisites. Their loss is estimated to be at least $125,000.

——The will of William R. Thurston, the Pearl street druggist, has been admitted to probate and shows that his estate is worth $304,000. The heirs are his son, Edwin D., his daughters and his three grandsons.

——Muhlens & Kropff have removed from their old place on West Broadway to 37 White street, corner of Church street. Their new quarters are very light and commodious and much more satisfactory than the former location.

——It was remarked in these columns a few weeks ago that many victims of the Brooklyn Trolley were cared for in the drug stores of that city. One of last week's victims, a little boy, died in the pharmacy at Knickerbocker and Myrtle avenues.

——J. T. McLaughlin, of Schieffelin & Co., is back on the road again after his siege of illness. "Mac" did not come to the office directly after recovery, but made his debut through orders for goods from customers. He will receive a hearty welcome when he comes in this week.

——William A. Hoburg, who was with Hermon W. Atwood at his Long Branch store during the summer season, has returned to this city and accepted a position with R. Lucke, corner of Eighty-first street and Amsterdam avenue. Mr. Hoburg is a graduate of the C. P. N. Y., class of '93.

——Henry Kiel, who was head soda clerk at Hegeman & Co.'s for several years, has gone to Hudnut's, at 205 Broadway. Kiel, George Stutzman, of Schoonmaker's, Frank Murray and "Billy" Reardon, of Perry's, are known as "the Big Four" of the Downtown Fishing Club.

——New England men were quite numerous in town last week. Among others who called on drug trade friends were Mr. Durkee, of Kelly & Durkee, Boston; Charles W. Whittlesey, of New Haven; L. H. Goodwin, of Hartford, and Mr. Doolittle, buyer for F. C. Calhoun, of New Haven.

——A certain Dutch street restaurant still keeps its popularity as the dining place of many drug trade men. Among those seen there often are R. W. Phair, C. B. France, G. Kolb, of Schering & Glatz, William Timkin, John Oehler, M. Reck, of Marks & Rawolle, M. J. Breitenbach and F. W. Koch.

——Henry C. Boysen, who has for some time been with H. Orlewitz on upper Seventh avenue, has bought out the Alden Pharmacy, at the corner of 132d street and Seventh avenue. Mr. Sachs, the former owner, will seek a drug store in another part of the city. It is understood that the price for the Alden store was $6,000.

C. F. Boehringer & Soehne are putting on the market a very tastily gotten up and conveniently carried package con-

taining ferratine in tablet form. It is a flat box in bronze and gold colors, which will be useful to the school boys and girls, for whom its contents are intended, after they have taken all the tablets. The latter are in two sizes and are pleasant to the taste.

——A man who said he was a drug clerk, but who would not give his name, was painfully injured in a Second avenue store one day last week. He had been asked to extricate some pieces of glass from a would-be suicide's throat. When he had inserted his fingers in the man's mouth the frenzied individual closed his teeth on them. When withdrawn the fingers were terribly lacerated.

——The story is told of an uptown drug clerk who sleeps in the store that he lights the fire in the morning by pulling a string beside his bed. The string is attached to a vial containing sulphuric acid, which, upon spilling, flows into a pan holding chlorate of potash and sugar. A paper above the pan communicates the flames to the kindling. The proprietor of the store probably doesn't know what this genius is doing.

——Two druggists of San Salvador, Central America, were in town a few days ago. Mr. Riveira was en route for home from Europe, and Mr. Bade was en route to Europe from home. Both called on friends in the drug trade section. Wishing to pay a particular mark of respect to one of our leading drug men, one of the visitors took a cigarette, lighted it and then offered it to the New Yorker, who accepted it gracefully and soon learned that the custom was a highly honored one in San Salvador.

——One of Dodge & Olcott's porters, James Farrell, was seriously injured by a fall down the hatchway in the firm's building on William street Nov. 7. His hook broke out from the box he was moving and he fell backward, dragging another porter with him in his effort to save himself. Farrell fell alone, as the other man seized a post. Besides suffering the fracture of three ribs and a broken leg Farrell's hands were cut to the bone on the wire cable of the elevator.

——Kirby & Burkett, of Liberty street, are now running under a trusteeship, the trustees being authorized to furnish all the funds necessary for carrying on the business. This arrangement, which succeeds the receivership, has been made with the banks and is for three and a half years. At the firm's office it is stated that their affairs are in much better shape than ever before, the manufactory running on full time. The firm owns $85,000 worth of real estate in Brooklyn, on which the mortgage is only $16,000.

——A New York newspaper asks if "The Society of Pharmaceutists," probably meaning any New York society of druggists, cannot do something towards checking the freedom with which apothecaries dispense carbolic acid and paris green. It asserts that persons bent on suicide can secure these poisons with ease and that the number of cases where they have been used with suicidal intent had increased remarkably of late. The newspaper also suggests that a law might be passed making it just as hard to buy carbolic acid and paris green as to secure prussic acid.

——Mr. Williamson, of Williamson & Watts, who are to open a new store at the corner of Eutaw and Baltimore streets, Baltimore, Md., was in town last week securing stock. He made his headquarters here at the New York office of the Low Art Tile Co., whose manager, J. A. Sangston, secured an order for a special fountain for the firm. Mr. Sangston's new office is now assuming shape. Besides joining the two offices in the Havemeyer Building, an elevator will be put in to convey fountains to the basement. The Low Co. is putting into a Brooklyn store two sets of water arcs with syrup stands, which are considered the finest things of the kind ever turned out. Heretofore such devices have been built of metal, but the Low Co. has succeeded in building them of their art tiles. They are extremely handsome. One consists of a canopy upheld by four tile columns. Within is a water jet spray and at the base is a cylinder with draughts for waters. The columns extend above the canopy and are surmounted by urns. The syrups are in richly colored bottles placed around a cylinder made of artistic tile, and are chilled from within. Manager Sangston believes these are the finest pieces ever seen and that they are especially adapted to drug stores having small wall space. They are ornamental, are colored delicately, and would attract attention even in the finest stores.

——The article about the Perrine Drug Co., of 221 Fulton street, this city, evidently filled a long-felt want in the drug trade of this and other cities, judging from the reports that have come to the Era's attention. "I consider that one article about the Perrine Drug Co. as being worth the entire subscription for a year," said a well-known jobber to the Era's representative. "I had four men call here to see me to-day about the concern. I was very busy and did not have the time to take each one in turn and tell him what I knew about the matter. There was one druggist who came way downtown from above Twenty-third street to find out about the Perrine Co.'s standing. I asked him if he took the Era. He said he did, as well as other drug papers. 'Do you read your Era?' I asked. 'Of course I do. I read all my papers when I get time,' was the answer. 'What do you take drug papers for if not to keep up to date?' was my reply. 'If you had taken your Era when it reached you last week and looked it through you would have secured the very information you traveled from Twenty-third street to get from me.' And I just laid last Thursday's Era out on my desk and, pointing to the article, told him to go to his store and read his Era. I guess he'll read it when it comes hereafter." There was another example of the value of such information. W. R. Warner & Co. sent from Philadelphia to their New York manager for information regarding the Perrine Drug Co. Mr. Fluhr cut the article from the Era and sent it back in the next mail.

HERE AND THERE.

——The Cosmo Buttermilk Soap Co. is to erect a large new factory at Goshen, Ind.

——Mr. Bates, of Marlette, has charge of David Crorey's drug store, at Ubly, Mich.

——Among the sufferers by a recent fire in Tunkhannock, Pa., was M. A. Blair, druggist.

——Sam J. Kidder, formerly of Alma, Mich., has become the manager of the Bad Axe Drug Co.

——John E. Weiser has opened a drug store in Newark, N. J., in the premises formerly occupied by E. M. Ayers.

——Druggist J. A. Quinn, of Mauch Chunk, Pa., has just moved into his new building, next door to his old stand.

——Edward L. Scholtz, who does the leading retail drug business in Denver, has been visiting a few days in Chicago.

——Philip F. Smith, a former prosperous and well-known druggist of Louisville, attempted suicide the night of Oct. 29 by taking morphine.

——Mr. J. T. Plummer, Chicago, and wife have gone to Atlanta, Ga., to attend the Fair. They will return in a week or ten days.

——Dr. W. E. Lloyd, of Scranton, Pa., is erecting a new building to be used as a drug store, at the corner of North Main avenue and Parker street.

——There is talk of indicting some of the druggists up in the neighborhood of Watertown, N. Y., because of their practice of selling poisons indiscriminately.

——Charles McKeen, a well-known druggist of Woodstock, Canada, is in jail for two months as a punishment for a third offense for violating the Scott Liquor Act.

——At Howell, a suburb of Evansville, Ind., a slight earthquake shock, Oct. 31, rattled the bottles on drug store shelves and many of them were thrown off and broken.

——The McLeroy, Lang & Leitch drug stock at Marine City, Mich., has been put in charge of Clerk Newton, formerly with D. W. Dana, leading druggist at Algonac.

——The Cassell-Garside Co., of Peoria, Ill., is in difficulties. Liabilities, $12,000; assets double that amount. The concern manufacture bank and drug store fixtures, etc.

——A fire which broke out in the drug store of Layden & Burdick, West Pauliet, Vt., on Oct. 31, caused a loss of from $50,000 to $60,000 in the town. The druggists' own loss was about $6,000, with insurance of $2,500 to offset it in part.

——Chicago drug clerks are protesting in print in the local papers against the practice of colleges of pharmacy securing positions for students attending college, and thereby lowering the wages and otherwise injuring the regular graduates.

——Louis Lambert, for more than forty years a resident of Detroit, Mich., and father of Benj. L. Lambert, of Lambert & Lowman, wholesale druggists, died in that city Nov. 2. He was seventy-three years of age and leaves one son and three daughters.

——John Eushwiller, a druggist of Montpelier, Ind., disappeared from his home Nov. 6 and has not been seen or heard of since. He is wealthy, has a promising family, and there are no known reasons why he should disappear. It is believed that he wandered away while out of his mind.

——Two physicians in Boston have been arrested on complaint for not registering as such in accordance with the provisions of the new law. There are several hundred others who have neglected to take this step and it is intimated that they too will be in trouble unless they give attention to the matter soon.

——L. D. Havenhill, graduate of the School of Pharmacy, University of Michigan, 1893, who has been serving since that time as assistant to Dr. A. B. Lyons, chemist to the Hawaiian Government, has returned to the United States and will hereafter be found at the Coulter Block Pharmacy, at Aurora, Ill.

——By the latest bulletin of the Massachusetts State Board of Health it appears that out of fifty-three samples of drugs and medicines lately inspected thirty-three varied from the legal standard. The variation was detected in samples of distilled water, extract of licorice, subnitrate of bismuth, tincture of iodine and red and white wines.

——The large salt block of McGraw & Craney, at Bay City, Mich., will be ready for operation some time this month. The two large evaporators, patented by Thomas Craney, have been completed, and will be put in. The cost of this plant is $75,000, and it is expected to produce the finest grade of salt manufactured in the country.

——Suit for $20,000 damages has been brought against druggists Frank Higgins and A. B. Smith, of Des Moines, who have been convicted of the illegal sale of liquor. Under the law they may be compelled to forfeit $100 to the school fund for each illegal sale proven, and as the petition in the suit alleges ninety-eight separate and distinct sales they are evidently in a peck of trouble.

——Mrs. Mary D. Pearl, wife of druggist Joseph F. Pearl, of St. Joseph, Mich., who was drowned when the vessel Chicora was lost last year and whose body was never found, has commenced suit against the insurance companies in which her husband's life was insured. The refusal to pay the insurance is based on the very unreasonable demand that the body be shown before settling the claim.

——John Lucas, the well-known paint manufacturer of Philadelphia, has presented to Gibbsboro, the town where his extensive works are located, a structure which will be known as the John Lucas Hall. In it there are rooms for various kinds of entertainments, and it will be used for the benefit of his employes and the town generally. The opening exercises on the evening of Nov. 2 were very entertaining and highly appreciated.

——The druggists of Syracuse, N. Y., are to allow the ladies of the Women's Christian Association to run their soda fountains for a day for charity. Each fountain will be presided over by two young ladies and will be in charge of a chaperone. If the girls attend to their duties as the average soda jerker is obliged to it would seem that there is not much necessity for a chaperone, for they will be too busy to get into other mischief.

——Druggists in Stoneham, Mass., are considerably disturbed by the action of a judge in fining one of their number $100 for selling liquor on a physician's prescription. They are asking if it is safe to sell any medicines, extracts, etc., in which there are large quantities of alcohol when received from the wholesalers, and one druggist is reported as saying that he will pitch all such goods away before he will take any chances on being called upon to pay a fine of $100.

——An order has been issued for the arrest of a young man named Turner, a collector and bank runner for James Bailey & Son, wholesale druggists at 42 East Pratt street, Baltimore, Md., on the charge of embezzling $500 in cash belonging to the firm. Turner left the establishment of the firm on Nov. 1 to take a deposit to the Third National Bank. Later a telephone message was received from the Carrollton Hotel, notifying the firm that the bank book had been left there. On investigation the theft was discovered.

——A false rumor that Charles Wright & Co., manufacturing pharmacists, were among the sufferers at the boiler explosion in Detroit on Nov. 6, got into the press reports of the disaster. Charles Wright & Co. occupy 43 Larned street, and 45 and 47 were the stores demolished. John Davis & Co., manufacturers of baking powder, spices and so on, occupied No. 45, but his loss of life was comparatively small owing to the fact that he was running with a very light force. Two of his employees, Kittie Leonard and Lizzie Tapley, were killed. Another, Charles Hergert, had a miraculous escape. He was on the fifth floor and fell with several carboys of sulphuric acid, finally lodging between two of the barrels, which served to keep other objects from falling on him and crushing him.

——Charles L. Saffell has been committed for the action of the criminal court on the charge of obtaining $94 belonging to J. J. Thomsen's Sons, wholesale druggists on West German, street, Baltimore, Md., and of forging the firm's name to the indorsement on a check for $2.75. The accused is a young married man who lives in Waverly, one of the suburban towns. He was employed by J. J. Thomsen's Sons for one week early in October, but disappeared from the store, and several days later wrote to the firm that he had spent part of a sum of money collected for the firm, and had been robbed of the balance. He also acknowledged forging the indorsement on the check, and asked forgiveness, promising to make full restitution if he were not prosecuted. Mr. A. L. Thomsen, who made the complaint, was not disposed to interfere with the action of the courts.

ASSOCIATIONS,
CLUBS, SOCIETIES.

THE SOCIETY OF CHEMICAL INDUSTRY, NEW YORK SECTION.

The New York Section of the Society of Chemical Industry held its regular monthly meeting at the College of Pharmacy, 115 West Sixty-eighth street, Monday evening, Nov. 11. Previous to the regular exercises the members of the Chemical Industry Club took dinner at the Empire Hotel, near the college, at which Mr. Ludwig Mond, the honorary foreign secretary of the society was a guest.

A New Nickel Compound

The first paper on the programme was one upon the history of a process of nickel extraction, by Mr. Mond. He prefaced his subject by a short sketch of how he came to discover carbonyl of nickel. After he had satisfied himself that the ammonia soda process was far cheaper than the Le Blanc process for producing pure sodium carbonate, it became evident that a time would come when the Le Blanc process would produce sodium bicarbonate as a by-product of the bleaching-powder manufacture, which it would have to dispose of at any price it would fetch. He therefore undertook a series of experiments with the object of producing bleaching powder as a by-product of the ammonia soda process. The usual form of this process consists in treating a solution of common salt in which caustic ammonia has been dissolved by carbonic acid, with a result that sodium bicarbonate is precipitated, while a solution of ammonium chloride is formed. Ordinarily this solution of ammonium chloride is distilled with caustic lime, yielding gaseous ammonia, which returns to the process, and a solution of calcium chloride. Other investigators had endeavored to produce chlorine from calcium chloride obtained by evaporating these solutions, while still others have proposed to substitute magnesia for the lime, in distilling the solution of ammonium chloride, and to produce chlorine or hydrochloric acid from magnesium chloride, obtained by evaporating its solution. He had directed his attention to producing chlorine direct from the ammonium chloride, separating it from the solution in which it was originally obtained by refrigeration. When ammonium chloride is volatilized it is dissociated into ammonia and hydrochloric acid, and if the vapor be passed over a metallic oxide, the oxide is converted into a chloride, and the ammonia passes on together with the steam formed by the reaction. In experiments along this line he found that a large number of metallic oxides were acted upon in this manner, and that a large number of the metallic salts thus formed would give up their chlorine and be reconverted into oxides, by submitting them to the action of air at suitable temperature. He found that oxide of nickel yielded the best results, and the next best were obtained by magnesia mixed with a certain amount of potassium chloride. On the valves of the apparatus used in the manufacture of the sodium bicarbonate by the ammonia chloride

process, he found a deposition of carbon, which could not be accounted for, and which led him to investigate its source, and he found that nickel possesses the remarkable property of splitting off carbon from CO at a moderate heat, transforming it into CO_2. About this time he was trying to find a method for eliminating CO from hydrogenous gases. Nickel was used for the purpose, and found to be just what was wanted.

Further study of the action of CO upon nickel revealed that a small quantity of nickel decomposed a large quantity of CO, so that a product containing only 15 per cent. of nickel and 85 per cent.of carbon was obtained, the nickel in which was only partially soluble in acids. In the course of these experiments, finely divided nickel was treated with pure CO in a glass tube at varying temperatures for a number of days. Before removing it from the tube the escaping gas was ignited, when it was found that the flame became luminous, and increased in luminosity as the temperature got below 100° C. This flame deposited on cold porcelain spots similar to those of arsenic obtained with a Marsh apparatus. Investigation proved them to be pure nickel.

From these experiments and others, he succeeded in liquefying a volatile metallic compound which he described as a colorless liquid, boiling at 43° C., solidifying at —25° C., forming needle-shaped crystals. The compound is soluble in alcohol, petroleum and chloroform, is not acted upon by dilute acids or alkalies, and can be readily distilled without decomposition. On heating the gas to 150° C. it is completely dissociated into its components, pure CO being obtained and the nickel being deposited in a dense metallic film upon the sides of the vessel in which it is heated. After he had ascertained the best conditions under which it could be produced, he found that he was able to manufacture it in any quantity. He thought the principle or reaction might be made use of for separating nickel from cobalt and other metals on a manufacturing scale, and for obtaining it in a very pure state. He had constructed a plant near Birmingham, in which at the present time he was producing nickel at the rate of a ton and a half a week from Canadian nickel copper matte, imported into England. This matte contains about 40 per cent. of nickel, an equal quantity of copper, is carefully roasted to drive out the sulphur, and then subjected to the action of hydrogenous gases in an apparatus called a "reducer," in which the temperature is under perfect control, so as not to exceed 400° C. From this apparatus the substance, now reduced to the metallic state, is taken through air-tight conveyors and elevators into another apparatus called the "volatilizer," in which it is subjected, at a temperature not exceeding 80° C., to the action of CO gas. This apparatus consists of an iron cylinder, divided into numerous compartments, and provided with a stirring device which moves the material from the top to the bottom while the CO passes through in an opposite direction. The CO gas is charged with nickel carbonyl, which, on leaving the volatilizer, is passed through a series of tubes or chambers heated to about 180° C., in which the nickel is deposited in various forms, according to the speed of the gas current, the richness of the gas and the existing temperature. The CO thus almost completely freed from nickel, is taken back by means of a blower into the volatilizer, where it takes up a quantity of nickel and is constantly used over and over.

Samples of various forms of nickel produced in this way were shown, and the speaker thought the great facility with which nickel goods may be prepared by this process would give a great impetus to the manufacture of nickel utensils for domestic purposes, and which, from a sanitary standpoint, he thought would be very desirable.

Mr. Mond was followed by Dr. M. Alsberg, who read a paper entitled "A Case of Spontaneous Combustion." Dr. Alsberg observed that in unpacking eosin lead lakes they took fire, apparently without any cause, so he construed these occurrences as cases of spontaneous combustion. Upon investigation he found, however, that a gas jet at quite a distance from the place where the unpacking was done caused ignition of the dust of the lake rising in the process, and this burning dust set fire to the whole mass. The substitution of an electric light for the gas burner put an end to these accidents. Dr. Alsberg demonstrated by experiment how easily a lake containing 5 per cent. of red lead (Pb_3O_4) took fire by touching with a lighted match. Mr. J. Enequist followed with a lengthy paper on "The Utilization of Waste Acid from Gold and Silver Refining."

German Apothecaries Society.

The monthly meeting of this society was held at the society's rooms, No. 192 Third avenue, on Thursday, Nov. 7, at 9:30 P. M.

Judge Roesch delivered a very exhaustive and interesting lecture upon the various enactments regarding the practice of pharmacy. He discoursed upon the liabilities and penalties encountered by the negligent and unskillful pharmacist, and cited many cases in reference thereto. He devoted much time to explaining how pharmacists can be held responsible by both criminal and civil suit at the same time and for the same alleged offense, and explained the legal aspects of the cases he cited. He also went into the details of the Colsolidation act and the penal code, as far as they related to the pharmacist, and complimented the pharmacists upon their sobriety, as quasi-recognized by law, as the law makes a physician who negligently attends to a case while intoxicated liable to a felony, but no law existing provides that the pharmacist should be sober.

At the conclusion of his address President Ramsperger expressed the society's thanks to Judge Roesch, and Mr. Werner (Brooklyn) moved that Judge Roesch's lecture be printed in German in the society's publication, "Das Monatsblatt." Motion carried.

The judge then declared he was ready to answer any questions relating to pharmaceutical laws that any member wished to put to him. Mr. Werner took him at his word and kept Judge Roesch busy for the next quarter of an hour answering questions.

After the lecture the regular routine work was resumed, three new members elected and three new candidates proposed for membership. A special meeting will be called to consider the draft of the "Reform Pharmaceutical Law" as presented by the business committee some time ago. The chief idea of this proposed new law is a centralized Board of Pharmacy for the whole State, doing away with the four boards existing at present.

The publishing committee, composed of Messrs. Goetting, Mettenheimer and Schmidt, then tendered their resignations as members of this committee, the resignations to take effect immediately. On being brought to a vote an overwhelming majority decided not to accept the resignations but to hold the committee to the fulfillment of its part of the contract. Mr. Goetting then announced that as the committee's resignations had not been accepted, the November number of the "Monatsblatt" would be the last number issued by him.

Upon motion adjournment was taken.

Victory in New England.

Cambridge, Mass., Nov. 9, 1895.

To the Editor:

It is a pleasure for me to-night to write to you and inform you that our success in New England is almost complete. We have now for four months been laboring to bring about a better condition of affairs for the retail apothecaries of New England. We have now enrolled among our friends the names of all the wholesale trade of New England and also all of the manufacturers that we have called upon; and all but one of the large cutters has agreed to come into our schedule of prices, soon to be adopted.

It was thought impossible to get these large cutters to agree to come into a schedule of prices with an organization that was fighting them; but they have voluntarily come in with us. Of course it was plainly demonstrated to them that the markets for the supplies of goods which they handled and needed from day to day were closed up, and that fact alone, it seems to me, placed them in a very different position than they were ever in before. I wish to thank the large cutters for coming in with us without making us any further trouble.

The jobbers and retailers of New England are once more united, and a more friendly feeling exists to-day between them. I believe, than has ever been manifested before. Our work, however, is not completed, there is yet much detail work to be done, and it will take some little time before we have completed everything and put the schedule of prices into force.

We do not intend to raise prices in any section of Boston and vicinity until we get all to agree to raise on the same day so that the larger cutter will be treated fairly and the smaller man will not have

the advantage of him in this movement. We want to be fair with the large cutter as well as the small. We want, and expect, to have a friendly relationship between all parties. A great deal of credit must be given to the men who have backed me up in all my efforts during the last four months.

The retail druggists as a rule have taken the advice that we have given them and supported our efforts. Through their enthusiasm and ours and their co-operation things have been brought about in this very pleasing way.

We hope that the apothecaries of New York will learn generally of our success and take the work up in a similar manner. They must find some good man, put him on the road at once, keep him there every day. The man must be one who is enthusiastic, believes thoroughly in his work, and can devote all his time and efforts to this work. I believe that you can accomplish in New York what we have accomplished in New England; but should the cry from New York come to New England for help and advice I have no doubt but that the hand of New England will be extended to New York and help them to make a success there.

I expect to visit New York in person in a few days to see the jobbers and some of the prominent manufacturers in regard to our present movement.

F. W. REEVES.

——The Executive Committee of the Illinois Pharmaceutical Association met at the Sherman House, Chicago, Oct. 23, and selected Springfield, July 28 and 29, as the place and dates of holding the next annual meeting. The president of the association was directed to appoint a council of administration of the Executive Committee, consisting of five members who, with himself and the secretary, are authorized to conduct the business for the Executive Committee. The Executive Committee was instructed to report to the secretary names to be placed upon the voting card for member of the Board of Pharmacy. Fifty dollars was appropriated for the use of the Committee on Co-operative Manufacturing Co. The bill of the official stenographer was ordered paid, and C. S. N. Hallberg was allowed his claim for expense on the Committee of U. S. P.

——The Wholesale Drug and Patent Medicine Association of Canada met at the Board of Trade, Montreal, Nov. 6, when officers were elected for the ensuing year, as follows: President, Mr. Henderson, of Toronto; first vice-president, David Watson, of Montreal; second vice-president, George Rutherford, Hamilton; secretary-treasurer, C. McD. Hay, Toronto. A deputation of retail druggists waited on the association, to ask its co-operation in forming a Dominion Druggists' Association.

——T. V. Wooten, Chicago, has been appointed on the committee of the Illinois Pharmaceutical Association having the matter of a co-operative drug manufacturing plan in charge, in place of Mr. Ebert, who resigned.

——The Registered Drug Clerks' Association of Illinois will give a social hop at Assembly Hall, Masonic Temple, Chicago, on Tuesday evening, Dec. 10. Fischer's orchestra will dispense the music. An enjoyable time is expected.

——A regular meeting of the Chicago Retail Druggists' Association will be held on Tuesday, Nov. 19. Business of importance will be transacted.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Jan. 8, 1896.
Colorado (C. H. Wells, Pueblo)—Denver, Dec. 6.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Dec. 10.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Jan. 13, 1896.
Florida (Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—.
Illinois (Frank Fleury, Springfield)—Chicago, Nov. 12.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Dec. 3.
Kansas (W. G. Johnston, Manhattan)—Junction City, Dec. 11.
Kentucky (Wiley Rogers, Louisville)—.
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Dec. 11.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Jan. 9, 1896.
Massachusetts (Freeman H. Butler, Lowell)—Boston Jan. 7.
Michigan (F. W. R. Perry, Detroit)—.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Jan. 21, 1896.
Mississippi (J. C. Means, Natchez)—Jackson, April 7, 1896.
Missouri (F. W. Sennewald, St. Louis)—St. Louis, Jan. 13, 1896.
Montana (G. W. Shoemaker, Billings)—Butte, April 7, 1896.
Nebraska (M. E. Shultz, Beatrice)—Lincoln, Nov. 13.
New Hampshire (George F. Underhill, Concord)—Manchester, Jan. 28, 1896.
New Jersey (Albert S. Elwell, Bridgeton)—Trenton, Jan. 16, 1896.
New Mexico (W. C. Porterfield, Silver City)—Las Vegas, Jan. —, 1896.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburg, Rochester, Syracuse and Yonkers, Feb. 28, 1896.
North Carolina (Wm. Simpson, Raleigh)—. Raleigh, Dec. 3 and 4.
North Dakota (W. S. Parker, Lisbon)—.
Ohio (W. R. Ogier, Columbus)—Cincinnati, Jan. 14, 1896.
Oklahoma (C. P. Wickmiller, Kingfisher)—.
Oklahoma City, Jan. 7, 1896.
Oregon (Dan J. Fry, Salem)—Portland, Dec. 10.
Pennsylvania (Charles T. George, Harrisburg)—Philadelphia, Jan. 18, 1896.
Rhode Island (William E. Cates, Providence)—Providence, Dec. 2.
South Carolina (H. W. Hummel, Charleston)—Charleston, Nov. 20 and 21.
South Dakota (L. A. Keith, Lake Preston)—Sioux Falls, Jan. 8, 1896.
Tennessee (J. O. Burge, Nashville)—Memphis, Jan. 15, 1896.
Vermont (J. G. Bellrose, Burlington)—Montpelier, Jan. 7, 1896.
Virginia (E. R. Beckwith, Petersburg)—Richmond, March 16, 1896.
Washington (W. H. T. Barnes, Seattle)—. Spokane, Nov. 18 and 19.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville)—Milwaukee, Dec. 11.
Erie County N. Y. (C. O. Rano, Buffalo)—Buffalo, Dec. 7.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn)—Brooklyn, Nov. 19.
New York City (William Balser, M. D., 218 East 13th street)—College of Pharmacy building, Dec. 9.

——W. H. Prittie, druggist-postmaster at Pasadena, Cal., is charged by the Board of Pharmacy of that State with not being a registered pharmacist and is to be prosecuted for violation of the pharmacy law.

Michigan Board Active.

The Michigan State Board of Pharmacy held its regular meeting and examination of candidates for pharmacist's certificates at Lansing, Nov. 7 and 8. The usual routine business was transacted, and it was decided to hold the meetings for 1896 at about the same places and at about the same times as the 1895 meetings. The next one will be held in Detroit in the early part of January, the exact date not yet decided upon.

Sixty-six candidates presented themselves, of whom fifty-two desired registered pharmacist's certificates, while the other fourteen wished to be assistants. Of the fifty-two, only fifteen were successful, but ten of the fourteen would-be assistants went away satisfied. Particularly good material was noticed in the assistants. Weakness in the subject of "Pharmacy" was what pulled down the standing of those who failed. In the subjects materia medica, chemistry and identification of drugs most of the young men showed good ability, but per cents. were down on prescription and some dropped clear out of sight on pharmacy. All one man did in the subject was to copy the questions and hand in the paper, perfectly destitute of any attempts at answering them. Certificates were granted to the following persons: Registered pharmacists: Fred H. Crooks, Kalamazoo; Perry H. Edmonds, Lansing; C. O. Fountain, Grand Rapids; John A. Graham, Grand Rapids; E. J. Hough, Lapeer; W. H. Kinsley, Manistee; Harry R. Letcher, Hudson; John E. Lauckner, Bay City; J. W. Mitchell, Saginaw, E. S.; A. G. Mogk, Ann Arbor; H. C. Stevenson, South Lyon; Robert Schneigenberg, Lansing; Frank G. Thatcher, Kalamazoo; Benjamin Whitmore, Hastings; O. F. Burgess, Imlay City.

Assistants: J. M. Breyer, Detroit; Robert W. Cochrane, Kalamazoo; F. A. Caldwell, Jackson; W. E. Dean, Hanover; Louis A. Harmon, Jackson; Frank M. Mead, Detroit; Arthur R. Mendenhall, Ionia; Joseph Sahlmark, Ludington; Nelson G. Pierce, Elsie; David T. Paulson, Middleville.

——Re-registration notices will be sent out to the Michigan druggists next week. The State law requires that all shall re-register once a year, and shall pay $1 for the privileges attained by such re-registration. There are about 4,000 druggists in the State who are subject to this law. The money is used partly for the enforcement of the State Pharmacy law, which is in itself a great protection to pharmacists.

——E. J. and C. Drouillard, of Erie, Mich., thought they were perfectly competent to run a drug store, even if they never had gone to the trouble and expense of becoming registered druggists, or hiring a registered man to run the store for them. The board thought differently. A complaint was lodged against them, and they were fined $10 and costs. They won't do it again.

——Three of the Detroit pharmacists who were accused by the board of violating the State law were tried on Saturday, Nov. 9. John Newman, clerk for Mrs.

Harriet Seaman, pleaded guilty and was fined $10 and $5 costs. James R. Warner, and his clerk, C. Cadeaux, were each fined $10 and costs. The other fifteen who were complained against have hearings next week. It is believed that all who are fined will not transgress again, the prospects of the probable magnitude of the second fine being sufficient to deter them.

——The registered druggists of Maine, especially those residing in some of the larger cities, are demanding that the registry law of that State passed in 1877 be rigorously enforced. They hold that the law was passed for the benefit and safety of the public at large, and they themselves, who have passed successfully the critical examination of the Board of Commissioners are entitled to protection in their business. Secretary Partridge, of the Board of Pharmacy, when asked about the movement, said "that the province of the commissioners is confined, and that it has neither an inspective nor a legislative function. I mean by 'inspective' that it is not the duty of the commissioners to hunt up cases for indictment, neither is it within their power to perform any enforcement of law. It is within their province, however, to bring before the county attorneys any case reported to them, and this, to the best of my knowledge, has always been done. I have known many cases of neglect on the part of district attorneys to properly attend to cases which have been referred by us to them. There is absolutely nothing that the commissioners would like better than to have the laws strictly enforced, and if there is a movement on foot, such as referred to, 'to stir up the commissioners,' I think the sooner the movement comes the better. Where substantial and responsible complaints have been made, we have often received anonymous letters which I have generally consigned to the waste basket."

——The Louisiana State Board of Pharmacy met at the office of the secretary, Walter T. Taylor, New Orleans, Nov. 5. The following members were present: President, T. J. Labbe, of St. Martinsville; R. T. Gibbs, of Mansfield; P. L. Viallon, of Bayou Goula, L. F. Chalin, William Graner, F. C. Godbold, of New Orleans. The following applications received favorable consideration: As registered pharmacists—J. W. Brewer, of Hammond; Mrs. C. Delmoully, of Lake Charles; J. M. Hubert, of New Orleans; J. R. Jeammard, of Thibodaux, F. J. Mayer, of Opelousas; A. A. Sarradet, of Brusly Landing; W. N. Wilson, of Independence, and A. J. Smith, of Grand Coteau. Secretary Taylor reported that a large quantity of adulterated drugs is being sold by the grocers in New Orleans and that he expects to give at the next meeting of the board a more extensive report upon the subject. Resolutions (see editorial columns of this issue) were passed stating that hereafter the Louisiana Board of Pharmacy would not recognize the diplomas of colleges of pharmacy as entitling graduates to registration as pharmacists without examination.

——The Pennsylvania Pharmaceutical Examining Board, at its recent meeting held in Philadelphia, examined 172 persons, of whom but 27 succeeded in passing. Of these, 16 received qualified assistants' certificates and 11 received registered pharmacists' certificates. The successful applicants were Annie L. Hetrich, Godfrey Asann, W. Joseph Matthews, Abraham L. Metz, W. W. Watson, George T. Blair, Aaron W. Bailer, Adam B. Heckerman, Lee Goldsmith, Ralph Butz, William P. Hoopes, George F. Wibel, William I. Hoft, Joseph Huntingdon, Charles Faelke, M. W. Bamford, John H. Rimig, Charles J. Chalfant, John M. Porter, Edward C. Letten, Calvin I. Swartz, Edwin H. Kersher, C. O. Peiffer, George H. Pollard, William J. Heffmeyer and Harry S. Steltz. The next examination will be held Jan. 18, 1896.

——The Georgia State Board of Pharmacy met in the State Capitol, Atlanta, Nov. 4. John P. Turner, of Columbus, the newly appointed member, was sworn in for a five-year term by Gov. Atkinson. The board passed a resolution of thanks to Dr. John W. Goodwyn, the retiring member, for his faithful service of eight years. A class of eighteen was examined and the following candidates passed successfully: Messrs. T. R. Thornton, Atlanta, as pharmacist; Ben S. Persons, Monticello; Henry Hirsch, Eastman, apothecaries; Will E. Barnes, Americus; William H. Bailey (colored), J. L. Askew, Palmetto; Drs. J. L. Estes, Eastman; George Griffin, Athens; Thomas Howell Whigham, C. A. Kelly (colored), Atlanta; Dr. E. L. Merrell, Turin.

——The Oregon Board of Pharmacy held its regular quarterly meeting at the Imperial Hotel, Portland, Monday, Oct. 14. Thirteen applicants presented themselves for examination; of this number seven were successful. A. E. Tamiesie, Hillsboro, and George D. Linn, of Eugene, were granted certificates as registered assistant pharmacists, and to W. T. Tuttle, Portland; C. D. Lee, Junction City; H. J. Martin, Portland; Max Schwichtenberg, Portland, and A. W. Blackburn, Brownsville, as registered pharmacists. Next meeting Portland, Tuesday, Dec. 10, 1895.

——The positions on the New Jersey State Board of Pharmacy are figured in with the 124 appointments Governor-elect Griggs will make during his three years' term of office. Applicants for these places need not be in a hurry, however, for William C. Alper's term does not expire until 1897 and George W. C. Phillips' until 1898.

——The Minnesota Board of Pharmacy has brought an action against A. S. Blakey, of Hamiline, for compounding physicians' prescriptions, he not being a registered pharmacist.

——The Illinois State Board of Pharmacy held its regular meeting for the examination of applicants for registration in Chicago, on Tuesday, Nov. 12.

——The following drug men have been in Chicago during the week ending Nov. 9, buying new goods: J. W. Slater, Berlin, Wis.; C. E. Cameron, Alta, Ia.; Ed. Dosh, Guthrie Center, Ia.; J. S. Brubaker, Vinton, Ia.

COLLEGES
AND SCHOOLS OF PHARMACY.

Philadelphia College News.

Philadelphia, Nov. 9.—The students of the Philadelphia College of Pharmacy claim that they are being constantly ill-treated by policemen in the vicinity of their institution, and they propose to appeal to the public authorities for protection. Nearly 500 young men attend the college from all sections of the country, and some of them state with considerable feeling that their fellows are frequently arrested without cause, and otherwise persecuted.

When they leave the college and come out on the pavement they are told in language more forcible than elegant to "move on" if they happen to stop a moment. On Tuesday night the students attended the usual lectures, and after they were dismissed they decided to march around to the various newspaper offices where election returns were displayed. Fearing police interference if they congregated in front of the college, they formed in line inside of the hall. When they came out and started down Tenth street to Arch they say a policeman rushed across the street and, brandishing his club, broke into their double file and ordered them to disperse.

The students admit that there may have been some little confusion in starting away, but declare there was no intended disorder. One of their number whom, it is said, was very inoffensive, was seized, the patrol wagon called, and he was taken to the station house, there to remain until morning, when he was given a hearing.

That these policemen have special ill-will toward the students of this college has been apparent for some time, owing to the disagreeable manner in which the patrolmen treat the young men upon the slightest provocation. Following the arrest of Tuesday there was another one on Thursday evening. A crowd of students had just left the college, and were discussing some matter on the corner. One of them made a peculiar noise. Policeman Searles, who was standing opposite, apparently waiting for just that opportunity, at once ran across the street, and, pushing his way into the crowd, grasped one of the students, George Cooper, and took him to the station house. The charge entered against him was corner lounging and blocking the public highway. All the students agree that Cooper is one of the most reserved students among them, and was in no manner to blame.

Members of the faculty are united in the opinion that the officers are usurping a great deal of authority to which they are not entitled. Previous to these arrests there was another some weeks ago, and this third persecution seems to lead to the conclusion that warfare has been declared by the police against the students. The latter state that they will at once hold an indignation meeting and appoint a committee to wait upon Director of Public Safety Beitler,

and ask him for protection from the police.

The orchestra formed two weeks ago by the students in the college is getting along swimmingly. The faculty has given the members of the musical company permission to practice in the museum of the college one night each week, and the music that floats out upon the atmosphere on those occasions, it is said, rival the greatest compositions of Wagner.

The pharmaceutical meeting will be held upon Tuesday, Nov. 19. The full programme thus far has not been arranged, but there will be a paper on "Agar Agar Suppositories of Glycerine," by Prof. F. G. Ryan, and another on "Crystals of Mono—bromated Camphor," by Mr. L. F. Kebler. At the meeting there will also be specimens of the kola plant growing. This last will be exhibited by Mr. J. W. England.

Chicago College of Pharmacy.

The first of the evening talks inaugurated by the Chicago College of Pharmacy took place on Thursday evening, Nov. 7, at Attfield Hall. Mr. Ebert was the speaker, and took for his subject "The Apprentice, and how to Teach Him the Business." Mr. Ebert opened by saying that a few years ago the Chicago College of Pharmacy had inaugurated a series of evening lectures by men eminent in science. This season, however, it is proposed to select the speakers from the ranks of men in the actual practice of pharmacy, who are to select topics of every day interest to the business of the practical pharmacist. The apprentice in pharmacy is a topic as old as the profession itself. Much depends upon the apprentice, for as the apprentice is so will the druggist be. The personnel of a drug store usually consists of the proprietor, the assistant and the apprentice. Other terms are frequently employed—terms less dignified. This is unfortunate. A man is rated at his own value, and should see to it that the estimation in which the public holds him and the terms by which he is designated redound to the credit of the profession which he has espoused. In this connection the speaker related an incident which occurred when he was a young man. Desiring to obtain employment in a drug store, he inquired what wages were paid. The proprietor replied: "I do not pay wages, I pay a salary." The speaker here reviewed the various degrees conferred by different colleges of pharmacy, touching upon the history of the course taken in the matter by the various colleges of pharmacy throughout the country. Mr. Ebert then took up the system of apprenticeship as pursued in Germany and elsewhere in Europe, explaining wherein it differed from that in this country In Germany the boy—they have not yet taken to the girl fad—must give satisfactory evidence by examination of his educational qualifications, and instead of being paid for his services as an apprentice, he pays to the druggist a sum varying from $100 to $200 for the privilege of learning the business. In this country there are, as a rule, no such regulations. Boys all the way from twelve to sixteen years are taken in, usually with little heed to their educational qualifications. Indeed, boys of that age cannot be expected to have much, if anything, beyond a common school education. The druggist employs the boy as a sort of chore-boy, and too often pays little attention to the more important part of initiating the pupil into the practical affairs of the profession.

The speaker reviewed in detail the regulations prescribed and enforced in the older countries, and cited them as reasons why the generality of German pharmacists are better qualified professionally than the average American druggist. The regulations in Germany are far more strict and the requirements greater. In this connection, it is worthy of notice that Illinois is ahead of other States in the matter of the requirements demanded of the apprentice. The State Board of Pharmacy has framed rules under the new law which are far in advance of any other rules adopted in other States. Here followed an explanation of the rules for apprentices promulgated by the State Board under the law of last July.

The apprentice should be inducted gradually into the duties incident to his position, and as much as may be into the practical side of the profession. He should be taught to appreciate the grave responsibilities under which the druggist rests. The preceptor should introduce him to the manual side of the drug store, should teach him how to handle the mortar and pestle, and should inculcate those habits of order, neatness and cleanliness so desirable in the conduct of any business or profession. Nor should the more menial duties of the store be neglected, but the apprentice should be taught to do them in the best manner. After a time it will be desirable to begin his instruction in the scientific branch of the profession. He should be taught the use of the various appliances, the mortar and pestle, the sieve, the spatula, etc., etc. He should be taught first to make the simpler and more harmless mixtures, at which time his instruction should begin in some school of pharmacy, and the best Christmas present a druggist can make to his apprentice is a ticket to some college of pharmacy.

The speaker referred briefly to the various plans for the bettering of the trade, among which co-operation was mentioned, and the Pharmacie Centrale of Paris cited as an instance of the success of the co-operative plan, closing his remarks with a reference to the high ideals the pharmacist should seek to attain.

Professor Hallberg addressed the meeting briefly, after which the session adjourned amid the rahs of the students. The next lecture will be given on Thursday evening, Nov. 11, by Prof. E. B. Stuart, on "Milk Inspection and its Examination."

J. N. HEGEMAN DEAD.

J. Niven Hegeman, secretary of the College of Pharmacy of the City of New York, died at his summer home at Irvington, N. Y., on the morning of Nov. 12 of paralysis.

Mr. Hegeman has for years been an important figure both in trade and professional drug circles in New York City, and the announcement of his death will be received with a feeling of deep regret by his many friends and acquaintances. Mr. Hegeman was descended from one of the oldest families of the State, one which has been identified with the drug trade of this city for nearly seventy years. William Hegeman, father of the deceased, was connected with the old firm of Rushton & Aspinwall, which through gradual changes in its personnel became successively Hegeman & Co., with J. Niven Hegeman as partner, and since 1875 J. N. Hegeman & Co., with the deceased as head of the firm.

J. N. Hegeman was born fifty-two years ago. He was a grandson of the late Judge Adrian Hegeman, who was a Judge of the Common Pleas Court of New York, and was also a descendant of one of the original Dutch Aldermen of Manhattan Island. He was a great-grandson, on his mother's side, of Col. Niven, of the Revolutionary Army. He was educated at Charlier Institute, and upon graduation went into the drug business with his father. His business career extends over forty years, during which time his connection with several of the now leading pharmacies of the city have made the "Hegeman pharmacies" one of the features of the retail drug trade in New York City. During later years Mr. Hegeman's interests have been centered in the stores at Broadway and Ninth, Broadway and Thirtieth, Fifth avenue and Fifty-ninth streets, and 450 Third avenue.

As a pharmacist Mr. Hegeman was one of the foremost, in whom was combined the best of business talent, with a decided professional inclination which always tended toward bringing the pharmacist in closer touch with the medical practitioner. In his death the New York College of Pharmacy loses one of its

staunchest supporters and best friends. He has been a trustee of that institution since 1884, and secretary continuously since 1885.

He leaves a wife and three children. His first wife was a daughter of Gov. Clinton, and his second wife was a daughter of Capt. O'Donoghue, of the United States Army. He was a brother-in-law of Chauncey M. Depew, Mr. Depew having married his youngest sister.

Funeral services will be held at Christ's Church, Seventy-first street and Boulevard, on Friday, Nov. 15, at 3 P. M.

New York College of Pharmacy.

The number of young ladies studying at the College of Pharmacy is remarkably large this year. There are nine altogether, six in the junior class and three in the senior. The highest number in any previous year was four.

The students are axiously watching for Dr. Rusby's "Botany," and some inquire about its publication every two or three days.

On the bulletin board are to be seen some freaks in the way of class yells. Here is one:

Para Midi Anis Ol
Phenol Phthalein Terpin Ol
Benzol Cresol Delphinine
Argon Aurum Atropine
Fucus Ficus Zea Mastiches
N. Y. C. P., '96.

Another:

Pepo Kino Fucus Radix
Rumex Crocus Iris Mastiches
Quercus Rheum Carum Salix
N. Y. C. P., '96.

——Mrs. Emily Edson Briggs, the Washington authoress who writes under the nom de plume of Olivia, established recently, as noted in the Era, a female school of pharmacy at her residence, 1610 D street, Southeast. In order that the institution might not escape the notice of passers by, she had put up at conspicuous places signs with great letters. To have as much space as possible for these adornments she built a lattice around the porch and had it plastered with signs. This brought on a conflict with the neighbors. They were uncharitable enough to regard the signs as a nuisance, and also objected to them for æsthetic reasons. Among the owners of adjacent property is a Mr. Charles Schroth, who asserts that the big-lettered boards drive tenants out of his houses. The district commissioners were appealed to, and they instructed the building inspector to make an investigation, with the result that this functionary ordered the signs taken down. Mrs. Briggs protested on the ground that the signs were essential to the welfare of her institution, and refused to comply with the order for their removal. Complaints have now been renewed, and the commissioners will shortly hold a hearing and invite both sides to the controversy to have their say.

——Thomas Reed has purchased the drug store heretofore owned by W. F. Thompson, on the corner of Linden and North avenues, Baltimore, Md.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ARKANSAS.

Little Rock.—J. I. Hancock, propr. Capital Pharmacy, deceased.

CALIFORNIA.

Bakersfield.—W. C. Webb, closed on execution.
San Francisco.—J. W. Scamel, sold out.

COLORADO.

Buena Vista.—J. S. Halsey, deceased.
Denver.—Palace Drug Co., succeeded by Hunter Drug Co.
Dr. Phelps' Chemical Co., incorporated.
C. H. Howe & Co., dissolved.

CONNECTICUT.

Ridgefield.—H. K. Scott, sold to H. P. Bissell.

DELAWARE.

Wilmington.—E. T. Dilworth, sold to Dr. J. C. Robinson.

DISTRICT OF COLUMBIA.

Takoma Park.—J. F. Green, assigned.

FLORIDA.

Daytona.—E. C. Atwood & Co., now William Atwood.

GEORGIA.

Athens.—R. C. Orr, damaged $3,000 by fire; insurance, $2,000.

ILLINOIS.

Anchor.—Watson's drug store, burned out.
Bowmanville.—Winkelman's pharmacy, new store.
Chicago.—Evans, 43d and Ellis ave., new store.
Lafayette Pharmacy, Madison and Desplaines, new store.
Dr. Minaker, 62d and Wentworth ave., succeeded by Empie's pharmacy.
Decatur.—C. H. Dawson, sold to J. W. Eichinger.
H. W. Whitley, burned out.
Jacksonville.—M. H. Carter, sold to J. H. Williamson & Co.
Metamora.—H. J. Pelz, sold to J. H. Strathman.
Peoria.—J. H. Strathman, sold to H. J. Pelz.
Sibley.—C W. Cook, sold to Cook & Arnold.
Versailles.—F. H. Randolph, Old Reliable Drug Store, discontinued.

INDIANA.

Anderson.—J. O. Lowman & Co., sold to Lowman & McFarland.
Attica.—M. B. Connell, retired, and store discontinued.
Brownstown.—P. O'Mara, damaged by fire; partially insured.
Fort Wayne.—R. P. Bischoff & Co., bought store at Barr and Washington from M. L. Frankenstein.
Hammond.—Chemical and Compounding Co., incorporated.
Muncie.—Stewart & Stewart, succeeded by Marion Stewart.
Noblesville.—W. C. Abbott, discontinued.
Short.—Wright & Cooper, now B. C. Wright.
Wolf Lake.—H. A. Schambaugh, sold to Lucky Bros.

IOWA.

Anita.—Davis & Kiel, dissolved; R. S. Kiel continues.
Arcadia.—C. N. Beitenman, burned out.
J. B. H. Fenstra, burned out.
Charles City.—Star Medicine Co., incorporated.
Clinton.—K. G. Skortum, sold out.
Council Bluffs.—Duquette & Co., sold to John G. Woodward & Co.
Gowrie.—Dr. J. E. Vance, new store.
Manson.—D. H. Millarsky, new store.
Milton.—G. S. Pennington & Bro., sold to Mr. McKibben.
Montrose.—Ward Drug Store Co., incorporated.
Sigourney, J. E. Graff, new store.
Vail.—Ryan & Rowley, sold to Ryan & Wiewel.
What Cheer.—J. A. Griffith, sold to Whaley & Reed.

KANSAS.

Argentine.—J. E. McMahon, new store.
Beverly.—J. A. Schofield, sold to H. M. Thompson.
Home.—Ross & McClaren, new store.
Hope.—Miles Bros., removed to Lyndon.
Lucas.—H. M. Thompson, sold to G. E. Nye.

KENTUCKY.

Frankfort.—J. W. R. Williams & Co., now J. W. R. Williams.
Henderson.—George Lyne & Son, sold stock and discontinued; Henry Lyne will open wholesale paint, oil and glass store at old location.
Morganfield.—Evans & Waller, burned out.
Paducah.—Yeiser - Wells Drug Co., now owned by R. Walker & John Oehlschlaeger.
Salvisa.—J. M. Wilson, assigned.

MARYLAND.

Cambridge.—S. K. Martin & Co., sold to Robinson & Bibby.

MASSACHUSETTS.

Chelsea.—Clark Allen, sold to J. E. Naismyth.
Miller's Falls.—E. M. Partridge, burned out.
Worcester.—W. E. Doran, deceased.

MICHIGAN.

Detroit.—A. W. Bellows, 264 Jefferson ave., sold to W. W. Fiero.
E. W. Bolio, removed to 1492 Mich. ave.
John H. Boylan, 297 Greenwood ave., new store.
F. L. Hankinson, 844 W. Fort, sold to Charles Wing.
I. Przybylowski, 1374 Mich. ave., new store.
George J. Robinson, 512 12th st., new store.
W. P. Robinson, Lyman Place, sold to O. S. Bell.
T. D. Schmalzriedt, Fort st. West & L. S. and M. S. Ry., new store.
John G. Wiesinger, of Wiesinger's pharmacy, deceased.
Henderson.—Perry H. Peters, damaged by fire.
Mt. Clemens.—E. M. Lacey, of Lacey & Co., deceased.

MISSOURI.

Clinton.—C. C. Williams, succeeded by the C. C. Williams Drug Co.
Joplin.—B. M. Kash, removed to 614 Main.
Lexington.—J. W. Embrey, sold out.
Unionville.—Monroe Drug Co., increased capital to $25,000.

MONTANA.

Dillon.—N. M. White, deceased.

NEBRASKA.

David City.—E. E. Stevens, sold to F. F. Ware.
Endicott.—O. Harris, succeeded by R. C. Harris.
Lebanon.—F. S. Soverns, sold to W. A. Best.

NEW JERSEY.

Newark.—Dock & Maring, sold to D. L. Hawkins.

NEW YORK.

Caledonia.—C. Waldo Stickle, new store.
Gouverneur.—S. Dandurand, sold to Gouverneur Drug Co.
N. Y. City.—C. W. Dorn, deceased.
Potsdam.—H. Smith's store, sold to Chas. Heaton.
Scheneyns.—N. K. Hoagland & Son, sold to D. E. Hoagland.

NORTH CAROLINA.

Leaksville.—S. L. Martin & Co., now S. L. Martin.
Wilmington.—H. L. Fentress, who recently bought stock of G. L. Harmon, has sold it to J. H. Hardin.

OHIO.

Berlin Heights.—C. Tuttle, sold to J. H. Bechberger.
Canal Dover.—C. A. Andreas, sold to G. C. Goodrel & Co.
Columbus.—M. Eis, removed to 291 West Broad.
Schiller St. Pharmacy, moved to 6th and Livingston ave., now called Germania Pharmacy.
Liberty Center.—G. U. Foncannon, sold to C. K. Woodward & Son.
Tippecanoe City.—Crane & Ten Eyck, sold to Ten Eyck & Davis.

PENNSYLVANIA.

Butler.—Johnston's pharmacy, now Butler Pharmacy.
Erie.—Charles Nick, sold to Adams & Streuber.
Philadelphia.—McClure, Heritage & Co., succeeded by R. T. Marshall & Co.
Warrington & Pennypacker, 5th and Callowhill, dissolved; Nathan Pennypacker will continue.

Warrington & Pennypacker, 17th and Mt. Vernon sts., now C. W. Warrington.
Pittsburg.—Duquesne Chemical Co., incorporated; capital $5,000.
Penn Chemical Co., burned out.
Pittston.—Anthracite Drug Store, receiver appointed; will discontinue.
Sharon Hill.—F. H. Bassett, sold to D. Dalton.
West Springfield.—W. I. Potter, sold to D. M. Conley.

RHODE ISLAND.

Providence.—E. F. Mattison, sold to C. E. Lowe.

SOUTH DAKOTA.

Vermillion.—G. M. Kimball, sold to G. S. Agersborg.

TENNESSEE.

Carthage.—T. B. Read, Jr., now Read Bros.
Dickson.—Dickson Drug Co., G. L. Pentecost, propr., recently burned out, has resumed.

TEXAS.

Alvarado.—Moses Bowmen, burned out.
Bells.—J. L. Bow & Co., sold to Ellis & McMahon.
Canton.—S. F. Reese, deed of trust.
Crawford.—W. D. Anderson, burned out.
Mansfield.—E. Marple, sold to E. A. Kerr.
Plano.—C. L. Bridgman, burned out; partially insured.
S. M. Harrington, damaged $500 by fire.

VERMONT.

Rutland.—Higgins & Hyde, sold to Higgins Drug Co.
West Paulet.—Layden & Burdick, burned out.

WISCONSIN.

Fond du Lac.—L. J. Remington, succeeded by Remington Drug Co.
River Falls.—Youell & Chapman, dissolved.
West Superior.—R. B. Dear, sold out.

ONTARIO.

Lindsay.—S. Perrin, sold by sheriff.
Toronto.—A Matheson, deceased.
H. Proctor, moved to Drayton.

QUEBEC.

Sherbrook.—Dr. Draper, new store.

The promise that Dr. Hobbs' Sparagus Kidney Pills would be well advertised is being kept, and liberal space is being used in the best publications to call attention to this new remedy. In addition to this plenty of good advertising material is furnished to all dealers who have the goods in stock.

The handsome picture which calls attention to California Fig Syrup is appearing in the higher class publications with a frequency which indicates that an extensive advertising campaign is in progress. This implies that California Fig Syrup is pretty sure to be an article often called for at the drug store.

It takes many kinds of chewing gum to thoroughly meet the demands of the gum-chewing public, but no matter how many brands are kept, there is always a certain number who want the old and well-known "Yankee Pure Spruce," made by Curtis & Son, Portland, Me. All jobbers handle it, and the retailer's stock is not complete without it.

J. F. Ruttmann, of Ferd. Ruttmann & Son, agents in this country for the well-known Swan Gin, visited Holland this summer, and some of his impressions of the trip are set forth in an article contributed to a recent number of the Caterer. Both Mr. Ruttmann and his brother are expert photographers, and the article in question is illustrated with snap shots taken on the way.

——Charles J. Daubach, of Lincoln, Neb., formerly secretary of the H. T. Clarke Drug Co. of Lincoln, is now representing Morrisson, Plummer & Co., Chicago, in Nebraska.

BOOK REVIEWS.

DARWIN AND AFTER DARWIN. An Exposition of the Darwinian Theory and a Discussion of Post-Darwinian Questions. Part II.—Heredity and Utility. By George John Romanes. Cloth, 344 pages. $1.50. Chicago. Open Court Publishing Co.

This volume is an addition to that extensive literature which has had its growth in the discussion of the theory of evolution as advanced by Darwin, and more particularly the bearing which natural selection has upon it. The main arguments are apparently directed against the undue importance or exclusiveness of natural selection as a factor in evolution, a position which has been so prominently advocated by Wallace, Weismann and others, and the attempt has been made to show that these naturalists and their followers have departed from the tenets of Darwinism even while professing to be in accord with them. How far this attempt is successful only the competent specialist, or those who have the literature of evolution at their fingers' ends can determine. In controversies of this sort it is not safe for an outsider to indicate the scope of the discussion or even outline the position of the disputants, as these are matters upon which they are apparently unable to agree themselves. While the nature of the work confines its appreciative reading or study to a narrow circle, there is a certain charm to be found in the vigorous arguments of a master mind which will be relished by the general reader who gleans but meagerly in the field of natural science. Another volume bearing upon topics which the sub-title of the present one suggests is promised for publication within two years, and in it the subject of Isolation and Physiological Selection will receive attention.

PRACTICAL DIETETICS. With Special Reference to Diet in Disease. By W. Gilman Thompson, M. D., Professor of Materia Medica, Therapeutics, and Clinical Medicine in the University of the City of New York, etc., etc. 800 pages. Illustrated. $5.00. Sold by Subscription Only. New York, D. Appleton & Co.

It has been broadly asserted that the ultimate destiny of food is the development of heat and other modes of action, which together constitute the physiological phenomena of animal life. The potential energy with which the food is stored becomes converted into actual or dynamic energy, and is manifested in the body as heat, constructive power, nervo-muscular action, mechanical motion, etc. Beyond these broad generalizations, the subject from a dietetic standpoint has never received that attention it deserves as a part of the curricula of medical schools, nor has it received much attention in standard works upon the theory and practice of medicine. Dietetics may be defined as a systematic regulation of the selection of food required to meet the needs of the body for hygienic or therapeutic purposes, and the intent of this book is to furnish the practitioner instructions of this character. To the pharmacist, as a co-worker with the physician, this work will prove of great value, and if he wishes to post himself concerning the various prepared foods he sells he can do no better than to secure it.

Beginning with the elementary composition of foods, the author next classifies them, and takes up in succession force production and energy, stimulating foods, and their economic values. The relative nutritive values of animal and vegetable foods are given, and a chapter on vegetarianism. The classes of foods, including water, salts, animal and vegetable foods, fats, and oils, are next considered. A section is devoted to the subject of milk in all its forms—pure, adulterated, prepared, etc. Stimulants and beverages, with their comparative values, administration, etc., are carefully and fully considered. Following in order are given the various methods of cooking food, means used for preserving and condensing foods, food in its relation to age, individual size, body weight, sex, climate and season, etc., digestion, relations of food to special diseases, dietetic treatment in fevers, etc.

In the main the pharmacist will appreciate the analytical tables giving the percentages of ingredients in the various animal and vegetable foods. These are, as a rule, selected with care as to their reliability, though we notice one exception which calls for criticism, and that is in the comparative analyses of the relative digestive power of several of the more important pepsins on the market. These analyses were published in the early part of 1889. Since that time a new edition of the Pharmacopœia has been issued, which has revolutionized the standard of pepsin heretofore existing, and many manufacturers now conform to it. Therefore, the analyses reported over six years ago do not fairly represent the pepsins of to-day. However, the author deserves great credit for the work he has done. The book will be of service to the practitioner, the trained nurse, the pharmacist and the general reader. The mechanical work is excellent.

——The formal opening of the Buffalo College of Pharmacy, session of '95–'96, occurred Tuesday, evening, Oct. 29. Dr. Gregory, the dean of the faculty, made a few introductory remarks outlining the history of the college, its rapid advancement and the wide extent of territory from which its students are drawn. He was followed by the speaker of the evening, Hon. Arthur W. Hickman, lecturer on pharmacal jurisprudence, who gave a very interesting and instructive address on the pharmacist, as compared with his predecessors, the druggist and the apothecary. Alumni Hall was well filled with the new classes, together with the graduates and friends of the university. The senior class is the largest since the opening of the college. Secretary John R. Gray has has compiled a leaflet of suggestions for home reading, preparatory to a course at the Buffalo College of Pharmacy, which has been sent to intending students of the present course. Gilpin, Langdon & Co. have donated a stock of crude drugs for the department of pharmacognosy.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

Ointments, toilet creams, etc., suit customers best if put up in collapsible tubes. The prices quoted on such containers by A. H. Wirz, Philadelphia, will best suit the druggist and manufacturer. Get his price list and samples.

When corks get a good reputation and hold it against competition, it is pretty good evidence that they are what they ought to be. The Lancaster Cork Works, Lancaster, Pa., make that kind of corks, and invite the closest scrutiny—samples and prices given cheerfully.

When the approval of customers can be gained by simply attaching a little corkscrew to each bottle of medicine sold, it is policy to do such a thing. The cost of such approval is astonishingly low. The Clough Corkscrew Co., Alton, N. H., can quote figures upon corkscrews to support this statement.

People will soon take a lively interest in the action of the thermometer, and it is quite a good advertising scheme for the druggist to furnish the means for satisfying this laudable curiosity. The A. Major Cement Co., 461 Pearl street, New York, are now giving a four foot and a twenty-inch thermometer with small orders for their goods. Better write for particulars.

People are now hearing more about malt extracts than any other article of medicine, and they are becoming more discriminating as to character and quality. It is pretty safe for the druggist to handle one which physicians will recommend, and such is the Braunschweiger Mumme, made by the Long Island Bottling Co., 280 Bergen street, Brooklyn, N. Y. Send for price list.

Lucas' color cards often decide the question of "to paint or not to paint" in the affirmative, when otherwise the matter would have been put off until another season. It pays to handle paints which are brought to the attention of people in this effective manner. Send for advertising matter and dealer's discounts. Address John Lucas & Co., Philadelphia.

Every druggist wants a few little things in the perfume and soap line that will suit people who wish to pay 10, 25 and 50 cents for such articles. David S. Brown & Co., Bank street and North River, New York, make a great many of these little "customer catchers," which will be just the thing for a portion of the holiday stock. Send for their list.

Plenty of samples and advertising matter is furnished with Mrs. Gervaise Graham's Cucumber and Elder Flower Cream, and she pays transportation on the smallest order. It is advertised in the leading fashion publications, and with all these advantages it cannot fail to be a good seller in the drug store. For prices address Mrs. Graham, 1424 Michigan avenue, Chicago.

If you purchase your alcohol in original packages, get the quotations of Jas. A. Webb & Son, 165 Pearl street, New York. They are in a position to quote the lowest market prices, and deliver f. o. b. New York or Chicago.

Licorice is in greatest demand during the winter season, and the druggist is now frequently including it upon his orders to the jobbers. It is a safe plan to place the letters "M. & R." after the licorice items. Customers will be perfectly satisfied. "M. & R." tastes just right.

Bruce's Beef Capsules are a great convenience in the sick room, the kitchen or at the soda fountain. They contain Armour's Pure Beef Extract, and as they are sealed, their contents are always fresh and palatable. For prices and particulars, address C. G. Bacon & Co., 218 Greenwich street, New York.

"Corks and Williamsburg" have long been synonymous terms to druggists all over the country. For many years the Williamsburg Cork Works, of Brooklyn, N. Y., have kept themselves in close touch with the trade, and enjoy a reputation for straight dealing, good quality and prompt attention to orders. When you need corks, write them for prices and samples—both will be furnished cheerfully.

W. E. Gibbs, manufacturer of Gibbs' Hollow Suppositories, announces that the contract by which C. G. Bacon & Co. have been sole agents for these goods has been cancelled by mutual consent, and hereafter Schieffelin & Co., of New York, will have the sole agency. All inquiries relative to the character of the goods or prices may be addressed either to Schieffelin & Co. or the manufacturer.

A syringe with an unbreakable piston has been wanted, and now the Butler Hard Rubber Co., 33 Mercer street, New York, offer it to the trade. They use a steel core, and cover it with hard rubber, thus giving an unbreakable piston, and one which is impervious to the action of the strongest medicines. Get their prices and include a few of the new "Eureka" syringes upon your next order to your jobber.

Barlow's Manifold Shipping Blanks are a great convenience to both the large and the small shipper. They save time for the former by systematizing the operation of shipping goods, and for the latter they furnish a record which is preserved, a thing which hardly ever happens when receipts are taken upon any kind of paper which is handy. Sample sheets will be sent upon application to Barlow Brothers, Grand Rapids, Mich.

"Vaccine virus, fresh daily," are two things to remember in certain emergencies, and the address is New England Vaccine Virus Co., Chelsea Station, Boston, Mass. This firm furnishes pure and reliable lymph, and fills orders by mail or telegraph with the greatest promptness. An illustrated pamphlet describing vaccine virus is distributed freely by this company, and a simple request will secure a copy.

A. Sauabrah, label printer, 216 West Sixty-seventh street, New York, quotes some exceedingly low prices upon such work, as 20 cents per 1,000 for general shop labels and 40 cents to $1.25 for prescription labels. He promises prompt delivery on all orders, and will be glad to mail his specimen book upon request.

Talcott, Frisbie & Co., Hartford, Conn., issue a circular under date of Nov. 1, which they designate as their "New Year's Day," or beginning of their new fiscal business year. The circular refers to several business methods which are disturbing the trade, and quotes prices upon several new lines of goods and seasonable specialties.

"Gypsine," made by the Diamond Wall Finish Co., Grand Rapids, Mich., has so many uses about the house, that its sale does not depend upon the house-cleaning season exclusively. It is an all-the-year-round seller, and interest in it may be kept up through the Gypsine Advocate, a little paper which advertises it. Send for a copy of this, and see what an excellent means it is for keeping the druggist and Gypsine before the public.

French, Cave & Co., Philadelphia, make a line of concentrated essences for making toilet waters. Every druggist who wishes to make such articles of superior quality at moderate cost should know all about these goods. F., C. & Co. have recently issued a little booklet telling all about them, giving prices for their essences, formulas for making them up, and incidentally telling what some of the most enterprising druggists of the country think of them, and how they are selling. Send for this booklet. It is interesting.

E. E. Dickinson & Co., Essex, Conn., have something new in witch hazel. It is stronger, has a more pungent and permanent odor than the ordinary kind, and will keep indefinitely. It is made by redistilling with alcohol, a method which is a great improvement over the aqueous process with subsequent addition of alcohol. It is put up in 5 and 10 gallon and barrel and half-barrel oak packages, so that the retailer can begin with a small trial order and increase up to barrel lots. All jobbers have the new product, and it should be specified as "Dickinson's Double Distilled Witch Hazel." Send for circular describing it fully.

Chas. P. Whittle, of Boston, designs and manufactures drug store fixtures to order, but he has another plan for furnishing attractive fixtures at figures which will meet the views of those who must have low prices or go without new fixtures. He has selected several handsome designs, and by manufacturing in large quantities and shipping them "knocked down," he is able to place them all over the country at prices greatly less than those charged by local cabinet makers or carpenters. These fixtures can be put up by any one without the aid of skilled help. If interested in drug store improvement send for illustrations of some of these designs.

Did It Ever Occur to You

That your customers know quite as well what you do not keep, as what you do keep, and are not likely to ask for an article the second time. Your surprise comes when you first display a sign of Humphreys' Specifics, and you find that your oldest customers have been purchasing them elsewhere, not knowing that you had them in stock. So first be sure you have the Specifics on hand, and then send for and display the sign, sent free. Address, for liberal terms to dealers, the Humphreys' Medicine Co., New York.

"Cosmeon" and Christmas.

There is a connection between these two which the wide-awake druggist will notice during the week preceding Dec. 25, 1895. During that time people will be looking for something appropriate for a holiday present. If they see something new they will examine it; if it is handsome they will examine it all the closer; if it is something of practical utility they will regard it with all the more favor; if it is comparatively low in price they will come right up to the purchasing point. Cosmeon toilet articles are new. They are handsome. They look like silver, but they are better, because they are made of white, never-changing, never-tarnishing aluminum. Cosmeon articles are of every day use, as the line includes brushes, all kinds and sizes, mirrors, combs and trays, handsomely engraved and finished plain or in imitation of watered silk. The brushes can be soaked or washed without injury and are, therefore, always clean. They are cheap. They look a great deal like silver, but in addition to being better and more durable, they cost a great deal less. Cosmeon articles, singly or in combination make an appropriate present for everybody—men and women, young or old. They retail from 65 cents for the lowest priced comb, up to $4 for the best mirror. The line affords plenty of opportunities for making combination sets to suit the tastes and the pocket books of all.

Munsey's Magazine for December will contain a full page illustrated advertisement of Cosmeon goods. A million people are expected to see it at a time when their thoughts are in the direction of buying. The druggist should help harvest some of this sowing. Those in the vicinity of New York should visit the show rooms at 621 Broadway, and those in the vicinity of Chicago should visit 262 Wabash avenue. Those who cannot conveniently do either, should send for the handsome catalogue giving illustrations of the goods, to either of the addresses given or the manufacturers, The Florence Manufacturing Co., Florence, Mass. Leading jobbers carry Cosmeon goods in stock.

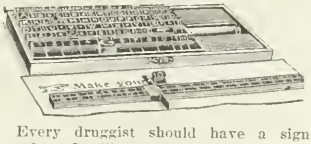
Every druggist is interested in advertising his soda water business, and the trade will therefore appreciate a catalogue, recently issued by Jas. W. Tufts, Boston, giving illustrations of a very handsome line of show cards, signs, etc. A copy will be sent upon request, and it is worth sending for.

PROPRIETARY MEDICINE ADVERTISING.

Advertisers of proprietary medicines use enormous quantities of printed matter, often distributing millions of circulars and leaflets every year. These are in the majority of cases of a cheap, uninteresting description, and are not noticed by those receiving them, thus constituting an enormous loss to the concern, and, moreover, the "cheap" look often influences peoples' judgment, so that they judge the medicine accordingly, with a mental addendum of, "I guess they put a grain of medicine in a gallon of water, for it is evident that cheapness is their standard." This tendency to use cheap printed matter for advertising of patent medicines has often proved very expensive on account of this unquestionable loss, and a few of the most successful houses now use work that is better adapted to gain the end desired. Printing that by its neat appearance, its attractive get up will hold the housewife's attention or retain the busy business man's eye is the printing that wins success.

Booklets of the better description cost a little more than the "common" kind, but the influenced sales are proportionately much greater, and the balance in the scale is in favor of the better quality. It is generally realized at present in other commercial circles by prosperous business men that a catalogue or leaflet in order to pay must be of an uncommon description, it must be of a combination of color, paper and type as well as reading matter to force its attention on the "busy" man (that is, the man who has the money to spend) or it will be a predestined failure. "Set an ass to carry an elephant's burden and his back will be broken." Send out a cheap booklet to advertise a good article, and failure is evident. It is by the appearance of a representative that the standard of a house is personated, and the appearance of a catalogue qualifies the advertiser as well as the advertised article.

The work done by the Lotus Press is always artistic and novel, and has those qualities which constitute the foundation to success. See their ad. on another page.



Every druggist should have a sign marker. I will send this regular $5 outfit and one of my Guides for Soda Dispensers for $3. I have received several orders for the marker alone, with $2 enclosed. If you wish the marker alone send $2.50. I offer the set at less than wholesale price simply as an inducement to buy the book. Sent on receipt of price or C. O. D. I will pay cash or send a Guide for first-class formulas that have not been published. What have you got that's the best thing in your town?

RICHARD FOY.
150 West Forty-sixth street, New York.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Balsam Peru, Balsam Tolu, Cacao Butter, Cocaine, Dutch Caraway Seed, Golden Seal Root, Galangal Root, Japan Wax, Oil Cassia, Oil Citronella, Star Anise Seed, Bichromate of Potash.

Declined: Coriander Seed, Fennel Seed, Gum Chicle, Rape Seed.

New York, Nov. 5, 1895.

The conspicuous features of the drug market are practically the same as noted for several weeks past, with the movement into legitimate consuming channels satisfactory to the majority of dealers. The jobbing houses are particularly well pleased with the frequent duplication of orders received, and many of the handlers of original packages and round lots speak in most encouraging terms of continued activity. A few are inclined to report dullness, but they are in the minority, and, as a rule, are without sufficient stock to meet the requirements of buyers. This is probably the result of extensive liquidation during the long period of depression, and those who had sufficient courage to keep their capital in merchandise are now reaping the benefit of their sagacity. Speculative interest in the articles referred to in our last issue continues, but further important business has been checked by the absence of additional offerings; holders of the concentrated stocks decline to realize the fair margin of profit now in sight, feeling confident that larger returns will be secured by holding off until the wants of regular consumers increase. Aside from the speculative movement the demand is fairly brisk and covers a very large variety of commodities, not only those for consumption in the shape of medicine, but many that are classified under the head of "druggists' sundries." The ingredients used by manufacturers of perfumery, sachet powders and kindred articles are also moving briskly, and the general market retains a firm undertone, with values in many instances continuing to show an upward tendency.

OPIUM.—The condition of the market for this article continues to perplex the consuming trade, and there is considerable diversity of opinion concerning the probable future course of values. The present situation is so much at variance with what had generally been expected that the trade at large is prepared for almost anything in the way of developments. The position to-day is a strong one, and the few holders willing to sell entertain decidedly firm views, but the demand is light and only single cases and broken lots are receiving attention from buyers. A noteworthy feature is the fact that most of the large holders here have practically withdrawn from the market, as they decline to quote, and seem to be confident that prices will be higher. On the other hand, some are equally confident that as soon as any attempt is made to market the large crop, which has recently been accumulating in Smyrna and Constantinople, values will

weaken and decline to a point at least 25@30 cents below current quotations.

MORPHINE.—The firmness in opium continues to impart a steady feeling among holders of morphine, but manufacturers are apparently willing to book orders at old prices, and there is no indication that a change is contemplated. Business is of fair volume, but not in excess of actual requirements of consumers.

QUININE.—A continued active demand is noted for both domestic and foreign, with the general market ruling firm, and the future outlook is decidedly favorable to holders. Further efforts have been made to purchase additional parcels for export, but only 10,000 ounces were secured, and many large orders are yet unfilled. The regular consuming channels have been absorbing considerable stock, and one of the leading brands of foreign is said to have been sold in 1,000-ounce lots by second hands at an advance of 1 cent per ounce over manufacturers' quotation, owing to the latter being unable to fill orders promptly.

ALCOHOL.—There has been no further change in quotations, and as a result of the recent improvement in the general situation business has moved along more smoothly than for many months past.

BALSAM TOLU.—The principal holders have further advanced their quotation 5 cents per lb, but a few small scattered lots might yet be had outside at former prices.

BALSAM PERU.—The market for this article is practically "cornered" and values are again 25 cents per lb higher, with every indication that extreme figures will be reached. Cable advices report that the stocks in London, Hamburg and Bremen have been bought up, presumably for American account.

CACAO BUTTER—Is stronger in sympathy with an upward movement in both London and Amsterdam, and prices have been advanced 2@4 cents per lb. Spot stocks are very light, which restricts business.

COCAINE—Is tending upward and holders offer very sparingly in view of advancing markets abroad for the crude material.

COD LIVER OIL—Is without new feature, the market ruling active and strong, with full previous prices being realized.

CUTTLE FISH BONE.—The market has developed increased activity during the past week, with all varieties sharing in the general distribution. Stocks are becoming depleted, as there have been no arrivals of consequence for a long time and higher prices are expected in the near future.

CASSIA OIL.—The market continues to harden under light stock and a steady inquiry, and values show a further advance of 10 cents per lb.

CITRONELLA OIL.—Advices from Ceylon report short stocks and an advancing market. Supplies here are also light and more or less concentrated, with quotations showing an advance of 4@5 cents per lb, and still tending upward.

PEPPERMINT OIL.—Spot quotations are unchanged, but the undertone is strong, owing to advices from the growing districts in the West, reporting values there 10 per cent. higher and stocks reduced to a minimum. The prevailing opinion is that prices here will shortly move upward.

CAMPHOR.—No further change has occurred since the reduction noted in our last issue, but the market is unsettled and somewhat feverish.

ASAFETIDA.—The market is seasonably active, but supplies are ample, the assortment is good and no material change in prices is anticipated.

GUM CHICLE—Has been arriving quite freely during the past few weeks and the market is weaker owing to lack of important demand, prices showing a decline of 4 cents per lb.

GOLDEN SEAL ROOT.—The market is stronger owing to increasing scarcity and values are 1 cent per lb higher.

GALANGAL ROOT.—Cables from London reporting a higher market have stimulated a firmer feeling among holders here, and prices show a fractional advance.

STAR ANISE SEED.—Holders have advanced their quotations 2@3 cents per lb. owing to higher markets abroad.

CARAWAY SEED.—Dutch shows a further advance of ¼ cent per lb in sympathy with a corresponding improvement in Holland.

CORIANDER SEED.—The market is active but weak at the recent decline, and a further concession of ½ cent per lb is noted for parcels to arrive.

FENNEL SEED—Is slightly easier and obtainable at ¼ cent per lb under previous quotations.

RAPE SEED.—English is in better supply and lower, with offerings at ½ cent per lb less than a week ago.

JAPAN WAX—Is very active and decidedly strong, owing to higher primary markets, and prices show a further advance of ½@¾ cents per lb.

POTASH BICHROMATE—Is steadily moving upward and spot values are ¼@½ cent higher.

London Market Report.

London, Nov. 2, 1895.

Business was quiet at the beginning of the week, but at our fortnightly drug auctions on Thursday a generally better demand showed itself, resulting in a large proportion of the goods offered changing hands.

ALOES.—Curacao, fair dark livery in boxes sold well at 45s. to 50s. per cwt., darker at 32s. to 36s., and capey down to 14s. per cwt.; Gourds at 39s. to 45s. for fair to good livery; Socotrine, a lot of fine bright hard, balance of a parcel imported in 1892 and which at that time sold up to £13 per cwt. for America, now realized £6 per cwt., a big advance on late rates. Hepatic in monkey skins, 76s. for good; Zanzibar in tins, 30s. per cwt., a decline of 1s. per cwt. on last sale.

ASAFETIDA.—About 30 cases sold at from 30s. to 60s. per cwt. for medium heavy block to good pinky almondy.

BALSAM PERU.—Dearer at 8s. 6d. per lb for good.

BALSAM TOLU.—Genuine is scarce and held for 2s. 6d. per lb.

BENZOIN.—Small almond block Siam sold at £10, and good second Sumatra at £8 10s. per cwt.

BUCHU LEAVES.—Dearer, 5¼d. per lb being paid for stalky and yellow round.

CAFFEINE.—19s. to 20s. per lb is quoted for this month's delivery, and 18s. to 19s. for December. Demand active, mainly for American account.

CHINA CANTHARIDES.—1s. 1d. is asked for ordinary dusty.

CARDAMOMS.—Only a small supply offered, all being sold at full rates; decorticated rather dearer at 2s. 1d. per lb.

CASCARILLA.—Dearer, good bold silvery realizing 50s. to 52s. per cwt., and small, part silvery, 34s., an advance of 3s. to 4s. per cwt.

CIVET.—Eleven horns were offered, one only being fairly good; this was held for 55s.; the other 10 horns were more than doubtful.

COLOCYNTH.—Turkey apple was lower at 2s. 1d. per lb, owing to a new arrival.

CREAM OF TARTAR—Is dull at 98s. per cwt. for crystal and 100s. for powder.

CROTON SEEDS.—Dearer at 48s. per cwt. for small bright.

CUBEBS.—A fair business has been done at 25s. per cwt. for good, and 1 lot "without reserve" sold at 15s. per cwt.

CUTTLEFISH.—Good sold well at 2¼d. per lb.

DRAGON'S BLOOD.—Good bright sold at £10; no demand for reed.

GAMBOGE—Is very firm, £10 10s. being paid for good bright but softish pipe.

GLYCERIN.—Dearer; refined £62 to £67 10s. per ton for 1.260 s. g. double distilled; second hand sellers at £58 to £61, according to brand.

IPECACUANHA.—Fine quality sold at easier rates, but ordinary grades maintained their values.

JALAP.—One lot sold at 11d., being rather dearer, but rather inferior was pressed for sale at 9d.

KOLA NUTS.—In better demand and rather dearer at 11½d. to 1s. per lb for good; washed qualities, usually shipped to America, are quiet, complaints having reached shippers on this side that they do not reach destination in good condition.

MENTHOL.—Dearer at 14s. per lb for "spot."

MUSK.—Tending dearer; Pile I., fine blue skins, is very scarce and much higher prices are anticipated.

OIL, COD LIVER—Does not advance as rapidly as anticipated. This is due probably to high price checking consumption and to the common mixed parcels offering; 170s. is nearest value for fine Norwegian.

ORRIS ROOT.—Florentine is unchanged, but East Indian sells readily at 35s. per cwt.

QUINCE SEED.—In good demand for America at 1s. 3d. per lb; very little stock left.

QUININE.—Quiet at 1s. 1⅜d. for good brands of recent import; old import sold at 1s. 1d. per oz., imported weights, this meaning a loss in weight of 3 to 4 per cent.

SENNA.—Over 700 bales Tinnevelly offered in auction, and the competition was so good that the principal catalogue was got through at the rate of 6 lots per minute, a "record" performance on this article; practically the whole sold at about last rates, home buyers competing strongly with the export trade.

SPERMACETI.—Very scarce; 1s. 7d. per lb paid this week.

VANILLA.—Since last sales an advance of fully 3s. to 4s. per lb has been paid, fine Seychelles selling up to 33s. per lb.

THE PHARMACEUTICAL ERA.

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A. PH. A. OFFICERS.

We have just issued, and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the preseut.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address The Pharmaceutical Era, New York.

"PATENTS" TO BE SOLD BY REGISTERED PHARMACISTS.

There is one feature of the new Illinois pharmacy law which is a most important one, and which distinguishes it from the pharmacy laws of other States, and yet this feature has apparently not attracted the attention from the pharmaceutical journals and their readers, and even from the druggists of Illinois, which its nature and importance would seem to demand. By this new law none but a registered pharmacist can conduct a drug store, and no drugs, medicines or poisons can be sold at retail except in a store conducted by a registered pharmacist. The old law had a provision stating that nothing in it should be construed to prevent any person from selling proprietary and domestic medicines, but the new law contains no such provision.

This new enactment is, in fact, the hardest blow at retailing by jobbers which has yet been struck. If any of the jobbing houses in Chicago, and other Illinois cities, have ever been guilty of the naughty practice of retailing, here is an excellent chance for them to reform, for they have a most valid excuse for refusing to retail. The new law also closes the door to grocery and department stores. Nobody but wholesale druggists can sell patent medicines at wholesale, and, therefore, if the jobbers are sincere and wish to cut off grocers who supply cutters, they can say, what is the use of our selling these goods to you, for the law will not allow you to sell them in turn? The druggists of Illinois have secured a most valuable enactment for their protection, and if the law be properly administered by the board of pharmacy, there is no reason why the great cutting abuse, under which the retail trade has so long suffered in that State, cannot be pretty thoroughly eradicated. We understand that the druggists of the State are enthusiastic and will support the board of pharmacy in all its efforts to enforce the law, and the board itself announces a determination to see that all the provisions of the law are carried out.

One great defect of all our pharmacy laws heretofore has been that patent medicines were exempt from restrictions. This journal has contended, and in its contention has been supported by all having the best interests of pharmacy at heart, that these so-called patent medicines should, so long as they claim to be medicines, be included within all the provisions of the pharmacy law, and no exception be made in their favor. The patent medicine's great claim for support is that it is a curative agent, and many of them contain potent, even poisonous drugs, whose sale and administration should be confined only to the care of responsible and competent persons. Therefore, the Illinois fraternity is to be congratulated upon its success in placing this class of preparations where it logically belongs, in the drug store, so long as it continues to claim medicinal qualities and virtues.

"GENUINE" (?) COD LIVER OIL.

Some of the readers of this journal have been favored with a proposition which reads as follows: "I have discovered a very simple method to discolor Newfoundland oil to the finest, light color of new, pure Norwegian oil; taste and smell are greatly removed also. According to the present price of Norweg. oil, it should be advisable for you to take a-hold of my method. I use no acid, ether or heat, but a very simple thing, like the egg of Columbus. The price of my formula is $10, or, if sold to one party only in your city, $25. Hoping to be favored with your order soon, I am, ..."

It should not be necessary to caution the drug trade against such a fraud as this, but there are, in all lines of business, individuals who are only too ready to pursue illegitimate and fraudulent practices for the sake of a little gain which they may secure, and it is for this reason, among others, that we refrain from giving the name of the proposer of the above fraudulent scheme, and from exposing him as he should be exposed and denounced. We do not wish to advertise him, but to caution our readers, for there is undoubtedly some of this fraudulent, misnamed Norwegian oil on the market, and they should be careful in verifying and inspecting their supply. We cannot observe the swindler's request that his communication be kept "confidential."

THE MINUTE STRUCTURE OF PLANTS.

In this issue is presented the last portion of Dr. Rusby's valuable paper upon botany. He has presented a paper complete in all its details, and one which, mastered by the student, cannot fail to give him a thorough insight into the subject. He has taken up botany with reference solely to the gross structure of plants, their study as may be carried on without the aid of the microscope and simply by observation of their physical characteristics. What goes on

inside the plant, in its laboratory, where the mysterious forces of plant life perform those wonderful chemical operations, is hardly touched upon by the writer, and in this particular he leaves his subject somewhat incomplete. It is with pleasure, therefore, that we are able to announce a carefully prepared and thoroughly scientific paper devoted to the minute structure, the anatomy, of plants, which has been secured to round out and complete the subject of botany in this series of papers upon The Study of Pharmacy. Professor Smith E. Jelliffe, an associate and co-laborer with Dr. Rusby, is to supply this paper which in first installment will be published in next week's issue. It is an addition to the plan of the series as first mapped out, but we are sure our readers and students of these articles will appreciate this contribution as completing their study of that most important subject—botany. Dr. Jelliffe treats his subject, "The Minute Structure of Plants," in accordance with the latest researches and discoveries in this science, and his paper constitutes a well-considered, symmetrical, scientific and valuable contribution. As it will continue through some two or three issues of this journal, the following papers in the series are consequently deferred just so much longer.

SOME FEATURES OF NATURALIZATION.

The various causes which have developed racial characteristics have always been subjects of the keenest interest to the anthropologist and evolutionist. These are easily explained by some scientists, and it was only recently that we were favored with a discussion of a remarkable loss, occurring within a historical period, of the prehensile power of the big toe, formerly possessed by the Japanese. We forget which or what weighty theory of evolution this discovery was thought to most strongly support, and are equally in the dark whether the school of Weismann, the Lamarckians or the strict Darwinists derived most comfort from it. However, this prepares us to accept many of the modern theories for the differentiation of families of the same race, and the effect which climate and environment undoubtedly have upon the physical and mental constitutions of nations. For instance, the bicycle face carries us at a leap over the old questions of utility and natural selection, and brings us face to face with the question of the heredity of acquired characters.

One set of philosophers has found much in environment, even including sartorial matters, as a factor in shaping character, citing, for instance, the effect of the mere wearing of a plug hat upon a Hottentot, and the elevating influence which an old pair of army trousers exerts when worn by an Indian. Followers of this particular school of research in this city have recently been much interested in an instance illustrating their peculiar views, furnished by a well-known German importer of drugs and chemicals, who has always displayed the strongest evidences of his nationality, and has affected the finest scorn for one of our national weaknesses, popularly known as "eagle screaming." It is presumed that environment, in its unscientific sense, got in its baleful work in this instance, and its victim, believing the old adage that it is best to follow the example of the Romans while in Rome, attempted to Americanize himself, beginning with his feet, which, rumor has it, were of good honest German proportions. An endeavor was made to restrict their size by wearing tooth-pick shoes, and it was quite successful, barring a slight inflammation following the application of pressure, which necessitated the amputation of a toe. While the inconveniences attending this metamorphosis are deplored, and the sacrifice thus made to clear up a mooted point in anthropologic science is duly appreciated, the scientists of the drug trade are watching the case with great interest. If this attempt at more complete naturalization is a success, our views and methods will have to undergo a modification, and the work of our courts in issuing papers may extend beyond inquiries as to a person's age and length of residence in this country.

THE HANDSOMEST ADVERTISEMENT.

It will be remembered that readers of the Era were requested to send in their votes upon the handsomest advertisement in the special price list edition of Oct. 10. It is an agreeable announcement to make that very liberal response to this request was brought out and that we have received the pleasing total of 1,968 votes cast. From the tabulation below it is shown that the result of this voting contest has been somewhat analogous to that which attended the national election of Nov. 5, inasmuch as there is a decided "landslide." One firm alone gains more than half of the votes cast, which may be taken as very emphatic evidence that its advertisement was without question the handsomest presented in that issue. The Cosmo Buttermilk Soap Co. is to be congratulated upon its winning 1,040 of these votes, and as a further pleasurable experience it becomes the recipient of the special $100 prize offered by the publishers of this journal.

Cosmo Buttermilk Soap Co.	1,040
F. Ringler & Co.	368
Low Art Tile Co.	144
Johnson & Johnson	125
Ferd. Ruttman & Son	108
F. Stearns & Co.	105
Scattering	78

But while the advertisement of the winning firm is thus adjudged the handsomest, it must not be understood that the others were not handsome. They were all sufficiently attractive to call forth very decided expressions of approval, and the matter becomes one of comparison simply, of handsome, handsomer, handsomest. We only wish that all of our readers had taken the trouble to vote on this question, for we know that all of these advertisements, and the others included within the number, attracted their attention and called forth their commendation. Readers of the pharmaceutical journals pay particular attention to the advertising pages, and the experience of any advertiser will abundantly substantiate this assertion. We congratulate the advertising firms upon the high class of patrons to whom they appeal, and we congratulate the retail druggist upon the standing and integrity of the houses which cater to his trade.

CONSOLIDATION OF NEW YORK PHARMACY BOARDS.

The approaching session of the New York Legislature will naturally cause a ripple of anticipation on the part of those citizens who are not satisfied with the thousand bills, more or less, which were passed last winter, and still want something done or undone. The pharmacists of this State are among this number, and one of the projects which is likely to, and should engage attention is that of securing a uniform pharmacy board law for the entire State.

As matters now stand we have four boards of pharmacy within the State, viz., the State Board, and those of the three counties in which New York City, Brooklyn and Buffalo are situated. This state of affairs is easily explained in the fact that these cities, feeling the need of pharmacy laws before the country districts of the State recognized this necessity, obtained such legislation. The State, however, soon caught up with this forward movement, and from that time until the present amendments have been proposed and added to the pharmacy laws, until it is a positive affliction to be compelled to read them and construe their varying requirements. We have been wont to indulge in criticism of the State of Texas for maintaining a pharmacy board in each congressional district, but the Empire State is worse with its various boards working under different laws. There is now a growing sentiment among pharmacists of the entire State that this cumbrous machine should be reconstructed upon a more simple basis, by either employing new material or by throwing away some of the old wheels.

The State Pharmaceutical Association at its meeting at Saratoga last summer proposed some legislation for improving the laws, and we presume that its recommendations will form the basis for whatever work its legislative committee may do before the Assembly or Senate this winter. But the propositions seem too much like adding another patch to the quilt—it may be a larger patch than usual covering two smaller ones, but we believe an entirely new spread is wanted. The project is characterized as an entering wedge, and it is tritely contended that we must be satisfied with what we can get, not with what we want; that such things must be approached gradually, etc. It is also hinted that mysterious and intense opposition exists against additional pharmacy legislation, and that it takes an operation similar to tooth-pulling to get it. This is undoubtedly true to some extent, and this opposition is a thing which

we would like to see out in the open where it can be counted and fully sized up.

We do not blame the average legislator for feeling a distaste for further pharmacy legislation. This particular tree has been grafted upon so frequently and shows so many scars where added growths have failed, that he must feel chary about any more experiments in this line. Perhaps he is suspicious of the high and lofty purpose which is always displayed when the druggists ask to be reformed for the good of the public. He may also see something peculiar in the recommendations which the N. Y. S. P. A. will possibly present at the coming session. It asks that each licensed pharmacist pay to the State Board of Pharmacy $2, and each assistant $1, yearly, for the renewal of license. This makes all pharmacists eligible to membership in the State Association without the payment of any further sum. The State Association is to elect a Registrar of Pharmacy for a term of five years, to whom the governor is required to issue a commission. His cost is to be $1,500 per year, salary and expenses. He is required to personally investigate all complaints made by any of the several State boards, keep statistics, render reports, etc. "He shall devote his entire time to the service of the New York State Pharmaceutical Association, and the various boards of pharmacy in the State of New York. He shall perform all the duties of secretary of the New York State Pharmaceutical Association without further compensation." It is also suggested that the treasurers of the several pharmacy boards of the State shall pay over to the treasurer of the State association all funds received from renewals of license.

Briefly, every druggist in the State is to renew his license yearly and pay $2. This money is to go, not to the State, but to a private institution, the State Association, and the latter is to furnish a Registrar who will be commissioned to look after pharmaceutical things in general all over the State. The druggist may belong to the State Association and thus pay the money to himself corporately, or he may not belong, just as he chooses. Now, this may be all right from our own standpoint as pharmacists, but is it quite the proper thing with which to approach the average legislator who doesn't care a rap for the drug trade, or is at best but passively interested in the welfare of the druggists of the State? Is he liable to think that pharmacy laws will be better enforced when a private society looks after their enforcement? We say, of course, that they will be, but he will undoubtedly think that legislation restricting a class is not best enforced by that class. How would a law providing that moneys received for excise licenses be turned over to an association of liquor dealers to enable it to enforce excise laws, strike the average druggist? Is it much wonder that wholesome pharmacy legislation is hard to secure?

Will it not be wiser to attempt to simplify the laws we already have and consolidate the boards, and thus furnish a better foundation to build upon? If there is opposition to this let us hear it. The time to discuss the matter is now. If there are two sides to the question, let each side speak its piece.

PRACTICAL HINTS.

——Fair-minded competition and healthy rivalry, combined with the straightforward management of your business, will do more toward crowding to the wall monopolies, cutting and other trade abuses than anything else. At the same time these conditions tend toward making more reasonable prices.

——Sponges should be kept in a case with a glass door or lid to keep out the dust and dirt. Place one or two damp sponges in the case and the rest will be kept soft and rendered much more attractive and salable. Soft sponges are less liable to be torn than when dry and brittle from exposure to air. The quality of sponges is deteriorated by keeping them in an open basket or rack where they attract and absorb dirt.

——A great many druggists claim that they don't push patent medicines—they simply supply the demand as it comes through the efforts of manufacturers. This is, perhaps, proper, but this outside push sometimes slackens, and the druggist finds that some articles remain on his shelves too long. It is a good idea to go over this stock occasionally, taking note of the slow sellers and the odd sixth and quarter dozens, and try to work it off.

——Many rubber goods are spoiled by prolonged exposure to cold, and to too great heat. Cushions made of rubber should never be stored or put away in a folded state. In selling an ice bag is it a good plan to recommend that the customer, before filling it, chop the ice in small pieces, so as to prevent the sharp edges from cutting the bag. The same result may be accomplished by dipping the pieces of ice in warm water to melt away the edges.

——Druggists as business men should give more serious consideration to buying goods, both as to quality and quantity. Do not allow yourself to be persuaded into taking larger quantities of any article than you need, or than you can legitimately handle. It is a serious mistake to stock unusual quantities of any class of goods because of an extra 5 or 10 per cent. offered by some enthusiastic agent who always forgets to tell you that the extra allowance will be more than absorbed by interest on the time investment. The best merchant is the man who accomplishes legitimately the most business with the least capital invested.

——Keep a scrap book. It is an old "hint," to be sure, but it is one which will bear repetition. Many valuable suggestions are lost by neglecting to clip them out when they first strike the attention. Often times hints thus picked up and saved contain just exactly the thing necessary to aid in discharging a duty, filling a want, or assisting in an emergency. Formulas, information about new remedies, rare drugs and advertising hints, business suggestions, etc., not found in the files of your journals (which of course you save) should be preserved. Hints thus picked up cost nothing more than the time necessary to cut and file them, and they may be money-makers for you.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

The activity of the ice and coal men suggests a similar movement upon the part of the druggist with regard to winter harvests in certain fields of trade. The hot water bottle business has not been pushed for all there is in it. There are lots of people yet to be educated upon this matter, and, as we have said before, it is a good idea to have the educational movement emanate from the drug store, to convey the idea that the druggist is a sort of Columbus of hot water bags. The habit of using such an article is one which grows and becomes firmly fixed, so that present advertising is also advertising for years to come. There are many uses for hot water bottles which people do not think of, and our sample advertisement is a hint in that direction. We are preparing others to further carry out this idea.

(No. 40)

The secret of success is often in adapting available means to certain ends. The hot water bag or bottle beats the old-fashioned hot brick, and makes sleigh-riding an enjoyable success. The hot water bottle has so many uses—as a foot warmer, as a means of applying heat in sickness, and even as a factor in sleigh-riding, that every family should have from one to half a dozen. At our prices every family can, as we are selling them for 75c., 90c., $1.25 and $2.00 each.

KNIGHT & DAY, Druggists.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

TO PRESERVE BOOKS IN THE TROPICS. There is used in the Madras Museum, says Kew Bulletin (Ph. Jr.), as a protection against white ants and other insects a solution made as follows: Corrosive sublimate, 1 ounce, and carbolic acid, 1 ounce (or thymol, ¼ ounce), are dissolved in methylated spirit, 2 pints. This mixture is carefully and freely applied about the bindings and among the leaves of the books by means of a soft brush.

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[Continued from page 615, November 14.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXIV. BOTANY.

[*Concluded.*]

By Henry H. Rusby, M. D.
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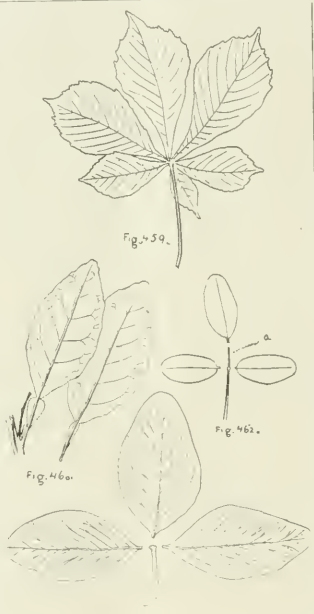
THE LEAF. (Continued.)

Before proceeding to speak of the forms of compound leaves, it should be stated that when one of the terms above defined (and the same is generally true of descriptive terms used in other parts of the work) terminates in the ending *ate* or *oid*, it sometimes indicates that the condition tends toward but does not quite reach that named by the term to which the ending is appended. For example, triangulate means inclining toward triangular. The student will also note that between nearly all the forms of leaves and the characters indicated by the terms above defined, there are intermediate forms connecting them with others. Inasmuch as it is necessary in description for such forms to be indicated, the method is resorted to of employing the two terms connected by a hyphen. Thus, Lance-ovate, or Ovate-lanceolate (Fig. 412a) indicates that the form is intermediate between lanceolate and ovate; crenate-dentate and serrate-dentate are similarly employed. A similar intermediate condition is sometimes indicated by prefixing the term *sub*, thus sub-cordate, sub-sessile, sub-acute. Other intermediate terms very commonly employed are acutish and obtusish.

A continuation or extension of the pinnately or palmately parted condition into that of the true compound leaf gives us the Pinnate (Figs. 391, 465 and 466), or, on the other hand, the Palmate or Digitate leaf (Fig. 459). Before proceeding to define the distinct forms of the two classes, we note that it is not always possible to identify them with readiness. For example, the ancestral form of the leaf of the orange was pinnate, but at the present time we find that only the terminal leaflet remains, there being usually at the base more or less of an indication of the two lateral leaflets which once existed (Fig. 460). Such a leaf cannot, therefore,



be properly designated as simple, and we designate it as a Unifoliolate compound leaf. Compound leaves with three leaflets, usually designated as Trifoliolate, frequently give us considerable difficulty in determining whether they are pinnately or palmately compound. The question is to be decided in accordance with the point at which disarticulation occurs. If palmate, the base of the blade must be the point at which the three petioles separate, so that when disarticulation occurs no rhachis will remain extending beyond the point of attachment of the two lateral leaflets (Fig. 461). In the pinnate form such a rhachis (Fig. 462a), although frequently very short, does exist. In the natural order, Leguminosae, the question of whether a leaf is pinnately or palmately trifoliolate is of fundamental importance in classification. A three-parted palmately compound or divided leaf is called Ternate; a five-parted one Quinate, a seven-parted one Septate. A palmatifid (or palmate) leaf, with very narrow divisions, is called Pedate (Fig. 464). If the divisions of such a leaf are similarly compound or divided, appropriate terms are formed, such as Bi-ternate (Fig. 463), Ternate, and so on. Similarly named subdivisions of the pinnate form exist, the bipinnate (Fig. 463a), tri-pinnate, and so on. The primary leaflets of a pinnate leaf are called Pinnae, secondary ones and those of higher rank, Pinnules. These terms are also sometimes applied to the similar divisions of pinnatifid leaves. Just as we have found that the number of pairs of primary veins of the simple leaf is generally characteristic of the species, so we find that the number of pairs of pinnae, technically known as Jugae, is equally so. This number, therefore, should always be stated, the leaf being designated as Bi-jugate, Tri-jugate, Multi-jugate and so on. Two classes of pinnate leaves are recognized, in accordance with their termination in a pair or a single terminal leaflet. Those ending in a pair (Fig. 465) are called Pari-pinnate, Even-pinnate, or Equally-pinnate, the others (Fig. 466) Impari-pinnate, Odd-pinnate or Unequally-pinnate. When the divisions of a pinnate or a pinnatifid leaf are alternately large and very small (Fig. 467), it is called Interruptedly-pinnate or Pinnatifid. When the leaflets or divisions are turned backward so that they point more or less in the direction of the base (Fig. 468), the leaf is Runcinate. When the terminal division is very much larger, especially broader, than the lateral, the leaf is Lyrate (Fig. 469).

Coming now to consider the subject of characteristic modifications in the form and function of the leaf, we note that some of them refer to the entire leaf, others to its individual parts. We also note that in some of the modifications the entire leaf or one of its parts retains the ordinary functions of absorption and assimilation, the new function being added thereto either by partial change of the entire leaf, or the complete modification of one or more of its parts, while at other times the original functions are entirely suppressed.

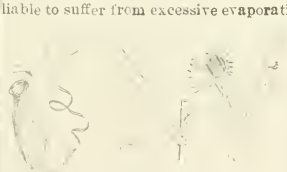
The function of absorbing and assimilating the ordinary forms of nutriment is sometimes supplemented by that of absorbing and assimilating animal tissue. In this case the leaf provides special forms of apparatus for enticing, intoxicating or mechanically catching, killing and digesting the animal, commonly an insect. One of these forms is illustrated in the pitcher plant (Fig. 470), in which one portion of the leaf becomes converted into a vessel

containing liquid of variable origin and complex composition. Upon the outer portion of the pitcher a line of glandular tissue stretches downward. The insect feeds upward along this line of secretion, which so changes its nature toward the apex of the pitcher, that at the time that the insect reaches that point he is more or less intoxicated, and on crossing the margin, or quickly thereafter, falls into the liquid and is drowned, digestion promptly occurring by means of enzymes excreted into the liquid by special glands located upon the inner face of the pitcher.

Another form is the well known Venus' fly trap (Fig. 471), which secretes a nectar by certain glands which surround its margin. The insect alighting upon this point is instantly seized through the spasmodic coming together of the two lateral halves of the leaf, which act precisely like the jaws of a trap. Thus secured, digestive fluids are immediately poured forth from special glandular tissues on the leaf surface and digestion and absorption take place. That the nutrients thus absorbed are of service to the plant has been proven by elaborate experiments, in which the effects of such feeding have been estimated and compared with the reproduction by other similar plants, similarly treated in all respects except that they were deprived of this form of food.

In other cases the plant being nourished by means of fully prepared nutrients absorbed from other leafy plants (host-plants) upon which they are parasitic, the leaves lose the chlorophyll tissue upon which their ordinary functions depend and are known as Etiolated leaves. They become reduced in size and scale-like in form.

Plants which grow in excessively dry or desert regions, and which are thus very liable to suffer from excessive evaporation,



ordinarily have their leaves modified in some way so as to guard against this tendency. They may become merely reduced in size or may be otherwise modified so as to reduce the amount or the degree of activity of their epidermal tissue, or they may disappear altogether, or become transformed into organs of a different character. In one of these forms the leaf becomes converted into a spine, or a group of spines, each consisting of one of the teeth. In this condition the leaf serves an important function in protecting the plant against destruction by desert animals. At other times the blade (Fig. 472a) entirely disappears, a new blade (Phyllodium, Fig. 427b) of much less activity as an evaporating organ, becoming formed by the flattening out or expansion of the petiole (c). A phyllodium is readily distinguished from a leaf blade in that its broad surfaces are directed laterally instead of vertically, as in the true lamina.

Leaves or their petioles frequently become modified into floating organs in aquatic plants, as in the case of the bladdery-inflated petioles of the Eichornia (Fig. 473a).

Somewhat similar inflated organs exist upon the petioles of some plants and serve as the homes of colonies of ants, which are efficient in protecting the plant against the attacks of certain animals (Fig. 474a).

The office of climbing is frequently performed by a portion of the leaf. In some cases, as the Clematis (Fig. 475), the petiole of the leaf becomes twining for this purpose. At other times the apex of the rhachis (Fig. 476) becomes a tendril, either simple or branching, while at others the entire leaf becomes thus modified. In the Smilax (Fig. 477) it is the stipule which is thus changed. In other cases (Fig. 478) climbing is effected by means of hooks developed upon some portion of the leaf.

Besides protecting the plant by becoming converted into spines or spine-bearing organs, as above described, the leaf is subject to various other modifications having this object in view. Reference has already been made to such modifications in the form of bud scales. For the protection of the flower exists the epicalyx and such scales, called Floral Leaves or Bracts, as have been described in our opening account of the flowers of the willow.

Floral leaves or bracts do not always exist merely for purposes of protection. In very many cases they are functionally a part of the flower structure, surrounding either single flowers or clusters of flowers, and serving by their large size or brilliant colors, or both, to attract insect-visits, precisely the same as has been described in reference to the perigone. Through the floral bracts thus modified we get a direct transformation into the parts of the perigone as has already been sufficiently explained. It is also important to note that a direct relation is to be

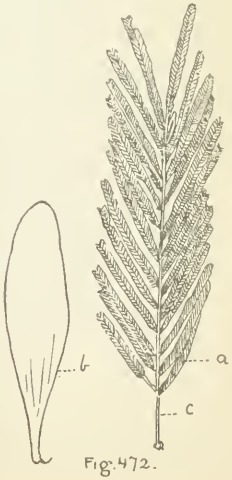


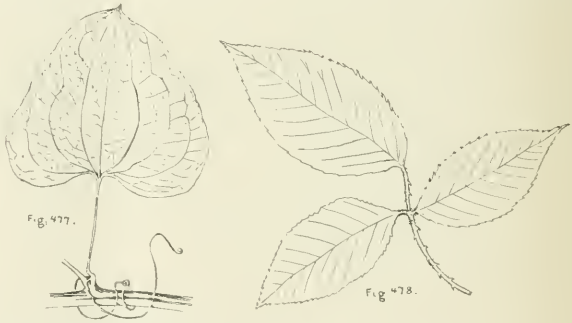
Fig. 472.

traced between the definite arrangements of foliage and floral leaves, as will be considered under Phyllotaxy, and the arrangement of the parts of the flower itself. So the characteristics of praefloration are seen to be directly dependent upon the phyllotaxy.

PHYLLOTAXY.

In view of the established fact that the development of the branches follows that of the leaves, it becomes clear that the arrangement of the latter determines the entire symmetry of the plant, with all the far reaching consequences in connection with both vegetation and reproduction. Certain definite laws of phyllotaxy having been ascertained, the forms resulting become, in their different manifestations, of nearly fundamental importance in classification and in diagnosis. We find that either one or more than one leaf is developed from a node. In the latter case the arrangement is called Verticillate or Whorled, and the circle a Whorl or Verticel. If the Whorl contain but two members, they are called Opposite—that is, the centres of their points of insertion are separated by one-half the circumference, or their Divergence is 180 degrees. Usually the other nodes are similarly clothed, except that in all of the higher plants the leaves of each pair Decussate with those of each adjacent pair—that is, a leaf of one whorl is over the centre of the sinus of that next below and that next above (Fig. 479). Four vertical rows (Orthostachies) of leaves thus appear upon such a stem (Fig. 480). If, instead, there be three leaves to the whorl, six orthostachies will result; if four, eight; and so on. It frequently happens that the number of leaves in the upper or lower whorls will contain only half the number of leaves in the others, and still higher up the whorled arrangement may be lost, the leaves becoming arranged as in the form next considered.

By the other arrangement the nodes produce solitary leaves, so that each leaf is successively produced at a higher level. If a line be traced from the point of origin of one leaf to that of the one next above, and continued in the same direction, so that it exactly meets the point of insertion of another, and then of another, and so on, it will at length meet one exactly over the point of starting—that is, a second leaf in the same Orthostachy (Fig. 481). It will then be found that the line followed is a spiral, which has passed once or more around the stem. Such a spiral is called a Cycle, and if its line be continued it will form other similar cycles above and below. It is observed that a cycle will be limited by two adjacent leaves of one Orthostachy. Thus, if leaf No. 4 is the next in the orthostachy, to which leaf No. 1 belongs (Fig. 482), three leaves will belong to that cycle. A cycle containing three leaves makes but one turn of the stem. A cycle is expressed in the form of a fraction, its numerator indicating the number of times it encircles the stem, its denominator the number of leaves which it includes, so that the cycle last described must be indicated by the fraction one-third. If the next leaf in the same orthostachy as No. 1 be No. 6 (Fig. 483), then that cycle will contain five leaves.



A cycle containing five leaves makes two circuits of the stem, so that its exponent will be two-fifths. If the second leaf were No. 9 the appropriate fraction would be three-eighths, the cycle making three turns and containing eight leaves (Fig. 484). It will thus be observed that these fractions form a series, in which each possesses a numerator equal to the sum of the numerators of the two preceding and a denominator equal to the sum of the denominators of the two preceding. No cycles occur among the higher plants with which we are concerned, which can be indicated by any fraction not thus formed.

Noticing these fractions still further, we observe that the denominators will indicate the number of orthostachies upon the stems which they represent, and that the value of the fraction will represent the divergence of, or part of a circle between, any two leaves adjacent in the cycle or spiral—that is, the number of degrees between such leaves will equal that fractional part of 360 degrees.

As to the direction which the spiral takes, it may be either from right to left or from left to right. It is supposed that each kind of plant, at least of the higher classes, produces two forms or "castes," depending in some not yet perfectly determined way upon the relative positions of the respective ovules from which they originate. The tendency of these two castes to manifest their growth or development in opposite directions has been called Antidromy.* Among numerous other phenomena attributed to antidromy is this starting of the leaf-spiral in opposite directions in plants of the two castes of any species with this form of phyllotaxy.

Occasionally leaves appear to be irregularly disposed upon the stem—that is, they are not whorled, nor does the law of alternate phyllotaxy appear to apply to them. This arrangement is called Scattered, and the explanation is different in different cases. When a stem is so shortened that the leaves are crowded upon it in the form of a regular rosette, as in the house leek, the arrangement is called Tufted. When similarly short, but the leaves few and irregularly crowded in a little bunch, the arrangement is Fascicled.

The two regular forms of leaf arrangement above described can be traced in greater or less perfection through floral bracts and involucres and into, and in many cases partly or wholly through, the flower itself. While such arrangement in the flower is in many cases entirely verticillate, and in most cases partly so, it has been quite clearly shown that many flowers have certain of their parts arranged upon the spiral plan.

ANTHOTAXY.

That part of a stem or branch which bears the flowers, or the flower when solitary, is more or less distinctly modified in form, surface and extent and character of branching, and frequently also in the direction taken in the arrangement of its parts. In connection with its flowers it is called the Infloresence. The portion of an inflorescence which is be-

*See article by Professor George Macloskie, in Bull. Torr. Bot. Club, XXII., 379.

Fig. 479

Fig. 482

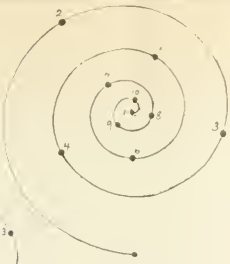


Fig. 483.

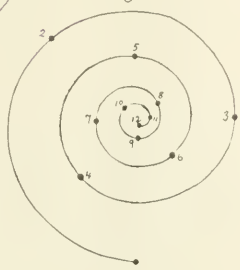


Fig. 484.

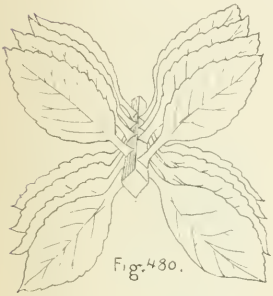


Fig. 480.

Fig. 481.

low its lowest point of branching or flowering, or below the flower when solitary, is called the Peduncle (Figs. 485 and 489a). This name is also applied to the corresponding portion of a branch of an inflorescence if that branch bear more than one flower, it being in that case a Secondary Peduncle (Fig. 494d). If the peduncle is continued above its first point of branching, in the form of a central support along which the succeeding branches are arranged, this portion is called the Rhachis (Figs. 489b and 492a). A peduncle which rises directly from or near the ground is called a Scape (Fig. 485a). The stem of one of the individual flowers of an inflorescence of more than one flower is called a Pedicel (Figs. 490 and 494c). A flower or an inflorescence may be devoid of pedicel or peduncle, when it is Sessile. The arrangement of flowers is called their Anthotaxy, and this name is also applied to the study of inflorescences.

The arrangement of the inflorescence-leaves and their floral branches, while based upon the phyllotaxy, and traceable thereto in most cases, exhibits more or less real or apparent departure therefrom, and calls for special designations and classification. The forms are divided into two series in accordance with the apical or lateral location of the initial flower—that is, the flower which is first in order of development. If the terminal bud develop into a flower (Fig. 485) its further extension is impossible, except by the rare and abnormal process of Proliferation. Inflorescences so limited are therefore called Determinate or Definite. Although vertical extension of the original stem of a determinate inflorescence is not possible, it can apparently take place through the branches, the same as in other sympodia. The effects of such development are the same as in other forms of sympodial growth in which there is a transformation of the apex of the original stem—as, for instance, in our explanation of such a mode of development of the tendril (Fig. 356). To apply this principle in the case of an inflorescence we have only to assume a flower developed at the tip of every branch in Figs. 373 A, B and C. Flower A would develop first; B, although the second in order, and hence a branch, and afterward C, would be more elevated, and would thus seem to prolong the vertical extension of the stem. The development, being successively by nodes whose original points of origin were successively lower than that of the terminal flower, is structurally and really Descending or Basipetal, even though by the upward growth of the successive branches they be at successively higher levels, the order apparently in the opposite direction. By the development at each node of a pair of opposite branches we get the apparent bifurcating or dichotomous form (Fig. 373A). If but one branch grow from a node, and these successively from right to left, the zig-zag or Flexuose form of rhachis is produced (Fig. 373C), and if constantly from the same side, or apparently so, the Circinate (Fig. 373B). The descending or basipetal nature of the definite inflorescence is clearly

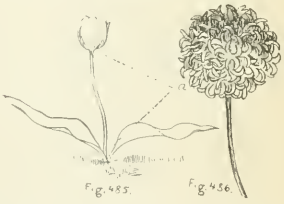


Fig. 485. Fig. 486

shown when the successive branches remain short, each successively developed flower remaining at a lower level than that which preceded it. Instead, however, of assuming either of these two states, in which the flowers remain at different levels, the branches may radiate and elongate to different degrees, ceasing their elongation when their flowers have

Fig. 487.

been brought to a uniform height, so that a more or less flat-topped inflorescence results, the order of development being

Fig. 488.

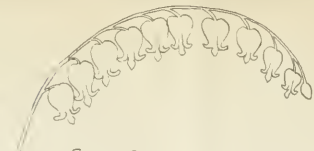


Fig. 491

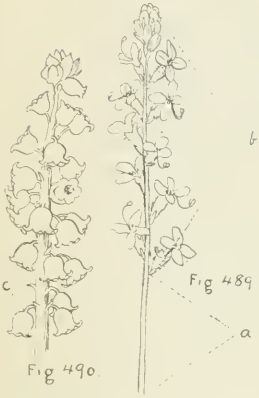


Fig 489

Fig 490

from the centre outward, or Centrifugal, as in the branches of Fig. 494. This form represents the true Cyme, and because of their relationship to it this entire series of inflorescence is often denominated the Cymose. It will thus be seen that in different forms of the cymose inflorescence we may have the flowers (a) all brought at length to a uniform level (b), those successively later developed brought to successively higher points, and (c) those left at successively lower levels. This fact demonstrates that the cymose or descending nature of an inflorescence cannot be determined by noting the relative heights of the flowers themselves, but only by noting the order of their development.

In the other series the first flower to develop is structurally the lowest of the cluster, the succession being upward, Ascending or Acropetal (Figs. 489 and 490). If the successive branches develop less rapidly than their predecessors the result is again a flat topped inflorescence with the development from the outside to centre, or Centripetal (Figs. 487 and 488). The branches and flowers may be separated on obvious peduncles and pedicels, or these may be not apparent, the flowers being sessile. In accordance with the characters above explained, we obtain the following simple forms of anthotaxy:—

Series 1.

Ascending, Acropetal, Indefinite, Indeterminate, Centripetal or Botryose Forms.

A. With the rhachis not elongated.
   1. The Capitulum or Head, with the flowers, and branches if any, sessile or so regarded (Fig. 486).
   2. The Corymb, with the rhachis manifest, though short, and its pedicels or branches elongated so as to produce a flat-topped inflorescence (Fig. 487).
   3. The Umbel, similar to the Corymb but with the rhachis not manifest, so that the pedicels or branches all appear to start from one point at the summit of the peduncle (Fig. 488).

B. With the rhachis elongated.
   4. The Spike, with the flowers, or branches, if any, sessile or so regarded (Fig. 489).
   5. The Catkin or Ament, a spike, with slender rhachis and bearing usually staminate or pistillate flowers, crowded and subtended by scales (Figs. 8, 12 and 15).
   6. The Raceme, similar to the spike or ament, but having the flowers pedicelled (Figs. 490 and 491).

   When either the head or spike possesses a thick, fleshy rhachis it is called a Spadix (Figs. 492 and 493).

Series 2.

Descending, Basipteal, Definite, Determinate, Centrifugal or Cymose Forms.

1. The Glomerule, corresponding to the head in all respects save that the central flower first develops.
2. The Fascicle, similar to the glomerule except that the flowers are few and loosely clustered.
3. The Cyme. Similar to the corymb or umbel, save that the central flower is the first to develop (Fig. 494).
4. The Scorpioid Raceme. Similar to the raceme, except that each successive node and flower upward is lateral to that next below. The apex of the scorpioid raceme is circinately coiled (Fig. 373B).

Before proceeding to consider certain special forms and modifications of the inflorescences above defined, it should be remarked that most of the forms may be compound. By this we mean that the cluster is made up of a number of branches whose order of development is the same as that of the elements of which they are composed. That is, the raceme may possess a number of branches, each of which is a smaller or secondary raceme, or if not a raceme, at least a small inflorescence of the ascending or centripetal form. Similarly an umbel may be made up of branches, each of which is a smaller umbel, the Umbellule. A cyme will be made up of cymules, and so on. A Panicle is a compound raceme which assumes the form of a pyramid. Any form of inflorescence not a true panicle, but assuming the shape of one, is styled Paniculate.

Complex forms of inflorescence differ from the compound in that the order of development of the several flowers upon a branch is of the opposite kind from that of the several branches themselves. For example, the Thyrsus or Thyrse is a paniculate form in which the lowest branch is the first to develop flowers, so that the order of development of the branches is ascending, but within a branch the terminal flower will be the first to develop, so that the order of development of its flowers is descending.

Fig 493. Fig 492

Fig. 494.

The term Hypanthodium has already been defined in considering the forms of the fruit, under Multiple or Collective Fruits. The same term is applied to an inflorescence yielding the collective fruit of that name (Fig. 495). It is in reality nothing more than a head closely subtended, surrounded or enclosed by an involucre (a). The hypanthodium is characteristic of the great family Compositae and is of so much importance in classification that its modifications call for special attention. The involucre should be studied as to whether it is single, double or multiple—that is, whether it consists of one, two or more circles of scales; as to

Fig. 495

whether these are equal in length or whether the outer or inner are successively shorter; whether they are entirely free and distinct, or adnate by their bases or connate by their margins; as to whether they are appressed, or with more or less of their apical portions recurved or spreading; especially as to the general form of the involucre as a whole, the terms used being the same as those previously applied to the perigone, and as to the characters of the individual scales, these being practically the same as those which have already been considered in connection with the leaves. The body consisting of the combined tori of all the flowers of the hypanthodium is called a receptacle (b). It is to be studied as to its being solid or hollow; as to its general form, and especially the form of its upper surface, whether concave, plane, convex,

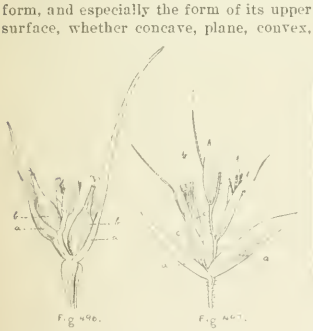


Fig. 496. Fig. 497.

rounded or conical; as to its being smooth in surface, honeycombed or otherwise pitted (foveolate), and if the latter the special characters of the pits and their margins; and as to its being naked or clothed with hairs or scales, and the characters of the latter. The head is then to be considered as to the character of its flowers. If these are all similar, the head is said to be Homogamous; if different, Heterogamous. If the flowers are all ligulate, the head is Liguliflorate. If it possesses a disk (c), of tubular flowers (d), it it Discoid. If this disk is surrounded by one or more circles of ligulate flowers called Rays (e), it is Radiate. If the ray flowers and disk flowers are of the same color, the head is Homochromous; if different, Heterochromous. The flowers must next be studied as to their sex. The ray flowers are commonly pistillate, while the disk flowers are perfect, or the disk flowers may vary among themselves in this particular. Very commonly the ray flowers are entirely neutral. Even if pistillate they may be sterile. If both classes of flowers are fertile, the akenes which they produce may be heteromorphous, those of the disk being commonly compressed, those of the rays commonly triquetrous. Occasionally the heads are dioecious or monoecious. In one tribe of the Compositae the flowers are bilabiate. The character of the pappus (Figs. 61 to 68B) is invariably of the utmost importance, as are the forms of the style-branches and the appendages borne by these at the apex and by the anthers at apex and at base (see Androecium and Gynoecium). Many special terms are applied to the forms of inflorescence leaves or bracts. A single large bract subtending, surrounding or enclosing a spadix, is called a Spathe (Fig. 493).

One group of natural orders, the grasses and grass-like plants do not possess any obvious perigone, its place being supplied by peculiarly formed adapted and arranged bracts in the form of scales or chaff, and technically called Glumes, which give to this group of orders the title Glumaceae. In the rushes these glumas really are a true perigone, which is trimerous. In the sedges (natural order Cyperaceae, Fig. 496), the scales (a) are solitary, subtending each flower. In the grasses (natural order Gramineae) the glumes are arranged in pairs, each pair subtending a short branch, which may bear only one, several or many flowers, the whole known as a Spikelet (Fig. 497). Typically there is besides the two glumes of the spikelet (a) an additional pair of scales for each flower. Thus, if there be but one flower in a spikelet, it possesses two pairs of scales. If more than one, then there is a separate pair of scales for each flower, besides the one pair pertaining to the spikelet as a whole. The scales of the spikelet are called the Glumes, Glumes Proper, or Lower Glumes; those of the individual flowers (c) Palets or Upper Glumes. Much complexity in the relations of the glumes ensues as a result of suppression of both glumes or both palets, of one of either or of each, or of two of one and one of the other, and so on. The character of the individual glumes must be carefully studied, as in the case of the involucral scales of the hypanthodium. The character of the terminal appendages which they bear is of special importance.

With this study of the inflorescence we are brought again to the individual flower, with the study of which we commenced.

(Concluded.)

The next paper in this series will be, by Smith Ely Jelliffe, M. D., on Plant Anatomy.

A PRACTICAL SIMPLIFICATION OF THE METRIC SYSTEM.

In the Oct. 24 issue of this journal was published an article by Mr. E. L. Milhau on this subject. He now supplies the following additional information, necessary to give due prominence to some points in the former communication.

"This system of measures already used by twenty nations has been legalized in the United States, Great Britain, Russia, Japan and the twenty-eight treaty ports in China. No nation adopting it desires to return to its old ones. It is the only complete system in use by any two nations in common. It is recommended in Parliament to render it compulsory in England in two years. Its willing adoption into use here depends much on some simplification, of which it is easily capable.

"First Consideration.—An American citizen cannot be expected to tolerate the elaborate cumbrous metric nomenclature any more than he would such a table as ten dollars make a dekadollar, ten dekadollars make a hectodollar, ten hectodollars make a kilodollar, and so on, substituting Greek for Arabic numbers.

"Second—The initials answer admirably for indeclinable symbols, and names in place of the polysyllabic titles. K, L, M, surpass even the familiar signs $ and £ in that they are pronounceable as written.

"Third—K is the appropriate unit for commercial purposes, as established in British India.

"Lastly, the notation must be the same as that for our money. Thus write and say: K1.60, 'one kay sixty;' like $1.60, 'one dollar sixty;' instead of saying 'one kilogramme and six hundred grammes.'

"Of all the abbreviations K, Ko, Kos, Kil, Kilo so common in price lists and print, K alone is defensible, as the others stand specifically for 'thousand.'

"All the things here collectively set forth have abundantly sufficient precedent to be established by statute.

"Fifteen titles represent the whole metric system and will completely replace our eleven heterogeneous tables, viz.: Avoirdupois, troy, apothecaries, liquid, beer, dry, long, road, land, square and cubic measures. Thus:

"K, L, M, which multiplied by 1,000, give respectively, T (tonneau), S solid or cubic M), Kilom (1,000 M, or ⅔ mile). The hundredths are ck, cl, cm. The mills or thousandths are G, mi, mim. A (area, 10 M sq.), HA (hundred A), micron (1/1,000 mim)."

(Written for the Era.)

THE FAMOUS HOLLIS POISONING CASE.

Being a Detailed Account of the Tragedy and of Druggist Ayer's Connection with it.

By HOWARD FIELDING.

(Continued from p. 617 Nov. 14.)

This story was commenced in the October 10th issue.

VII.
THE PRISONER.

"Blast the luck!" whispered Stanley. "I knew it would be so, but your confidence when you began the test fooled me. I thought you must have found out that the thing was all right."

"It's all wrong," said Ayer. "Of course, this settles it. I can go on and make a determination that is chemically exact, but you know how it will come out. There's eserine here."

"Hush!" whispered the doctor. "That infernal policeman——"

"He can't hear me. And I don't know whether it makes much difference, anyway. I have decided to clear Hollis."

"No doubt it's the right thing to do. But don't make it any more public than you have to. There are ways of getting around such things. Perhaps the affair can be hushed up."

"You know better, old man."

"Have you thoroughly made up your mind?"

"I have; yet there is one more test to make."

"What's that?"

"Why, you see, my friend, the mere fact that there's eserine in this solution doesn't prove that the error was mine. It may have been added afterwards."

"True. We must test for strychnine."

"Precisely. It would be a mistake to overlook the fact that there is considerable evidence against Ed. Hollis. I myself have seen what I took to be a confession of guilt in his face. Then there is a bit of evidence I picked up in Dr. Gordon's office. I'll tell you about that later."

"Tell me now. Don't worry about that policeman. He'll go to sleep in his chair, and be glad of the chance."

Ayer related the incident of the scrap of paper.

"By the eternal heavens," whispered Stanley. "It would be a curious thing if you and Ed. Hollis had conspired, unconsciously, of course, to poison the old man. What a coincidence if it should prove that you and he both gave him eserine."

"It may be so," replied Ayer. "I've learned a few things lately about the possibilities of chance. We must not lose sight of the fact that the dose which Stephen Hollis would have got if the mistake was what we now believe would have been very small. The case would be plainer if we could discover a way in which he could have got more than about a thirtieth of a grain."

"Well, as to that," said Stanley, "it's hard to say how much or how little would have been a fatal dose under the circumstances."

"That's true enough. However, I don't intend to convict myself without hearing all the evidence. There's eserine here. It's just possible that Ed. Hollis or some other murderer may have added it. If he did, there's strychnine present, but if I made a mistake, of course, there is none. A little potassium bichromate and sulphuric acid will settle that."

Ayer made the test with negative result and declared himself satisfied.

"Now," said he, grimly, "I'm ready to talk with the policeman."

"Shall you tell him the facts?"

"Probably not. After all, he may have nothing to do with this case. I dare say he wants a drink, or something for the toothache."

But policeman Burke had neither a thirst nor a toothache. He was on the Hollis case in the humble capacity of emissary to all the drug stores of that neighborhood. Had Edward Hollis bought poison of Dr. Ayer? No, he had not. Had he attempted to do so? Another negative. Is that stuff called—what the dickens is it called?—ah, here's the name on a piece of paper—e-s-e-r-i-n-e—that's the article—is it kept on sale ordinarily in a drug store? Can everybody buy it?

Why, no; not quite everybody. It isn't served out over the soda water counter. There is no great popular demand for it as a flavoring extract. It doesn't taste good. Parents do not send their children to buy 10 cents' worth of it, though they frequently send them for laudanum, paris green and carbolic acid. It is too gentle in its action to be a favorite with suicides. Those unfortunate creatures prefer to turn themselves inside out with arsenic or tie themselves up into double bowknots with strychnine.

These facts Ayer communicated in a bright and breezy manner which was intended to disguise his real feelings. He suggested that the extensive publication of a few more cases like that of Stephen Hollis would probably popularize eserine and create a demand for it, in which case he should, as ever, strive to please. At present, however, so few people knew about eserine that it scarcely paid to keep it. He himself had none in stock at that moment.

Policeman Burke thanked him cordially for the information, which was faithfully jotted down in his notebook.

"Well, I've got rid of him," said Ayer, returning to his friend.

"What are you going to do with this stuff?" asked Stanley, pointing to the eserine solution.

"Throw it away."

"Wouldn't you better keep it?"

"Why?" asked Ayer, with a grim smile. "Do you suppose when I confess myself to be an incompetent ass that anybody is going to ask me to prove it? No, my friend, people will take it for granted. They always do."

"You will not act before to-morrow?"

"No; I shall sleep on it. It would be difficult to secure Hollis's release tonight. If I acted hastily I might weaken his case and thus hurt myself without helping him. I think I will go to see him first and add whatever evidence he has to mine. He will be arraigned in the morning. I will be in court and can talk with him and his lawyer."

Edward Hollis, immediately after his arrest, had retained Frank Boland, of Merton & Boland, as his counsel. Mr. Merton was the lawyer who had drawn Stephen Hollis's will and had acted as his legal adviser for many years. He was the executor named in the testamentary document. The prisoner naturally looked to that firm for advice. It happened that Mr. Merton was in Washington, so the junior partner acted for Hollis. The senior was expected to arrive from the national capital at any moment. He had been detained there by illness since Stephen Hollis's death, but had wired on the day of Edward's arrest that he would return at once to New York.

When Ayer reached the magistrate's court in which Hollis was arraigned the prisoner had just been called to the bar. Mr. Boland, on his behalf, waived the examination to which he was constitutionally entitled. It is, in fact, almost an empty form in murder cases, for it is nearly impossible to secure the release of a prisoner charged with so grave a crime before the initial tribunal.

Hollis was held without bail. When this decree had been announced Ayer got hold of Boland and told him that he had important information to communicate to him and his client. The three were allowed to confer together in a corner of the court room under the watchful eyes of several officers.

Ayer had determined upon a cautious course of procedure. There still remained in his memory the picture of Hollis's face as it had looked when the accused had heard Dr. Barker's declaration that the use of poison was suspected. In spite of the result of the tests that he had made, Ayer could not quite forget the expression of terror of Edward Hollis's face on the occasion referred to. And remembering that, he resolved to present himself to Hollis first as a possible witness for the prosecution. If the man was guilty—if the poison which Ayer had in error given to Stephen Hollis was not that which killed him—a confession might be forced from him and Ayer's secret be saved.

"I have discovered," he said, "a most singular thing which, I am bound to say, bears strongly against you, Mr. Hollis. Perhaps I am not doing my duty in withholding it from the knowledge of the police, but I think more of real justice than of the way in which it is supposed to be secured. Therefore I have come to you for an explanation, and what you say may modify my action."

"Don't say anything till I tell you to," said Boland hastily. "Now, what's this discovery, Ayer?"

Ayer told of the scrap of paper in the book of poisons. Hollis was astounded. He examined the slip of paper and, despite Boland's commands, he spoke out.

"You needn't be afraid of what I'm going to say," he declared. "I can explain this matter to your entire satisfaction. In the first place, I have not been in Dr. Gordon's office since I wrote those words. In the second place, they have no reference to eserine, nor to my uncle, nor to anybody but myself. I can prove what I say."

"How can you prove when you wrote those words?" asked the lawyer.

"They are part of a draft of a letter which I wrote to a friend," was the reply. "The actual letter is doubtless now in his possession. He can testify as to the date when he received it."

"When did you write it?"

"On the day my uncle died. I was summoned to his room immediately after finishing the letter. Then I first learned that his illness had taken a fatal turn. I sent the letter out by a servant. It was addressed to Harry Leighton. I call him my best friend."

"What was the subject of the letter?" asked the lawyer.

"My own destruction," replied Hollis, firmly. "I was on the verge of suicide. But for the shock of my uncle's death and—yes, I may as well confess it—the wealth it brought to me, I should have taken my own life."

"For what motive?"

"Debt, principally; and ill health; and personal dissatisfaction; and the love of a girl who is too good to live in the same city with me—who regards me so kindly, yet with so clear an eye for my faults that I think she would be happier if I were dead and beyond the chance of sinking lower."

"You abandoned your suicidal intent because of your uncle's death," said the lawyer, with a cast-iron calmness which all lawyers assume when they are outside of court—where calmness is so eminently desirable and so pitifully rare.

"Yes," replied Hollis. "I saw a chance to get out from under the load that was crushing me; to live a new life. I don't like gambling and the companionship of rascals. Few men do. I've fled to them in desperation for the sake of excitement. I believed that money would set me right both morally and physically. That's what I told Harry Leighton when he came flying up to the house after he had got my letter."

"Can you remember the words that matched the fragments I have here?" demanded Ayer.

The lawyer held up his hand in protest, but Hollis would not be silenced.

"Certainly," he said. "A man doesn't readily forget a document of that kind. These were the words—I remember that in my draft they were on the top of a new page:

"'I have studied the effects of various drugs and have decided that morphine offers one of the easiest ways out of his cares. The fatal dose is ready at my hand. Little is known of the darkness into which I go, but it must be preferable to this mortal life. I detect no sign within me of a desire to live, I am sorry for the pain that my act will inflict on those that love me——"

"That's enough," said Ayer. "Now wait a minute."

He had taken notes of what Hollis had said. Speedily he put the whole upon a sheet of paper. The written lines were of the proper length. It would have been practically impossible for Hollis to have invented off hand a series of words which would have fitted the ends of the lines as they appeared upon the fragment which Ayer had found, and would also have spaced evenly.

"I'm satisfied regarding this bit of paper," said Ayer, "and I'm extremely glad I submitted it to you first. Now I can destroy it. But the mystery still remains; how did it get into that book?"

"Dr. Stanley put it there," said Hollis promptly.

"Dr. Stanley!" exclaimed Ayer. "You mean Dr. Barker."

"No, I don't. You're way off if you suppose that Barker is the man who is putting up this job on me. Mr. Boland thinks so, but it's a mistake."

"I wouldn't say anything more," Boland began, but Hollis went on in an excited tone:

"I know his motive. He wants to get me in his power. And he's done it. Where shall I be if he doesn't testify just right when my case comes to trial. I tell you he holds my life in his hand."

"But why does he wish to do so?" demanded Ayer.

"Because he owes me $7,000, and he doesn't want to pay it."

"Owes you!"

"He owes the estate, and that will be mine. My uncle held his note. It is among his papers. I've seen it. Now, you tell Stanley—you're a friend of his—that if he gets me out of this I'll take care of that note. He couldn't. He's worse off than I was, financially, and he'd have been in a deuce of a fix if my uncle had demanded payment a month from now when the note would have been due. However, he wouldn't have done it. Stanley had some sort of a pull with him. But he hadn't any with me, and that's why he has taken advantage of these suspicious circumstances to get me into his power."

"How do you suppose he got hold of that scrap of paper?" asked Ayer.

He knew that Hollis was mistaken about Stanley—or was deliberately lying—but he wished to find how far his theory went.

"Easily enough," replied Hollis. "I tore up the rough draft of the letter in my room. Barker explored it first. Then Stanley took his turn. Barker found some morphine, and Stanley found the bit of paper—probably on the floor near the grate. I think Stanley's find was worth the most money."

"Come, come!" cried Boland. "You have talked enough. The officers will not wait longer. Mr. Ayer, I beg of you not to excite my client any more. We are greatly obliged to you. I shall hope to see you again very soon. I am going to the Hollis house. Could you meet me there in about two hours? I hope to find Mr. Merton there. You will come? Thank you. Goodby for the present.

He dragged Hollis away, being presently assisted by the court officers. Ayer was left staring after them. He had said not a word about the real business which had brought him there.

(To be Continued.)

A SCHEME FOR EXTRACTION AND SEPARATION OF ACTIVE PRINCIPLES IN PREPARATIONS AND NOSTRUMS.*

By E. A. Ruddiman, Ph. M., M. D.

This scheme is a condensation of the one given in Blyth's work on Poisons, modified for the use of the general pharmacist.

The most important active substances to be tested for are as follows: Alcohol, chloroform, chloral hydrate, carbolic acid, morphine, strychnine, brucine, atropine, quinine, cocaine, caffeine, santonin, cantharidin, lead, mercury, arsenic, antimony and silver.

In making an analysis of this kind, it is advisable not to subject the whole of the substance at once, but to divide it into three or more portions. If it is in the form of a solid mass, first, divide as finely as can be done conveniently. In the following directions it will be noted that the principles to be tested for are divided into three groups, viz.: Volatile principles, non-volatile organic principles and inorganic chemicals.

To a portion of the substance to be tested, water is added if necessary, and a sufficient amount of dilute sulphuric acid to make the mixture distinctly though not strongly acid. This is then subjected to distillation, and the distillate is tested for alcohol, chloroform and carbolic acid (sometimes caffeine is also found in the distillate). Continue the distillation until no more of these substances come over. Now make the contents of the distilling flask distinctly alkaline with potassium or sodium hydrate and again distil. This second distillate is to be used for chloroform, which has been formed by the action of the fixed alkali on the chloral if present.

To a second portion of the substance to be tested enough alcohol is added to make the mixture fairly strong of alcohol and a sufficient amount of diluted sulphuric acid to make it distinctly though not strongly acid. This is next digested on the water bath for about fifteen minutes and then filtered while hot. Digest the residue with alcohol and filter. Unite the filtrates, make nearly neutral with ammonia water and evaporate until the alcohol is expelled. The residue is made up with water so as to measure about 15 cc. See that this is still acid, and filter if necessary. To a very small portion of this filtrate one of the general alkaloidal reagents, such as tannic acid or Mayer's reagent, may be added to see whether an alkaloid is present or not. If a precipitate is obtained, it will be necessary to go through the following manipulations:

*Read at the last annual meeting of the Tennessee Druggists' Association.

To the aqueous acid solution add 15 cc. of benzol, shake gently so as not to make an emulsion, and then let stand until the two liquids have been separated. Decant or siphon off the benzol. Wash the aqueous acid solution again with 10 cc. and the third time with 5 cc. of benzol, adding these benzol washings to the first. These benzol solutions are to be evaporated in several watch glasses and tests applied for santonin, cantharidin and caffeine. Chloral and carbolic acid may also be present.

The aqueous acid solution left after washing with benzol is made slightly alkaline with ammonia, and is extracted with benzol in three portions of 15, 10 and 5 cc. These benzol washings are united, evaporated in several watch glasses, and the residue tested for strychnine, brucine, atropine, quinine and cocaine.

This aqueous alkaline solution left after washing with benzol is made acid again with dilute sulphuric acid and washed with amyl alcohol in divided portions. These washings are to be evaporated in watch crystals and tests for morphine applied to the residues.

A third portion of the original substances is to be used in testing for inorganic compounds. Before tests can be applied for these the inorganic matter must be eliminated. This may be done in several ways. Perhaps the best is to destroy it with chlorine generated by adding hydrochloric acid and then potassium chlorate in small amounts and heating. It requires considerable time to destroy all of the matter. After so doing, drive off all the chlorine and apply the regular tests. If the matter is destroyed by heating alone there is organic danger of volatilizing some of the metals.

Reinsch's method is frequently of service where the presence of arsenic, antimony or mercury is suspected. A piece of bright copper foil or gauze is suspended by means of a platinum wire in the mixture containing the organic matter, and the metal previously acidulated with hydrochloric acid. Heat to near the boiling point, and a deposit will soon form on the copper if one of the above-mentioned metals are present. This deposit may be removed from the copper by heating in a glass tube, or it may be dissolved off and the tests applied. (Montreal Pharml. Jour.)

EXAMINATION QUESTIONS.

Washington State Board of Pharmacy.

CHEMISTRY.

1. Define Chemistry—Organic and Inorganic. What is meant by physical and chemical changes?

2. What is Oxygen? Its properties? How may Oxygen be prepared? What is Hydrogen Peroxide? Give its physical properties? What gas is liberated in decomposition? How is it prepared? Write the reaction.

3. What are the Halogens? Why are they so called?

4. What is Chlorine. Describe its physical properties? How is Chlorine prepared? What is the compound of Chlorine and Hydrogen and in what form is it official in U. S. P.?

5. What is the Atmosphere? How can atmospheric pressure be demonstrated? What instruments are based upon this and how are they constructed?

6. What is Phosphorus? Describe the two principal allotropic modifications of Phosphorus. What properties has the second? Where and how does Phosphorus occur? What is a good test for Phosphorus? What is Phosphine?

7. What is Potassium? What are its chemical properties? Where and how is it formed? How is it prepared? What is Potassium Hydrate and in what form is it official? Give a test to distinguish KBr from KI.

8. Give the chemical formula for Ammonium. How is Ammonium Hydrate prepared? Write the reaction. Define Aqua Ammonia and Aqua Ammon. Fortior, U. S. P. Give the chief source of Ammonium.

9. Give the metals of the Alkaline Earths.

10. (1) What is Mercury and its properties? (2) What two classes of compounds does Mercury form? (3) What are the official preparations of metallic Mercury? (4) Give chemical formula for Calomel and Corros. Sublimate. (5) Give a test for the presence of Corros. Sublimate in Calomel. (6) How would you separate if mixed?

PHARMACY.

1. How is Oxalic Acid made? What are its medical properties? Name four Oxalates.

2. How is Collodion prepared? What is (a) Flexible Collodion? (b) Styptic Collodion?

3. Define (a) Syrups, (b) Tinctures, (c) Spirits, (d) Solutions, (e) Waters, (f) Abstracts.

4. State the difference between Essential and Fixed Oils. What changes are liable to occur in Essential Oils? How are they best preserved?

5. What percentage of basis or active ingredient is represented in each of the following: (a) Aqua Menthæ Piperitæ? (b) Aqua Ammoniæ? (c) Aqua Ammoniæ Fortior? (d) Tinctura Aconiti? (e) Liquor Potassii Arsenitis?

6. (a) Name some of the advantages of the Metric System. (b) How many fluid ounces in a Litre? (c) Grains in a Kilogramme? (d) Minims in a Cubic Centimeter of Water at 60° F.? (e) Grains in an ounce of Water?

7. In the extraction of Aromatic Drugs what menstrua would you recommend? State your reasons.

8. What is Turpentine? How is Oil of Turpentine obtained? How does it differ from the commonly called Spirits of Turpentine of commerce? Mention two official preparations containing Oil of Turpentine.

9. What is the object (a) of drying drugs? (b) of the Sand and Water Bath in the processes involving heat?

10. Name two official Acids obtained from Nutgall. Describe the appearance of each.

MATERIA MEDICA.

1. Define: (a) Therapeutics, (b) Pharmacology, (c) Toxicology, (d) Pharmacopœia, (e) Organic Materia Medica.

2. What is an Alkaloid? Cite five official Examples. How do Alkaloids differ as to solubility from salts of Alkaloids?

3. Name the official Glucosides, and tell what is the nature of their composition.

4. Give a list of the official Fixed Oils. Why so called? How distinguished from Volatile Oils?

5. What are (a) Oleo-resins? (b) Gum resins? Give two examples of each with medical properties and dose.

6. Define and give official example of (a) Rhizome, (b) Tuber, (c) Petal, (d) Stigma, (e) Bulb.

7. Give habitat, Latin and English titles, parts used and preparations of the following: (a) Nux Vomica, (b) Foxglove, (c) Cinchona.

8. Write botanical name and part or parts used of the following: (a) Deadly Nightshade, (b) Buchu, (c) Ergot, (d) Squills, (e) Saffron.

9. What is Saccharum Lactis? How obtained? Name Source and Test of Pepsin.

10. Write official Latin and English titles of the following: Phenol, Elixir of Vitriol, Goulard's Extract, Yellow Puccoon, White Precipitate.

PHYSICIANS' PRESCRIPTIONS—TOXICOLOGY AND DOSES.

1. (a) Criticise the following:

℞.—Pot. Iodide	ʒ ii.
Am. Carb.	ʒ iii.
Tinct. Opii Camph.	ʒ i.
Tinct. Digitalis	iv

M. Sig. Teaspoonful every 4 hours.

(b) Under what circumstances and how would you dispense it?

2. How many grains of Cocaine Hydrochlorate in one fluid ounce of 4 per cent. solution? Write a prescription in the metric system for a 4 per cent. solution.

3. Give medical properties and dose of Aloin, Tinct. Aconite, Tinct. Belladonna, Tinct. Saponis Vir., Tinct. Colchicum.

4. Give percentage of absolute acid contained in Hydrocyanic Acid Dil., and Phosphoric Acid. Percentage of Lead Acetate in Goulard's Ext.

5. (a) Define with an example and dose of each of the following: Anthelmintic, Anæsthetic, Parturient, Febrifuge, Astringent, Diuretic; (b) State difference between rubefacient and vesicant.

6. How would you make the following pills?

℞—Aur. et Nat. Chlor. grs. ii.
Ft. Pil. No. 40.

7. (a) What is the treatment of poisoning by Aresnic? (b) What is the antidote and how prepared?

8. Name common antidote for Aconite, Belladonna, Morphine Sulphate, Zinc Sulphate, Sulphuric Acid.

9. Give common names of Iris, Hæmatoxylon, Colocynthis, Hydrastis, Dulcamara, Hamamelis.

10. (a) How many grains in eight fluid ounces of distilled water at 60° F.? (b) How many minims? (c) How many drops?

Beet Sugar in the United States.

There are seven beet sugar factories in the United States, three of which are in California, one in Utah, two in Nebraska and one in Virginia. The largest are those at Chino and Watsonville in California, and their output is large.

It is alleged that Napoleon created the industry of making sugar from beets in France nearly 100 years ago, and although the industry took deep root in various European countries long ago it is only in recent times that the demand for sugar has stimulated the industry to such an extent that more than half of the seven or eight million tons of sugar produced annually in the world is beet sugar. Germany is the largest producer, the industry having been greatly stimulated there (over-stimulated in fact) by an export bounty which has been operative for a number of years. France and Russia are also heavy producers of beet sugar, and the United States may soon become a considerable factor in this line.

As showing the growth of the beet sugar industry in the United States the following table gives the production in this country for a series of years:

Years.	Pounds
1887	600,000
1888	4,000,000
1889	6,000,000
1890	8,000,000
1891	12,004,888
1892	27,083,288
1893	43,648,797
1894 (estimated)	36,000,000

Relative to the output of the various factories, Professor Wiley, of the Department of Agriculture, gives the following figures for 1893:

Factories.	Pounds.
Staunton, Virginia	36,478
Grand Island, Nebraska	1,835,900
Lehi, Utah	3,750,500
Norfolk, Nebraska	4,900,000
Alvarado, California	4,186,572
Watsonville, California	14,500,000
Chino, California	15,639,867

As above stated in figures, the yield in the United States last year was not so great as the previous one, owing to a shortage of the beet crop in some sections. The output of beet sugar in California this year promises to be greatly in excess of any former year.

More than one-fourth of all the sugar produced in the world is consumed in the United States, and as more than 80 per cent. of our sugar is imported from foreign countries, it is at once clear that a wide field for sugar production opens out before the American farmers.

SILVERING FABRICS.—"For some time past," says The Scientific American, "gilded or silvered tulles have been in the market. According to Mr. Villon, the following is the process of preparing these fabrics: The tulle is immersed in a 1 per cent. solution of nitrate of silver. After a quarter of an hour it is dried and plunged into a solution of Raschig salt. This latter is a potassium salt of sulfonated hydroxylamin. The nitrate is immediately reduced, and the silver deposits upon the fibers in impermeabilizing them. It then only remains to dry the tulle, wash it and dry it anew. This done, it is covered with gold or silver in a galvanic bath formed of double cyanide of potassium and gold or silver. The same process may be used for silvering or gilding other fabrics."

PHARMACY.

ARGONIN is a white powder, easily soluble in warm water, but with difficulty in cold, which is said by Liebrecht to exert the same bactericidal effect as silver nitrate. It is produced by treating casein-soda with silver nitrate and precipitating the solution with alcohol. To prepare solutions for use the argonin should be thoroughly moistened with a little water, then heated to 90° C on a water bath, shaken a few moments and finally filtered through pounded glass. Argonin is also soluble in albumin and may be made in 10 per cent. solution with serum upon warming the mixture gently.

ANOTHER AMBERGRIS FIND.—A lump of ambergris lately imported from Fiji is illustrated in a recent issue of the Chemist and Druggist. It weighs 284 ounces and is about 32 inches in circumference at its widest part, and is, in its bulk, of fair gray color. It is stated to have three "hearts," which together would probably weigh about one-half of the whole, and while the flavor outwardly is rather weak, these "hearts" when the lump is cut up,, would most likely prove to be of good flavor. The original importer valued the whole at something under £950, but we notice that it its present possessor puts it down at about £1,350, which represents, we suppose, the profit realized or hoped for. From its appearance it had attached to it, after the manner of the Siamese twins, another lump, how large, however, it is impossible to say yet, perhaps when the first is taken into consumption the second may come on the market.

THYROPROTEIN. Now that so much importance is attached to thyroid medication, anything pertaining to the subject is received with interest. Ph. Jr. quotes from Nouv. Rem. the results of researches of Notkine, who has recently isolated from the thyroid body an albuminoid which in properties and composition differs from all other albuminoids hitherto described. Under certain conditions this new body splits up, yielding a carbohydrate which is transformed with difficulty into a reducing substance. With a strong solution of ferric chloride the albuminoid assumes a gelatinous consistence; tannin precipitates it in the form of thick flakes or as a transparent gelatinous substance, according to the strength of the solution. It dissolves in weak acids, and is precipitated by alcohol, the precipitate rapidly becoming insoluble in water. He has named this substance thyroprotein. Experiments on animals show that it is very poisonous and is slowly eliminated. The author regards it as identical with the poison which accumulates in the organism after the extirpation of the thyroid body; it is, therefore, not a secretion of the gland, but a toxalbumin which it is the function of the thyroid gland to neutralize by means of the peculiar ferment it elaborates and so prevent the accumulation of the poison in the animal organism.

CHELSEA BOTANIC GARDEN.—Intimately bound up with the history of the London Apothecaries' Society (says The Citizen) is that of the old Botanical Garden at Chelsea. Half a century after its incorporation the society leased from Charles Cheyne a piece of land lying between Queen's Road and the river, upon which a large house was erected. In 1674 the ground was walled in, and two years later part of it was converted into a herb garden, which, as time went on, became more and more important scientifically. The society aimed at cultivating plants of medicinal value and acclimating vegetable curiosities from foreign lands. When the lease of the garden expired in 1722, Sir Hans Sloane, who had acquired the land with the manor of Chelsea from Lord Cheyne, transferred his fee and interest in it, on certain conditions that have ever since been observed, to the Apothecaries' Society, at a yearly rental of £5, and the garden has been so held to this day, the present ground landlord being Lord Cadogan. The ground covers about four acres, having received a small addition from the Thames foreshore when the Chelsea embankment was made twenty years ago. In the center is Rysbrach's statue of Sir Hans Sloane, erected by the grateful apothecaries in 1737. Older still is a cedar of Lebanon near the embankment entrance. A companion cedar died a few years ago, and the verdict of the head gardener was suffocation, a fate that awaits the survivor. Nearly everything in the garden is sorely tried by the smoke-laden fogs of the metropolis Herbs that cure sickness are themselves liable to illness. The medicinal plants in the garden are scientifically arranged, the classification adopted being the Natural System perfected by Dr. Lindley, who was præfectus horti and professor of botany to the society for seventeen years, commencing with 1835.

THE REVISION OF THE BRITISH PHARMACOPŒIA.—Reading a paper under this heading before the Chemists' Assistants' Association of Liverpool, Mr. A. C. Abraham, F. C. S., F. I. C., said he was glad to see the Parliamentary Committee had recommended the adoption of the metric system in England, and he hoped in the interest of trade generally that this recommendation would be carried out. More useful information might well be included in the Pharmacopœia, and the solubility and dose of the drugs and preparations should be given where possible. A great improvement might be made in the arrangement of the work, in his opinion, if all the preparations were arranged alphabetically under the name of the drug in the manner adopted in the Liverpool chemists' price list. An arrangement of this kind would save endless time and trouble in reference. He would also like to see the directions for preparing tinctures eliminated altogether, except for those where special directions were necessary. A general outline of directions

might be furnished, such as (a) Made by maceration and percolation combined; (b) Made by percolation or maceration only, or special process. There was a want of uniformity in the present processes given for making tinctures, and the method for making a pint of tincture was often utterly unsuitable for making a gallon or larger quantity. He maintained that the strength of the tincture depended on the amount of the drug operated on, and the power of the press employed. For example, tinctura lupuli could not be properly made if the directions given in B. P. were followed out, as the hops absorbed nearly all the spirit. Tinctura pyrethri was ordered to be made with the root in No. 40 powder, while an equally strong tincture could be made with No. 20 powder. Unless a man could be trusted to make a tincture in an intelligent manner, he could not, as a rule, be trusted to make one at all. Most of the formulæ in the present B. P. for tinctures needed revision. He believed maceration was necessary for all drugs, and was the best process for making several tinctures. Acid Salicylic.—The length of the crystals should be stated in B. P., and tests given to reject all acids but the physiologically pure. More stringent tests for æther purus should be introduced. Aloin should be retained. With respect to the medicated waters, he thought both aqua aurant. flor. and aqua sambuci should be retained, and he would be sorry to see aqua pimentæ omitted. The process for making aqua destill. might be left out as it was unnecessary where good water could be obtained. Argent. et potass. nit. should be deleted, and also caffein. citra., calamine should be ordered to be colored with a certain proportion of Armenian bole. Carb. animalis cannot be prepared by the process given in the B. P. to answer the tests enumerated. A better process might be introduced for making ergotine, the present one was wasteful and expensive. Extract. aloes Socot. might be improved. A good extract can be made by evaporating in vacuo. He did not agree with the proposal to omit ext. belæ liquid. In India it was considered an invaluable medicinal agent, but the B. P. process for making was a poor one. The process for making ext. cinchon. liq. should be revised, and the bark should first be exhausted with boiling water. Fel. bovin. was a useful preparation, and should be retained. Glycerin. et acid gallic. should be prepared without heat. Liq. Calcis Sacch. should be made by dissolving the sugar in a portion of the water and adding the lime to the remainder, then mixing the solutions. It should not be kept in a corked bottle. The standard of opium should be raised. Several of the formulæ for ointments were unsatisfactory, notably that given in B. P. for ung. eucalypti. Pil ferri.—The footnote should be omitted, as the B. P. formula is not chemically the same as Bland's pill. Tincture of strophanthus.—The active principle was a glucoside, and the method of preparing the tincture given in B. P. was defective.

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Arizona Pharmacy Law.

(C. E. G.) Arizona has no pharmacy law.

Bloxham's Laboratory Teaching.

(N. L. A. C.) A new sixth edition of this work appeared early last year. It is published by J. & A. Churchill, London, England.

Coloring for Glass or Crystal Wead(?).

(J. F. B.) You fail to state the nature of this substance and how it is to be used. Give us fuller information and we will endeavor to assist you.

Business Addresses.

(F. H. N.) Write the Rapid Addressing Machine Co., 314 and 316 Broadway, this city. Addresses of the drug trade may be obtained through this office.

Removing Iron Stains from Granite.

(J. W. F.) Apply to the stains a weak solution composed of 1 part of nitric acid and 25 parts of water. Afterward wash the spots with a dilute solution of ammonia.

To Cement Wood to Metal.

(C. N. S. & Co.) A technical work gives these formulas:

1.) Mix together 4 parts carpenter's glue and 1 part Venice Turpentine.

2.) Give the iron a coat of best white lead paint, allow to dry hard and coat with Russian glue dissolved in water containing a little vinegar or acetic acid.

Rattlesnake Oil.

W. H. Windrow, Pearsall, Tex., contributes a note on the manufacture of rattlesnake oil. He says the fat snakes are easily killed in early winter just as they go into a state of hibernation. After killing, they are skinned and the fat is cut off and rendered in a manner similar to the rendering of lard. In his territory pure oil is easily obtained.

Spongia Fluviatilis.

(Alexander) wants to know the English equivalent of this title. He says it is applied to a kind of sponge which has a very dark green color and is very friable. None of the various works of reference we have consulted gives this name to any variety of sponge. "Fluviatilis" is a Latin word which may be translated as "belonging to" or "found in a river," but just what it means in this title is not quite clear.

Ink For Automatic Shading Pen.

(Sign Writer) Almost any aniline ink can be used with the automatic shading pen by adding to it a small quantity of mucilage. A good black ink for the purpose may be made from this formula: Powdered nut galls, 18 parts; ferrous sulphate, 8 parts; gum arabic, 7 parts; water, 145 parts. Boil the nut galls in 130 parts of the water; dissolve in the remainder of the water the ferrous sulphate and gum arabic, and slowly add this solution to the former.

Sulphur is Insoluble.

(H. & C.) A clear solution cannot be made from the following prescription:

Lac sulphur.....
Camphor water .....
Compound spirit lavender.
Alcohol, of each.....1 ounce

Sulphur is insoluble in the liquids of the preparation, and no substance can be added which will dissolve it without materially altering its character. The mixture should be dispensed under a "shake" label. For solvents and solubility of sulphur see the Pharmacopœia.

Essence of Bay Rum.

(F. H. N.) Here are two formulas taken from the Era Formulary:

1.)	Oil of bay.....	10 parts
	Borax	50 parts
	Ammonium carbonate.	50 parts
	Tincture of bay leaves	300 parts
	Rose water, enough to make	1,500 parts
2.)	Oil bay	1 ounce
	Oil pimenta	1 dram
	Oil cloves	1 dram
	Acetic ether	2 ounces

Either of these "essences" may be diluted with 60 per cent. alcohol as required, the latter formula being the proportions for six gallons of bay rum.

Powdering Infusorial Earth.

(C. F. & Co.) Earthy insoluble substances are conveniently reduced to powder by levigation. The process is usually conducted in broad shallow mortars, or it may be effected between the flat surfaces of a slab and muller. Water, alcohol or oil may be used as suitable media, the process consisting of the formation of a soft paste of the substance to be powdered and the liquid, the paste being then triturated or ground until perfectly smooth. Sometimes substances of this character, after having been ground or crushed, are reduced to a finely pulverulent condition by elutriation, a description of which may be found in any work on practical pharmacy.

Incense for Christmas.

(G. F. M.)

1.)	Benzoin	4 ounces
	Storax	4 ounces
	Labdanum	6 ounces
	Myrrh	6 ounces
	Cascarilla	3 ounces
	Oil cinnamon	8 minims
	Oil lavender	20 minims
	Oil bergamot	20 minims
	Oil cloves	20 minims

Mix, and pass through a coarse sieve.

2.)	Powdered cascarilla	2 ounces
	Myrrh	1 ounce
	Styrax	1 ounce
	Benzoin	1 ounce
	Thus	1 ounce
	Burgundy pitch	1 ounce
3.)	Styrax	2½ ounces
	Benzoin	12 ounces
	Musk	15 grains
	Burnt sugar	½ ounce
	Frankincense	2½ ounces
	Gum tragacanth	1½ ounces

Rose water, sufficient to form a mass. To be divided into small tablets.

Gelatin Coating Tablets.

(Inquirer) The small needle apparatus for coating pills with gelatin is not adapted to coating tablets as they are liable to become disintegrated when punctured with the needles. In some manufacturing establishments pills are coated with gelatin by dipping them in a solution with an apparatus which holds them firmly upon the ends of tubes by suction, the tubes being connected with a box or chamber from which the air has been exhausted. A little over half of each pill is dipped in the solution of gelatin and dried when the pill is reversed and the remaining portion coated. This process would no doubt work satisfactorily with tablets, but it is hardly applicable for coating upon the small scale. We know of no such process as you outline.

Pitch for Iron or Tin Roofs.

(D. R.) Common black pitch is the solid residue left after the evaporation by boiling of the liquid parts of tar. A formula in which it is used for painting roofs is this one: Pitch, 150 parts; litharge, 120 parts; linseed oil, a sufficient quantity to produce the desired "body." Boil together over a coal fire, under constant stirring, until they are intimately mixed.

Tar is also used in roof painting as in the following formula: Clay slate, 35 parts; mica slate, 30 parts; rosin, about 35 parts. All are finely powdered and heated with fifty parts of tar.

The Scientific American Cyclopedia of Receipts gives this as a cheap black paint for roofs: Clear (solid) wood tar, 10 pounds; lampblack, 1¼ pounds; oil of turpentine, 5½ quarts. The tar is first heated in a large iron pot to boiling, or nearly so, and the heat is continued for about four hours. After removing from the fire, and while still warm (not hot) the oil of turpentine mixed with the lampblack is stirred in. More oil of turpentine is added if the mixture be too thick.

Gold Color for Brass.

(H. G. R.) One of the following processes may answer your purpose:

1. Gold and Orange Stain for Brass.—Dip the articles in a mixture of 3 drams of caustic soda, 2 ounces of water and 5½ drams of moist carbonate of copper. The shades of color appear in a few minutes, and the progress can be readily judged and observed. After obtaining the desired shade of color, rinse the articles in water and dry in fine sawdust.

The Scientific American Cyclopedia of Receipts is authority for this one:

2. Gold Dip for Brass.—Soak in the following before dipping: Caustic potash dissolved in ten times its weight of water. The gold bath is composed of distilled water, 17 pints; pyrophosphate of sodium, 28 ounces; hydrocyanic acid of ⅛ prussic acid, ⅓ of an ounce; crystallized perchloride of gold, ⅔ of an ounce. The pyrophosphate of sodium is dissolved in 16 pints of water, heated, filtered and cooled. The filtered solution of the gold chloride is added, and then the hydrocyanic acid, when the whole is raised nearly to the boiling point for use. Before entering the bath the articles should be passed through a solution of water, 2½ gallons; nitrate of mercury, ⅓ ounce; sulphuric acid, ⅔ ounce.

Preparation of Tonquin Musk.

(G. F. L.) In perfumery musk is used for soap, sachet powders and extracts. By itself it is, however, scarcely employed, not even for the so-called musk soaps or musk extracts. It is chiefly valued by the perfumer for its property of rendering other perfumes used in combination with it more durable and bringing out their odor. Piesse gives the following formula of extract of musk:

Musk	2 ounces
Rectified spirit	1 gallon

After standing for 1 month, at a summer temperature, it is fit to draw off. Such an extract is that used for mixing in other perfumes. From this extract he prepares:

Extrait de Musc.

1.)	Extract of musk	1 pint
	Extract ambergris	½ pint
	Extract rose triple	¼ pint

Essence of Musc.

2.)	Tonquin musk	10 parts
	Sugar of milk	10 parts
	Triturate together, then add	
	Distilled water	200 parts
	Alcohol	300 parts
	Aqua ammonia	5 parts

Macerate 8 days and filter.

"Solid" Toilet Preparation Containing Volatile Oils.

(C. F. & Co.) Ointments, cold cream, pomades, etc., are preparations of this character. A cold cream with which may be incorporated volatile oils, perfume, etc., is the following:

White wax	2 ounces
Spermaceti	2 ounces
Oil of sweet almond	14 fl. ounces

Melt together and add

Lanoline	6 ounces

Stir until nearly cold, adding gradually a solution of borax, 75 grains in 9 fluid ounces of water.

2.) A cosmetic containing soap:

Transparent soap	8 ounces
Glycerin	½ ounce
Water	1 ounce
Mucilage acacia	½ ounce

Cut the soap (which should be one of the common soft brands) into shavings, and heat on a water bath, along with the water, glycerin and mucilage. Stir constantly, adding water, if, on testing a little of the cooled mass, it is found to be hard. Then add the volatile oils, perfume, etc., mixed with a little alcohol, and mould into the desired shape.

Pure Castile soap may be worked into a soft solid by following the process of the National Formulary for "solid opodeldoc." See note in the N. F. under reference last cited.

Solution Magnesium Tartrate Instead of Magnesium Citrate.

(R. S.) If tartaric acid be substituted for citric acid in the official process for the preparation of solution of magnesium citrate, the resulting compound is not a solution of magnesium citrate but magnesium tartrate. The desirability of such a solution has never been advocated by the medical profession at large. Years ago, however, M. Leger proposed metatartrate of magnesium in place of the citrate and which he said was a more powerful purgative, closely resembling the sulphate. In the U. S. Dispensatory may be found his process for preparing it. A preparation used similarly to solution of magnesium citrate and containing a tartrate, is solution of citro-tartrate of sodium of the National Formulary. It is safe to say that it will never supplant solution of magnesium citrate in popularity.

Citric acid cannot be substituted for tartaric acid in the preparation of Seidlitz powders for a similar reason. Citric acid cannot be so well kept in powdered form as tartaric acid and the salt formed by the latter in the official formula (sodium tartrate) adds considerably to the laxative properties of the combination. On the score of economy tartaric acid is much cheaper. It is sometimes used to adulterate citric acid.

Iron in Wine, Beef and Iron.

(R. F. S.) The absence of iron stains on the corks of bottles containing a certain brand of "Beef, Wine and Iron" is not positive evidence that the preparation contains no iron. The only way to determine the presence of iron is by chemical tests. This may be done by evaporating a small quantity to dryness in a platinum capsule and incinerating the residue to get rid of the organic matter. Dissolve the ash in dilute hydrochloric acid, and if iron be present it may be detected in this solution by applying the usual tests. If you wish to estimate the iron quantitatively, we suggest you to try the scheme of analysis outlined in the April 1, 1890, Era, page 141. At best this preparation is an incompatible one. Sherry wine, from which it is generally made, ordinarily contains tannin, which is incompatible with iron salts (the citro-chloride and citro-salts excepted) and organic substances containing gelatin, albumen, etc. Extract of beef is not completely soluble in the wine, and upon standing precipitation occurs. To obviate this difficulty the wine is sometimes diluted to obtain a better solvent, or, as is quite frequently the case, the quantity of beef is lessened, or omitted entirely. We suggest you make a few experiments along the lines indicated. If iron is present, you should have no difficulty in finding it.

Druggists and Unlicensed Doctors.

(Alexander) asks the question: Has a druggist a right to fill prescriptions written by doctors who are not qualified practitioners of medicine ?

This is a debatable question and a great deal may be said on either side. In most of the States, however, the laws define the practice of pharmacy as regards filling physicians' prescriptions, and further, they define the practice of medicine, or at least who are qualified practitioners. If the writer of a prescription is not a legally qualified physician, his prescriptions are of no more standing or force in the eyes of the law than those of any other person. Following these statements to their logical con-

clusion the question arises Has the druggist a right to fill a prescription written by any one? He undoubtedly has in so far that the combination of drugs or medicines ordered is within the bounds of safety and common usage. In determining this question, however, the pharmacist assumes the responsibility and must be held responsible for the results. A qualified physician is held responsible for whatever he prescribes, and the pharmacist who compounds his prescriptions is responsible only to the extent of the work committed to his care. This is obvious from the fact that most of the States having poison laws do not require poisons sold upon physicians' prescriptions to be labeled or the sale registered. Sales of poisons made upon the order of all other individuals must be recorded.

A physician who has not complied with the law requiring registration has no legal right to practice medicine.

Theatrical Face Paint

White.

(F. P. B.)

Prepared chalk	80 parts
Zinc white	80 parts
Bismuth subnitrate	80 parts
Asbestos	80 parts
Oil of sweet almonds, about	50 parts
Camphor	2 parts
Oil of peppermint	10 parts
Extract or essence bouquet	10 parts

Pink.

Zinc white	1000 parts
Bismuth subnitrate	1000 parts
Asbestos	1000 parts
Oil of sweet almonds, about	400 parts
Camphor	220 parts
Oil of peppermint	220 parts
Extract or essence bouquet, about	100 parts
Eosin	4 parts

Flesh.

Prepared chalk	200 parts
Zinc white	200 parts
Orris root	50 parts
Cinnabar	30 parts
Oil of sweet almonds, about	60 parts
Camphor	3 parts
Oil of peppermint	3 parts
Tincture of crocus	20 parts
Extract or essence bouquet	15 parts

Red.

Eosin	16	grams
White wax	2	scruples
Spermaceti	2	scruples
Petrolatum	1½	ounces

Nigger Black.

Beat the finest lampblack into a stiff paste with glycerin, and apply with a sponge; if necessary mix a little water with it when using. Easily removed.

Removing Rust from Surgical Instruments.

(D. J. G.) A medical exchange is authority for the following: Clean the instruments by rubbing with wood ashes and soft water. Then soak them in a weak solution of hydrochloric acid in water (about 10 to 15 drops to the fluid ounce) for a few hours, to remove the remaining rust. Wash them well in soft water and place in a bath consisting of a saturated solution of tin chloride. Remove from the bath after ten to twenty-hours, wash clean, and dry well. When the job is well done the steel will appear as if nickel-plated.

(2) Apply the following solution with a brush after removing any grease by rubbing with a clean dry cloth: Dissolve 100 grams stannic chloride in 1 liter of water, and add to a solution of 2.5 grams tartaric acid in 1 liter of water. To the combined solutions add 20 cc. indigo solution, diluted with 2 liters of water. After applying and allowing the solution to act for a short time, the instruments are rubbed clean with first a moist cloth, later with a dry cloth. To restore polish, use is made of silver sand and jewelers' rouge.

(3) Immerse the instrument for a few minutes until all dirt and rust is taken off, in a strong solution of cyanide of potassium (½ ounce in a wineglassful of water); take out and clean with a soft paste composed of cyanide of potassium, castile soap, whiting and water.

To protect surgical instruments from rust: Melt slowly together six or eight parts of lard with one of resin, and stir the mixture until cool. This application will preserve bright steel surfaces if rubbed on when they are clean and dry, but it will not arrest oxidation which has already begun. The regulations of the Bureau of Medicine and Surgery in the United States Navy, we believe, require surgeons to cover the polished steel of surgical instruments with a thin coating of mercurial ointment, which, it is said, proves an efficient protection even on long voyages.

Hog Cholera.

(G. F. L.) No form of treatment has yet been found, so far as we are able to learn, which is in every way satisfactory. The disease is a contagious one and preventive measures and the enforcement of proper sanitary regulations count quite as much, if not more, than medicine. The veterinarian of the Indiana Experiment Station, in discussing the subject, makes the following observations:

"The hogs should not have access to ponds or wallows, as this affords favorable conditions for the germs. The drinking water should be from deep wells. The food should be clean and often changed. If a hog has been separated from the herd and recovers it should not be returned to the herd for several weeks, as it is capable of giving the disease to others, although it may appear to be perfectly well. Hogs should not be placed in pens where the disease has been for three months. All dead animals should be burned or buried deeply in places where hogs will not graze for a year. Diseased hogs should not be driven through lanes or other public highways. The healthy hogs should be cared for first and then the diseased, otherwise disease-bearing material may be conveyed to the healthy. Clean the pens, use plenty of air slacked lime on the floors before using again.

The following formula given by the Bureau of Animal Industry is as efficacious as anything known as a preventive and remedy. It has given fair results: Wood charcoal, 1 pound; sulphur, 1 pound; sodium chloride, 2 pounds; sodium hyposulphite, 2 pounds; sodium bicarbonate, 2 pounds; sodium sulphate, 1 pound; antimony sulphide, 1 pound.

Give a tablespoonful once a day to a 150-pound hog. Give in sloppy feeds, as bran, middling, crushed oats, etc.

Here are several other formulas:

2.)	Iron carbonate	5 parts
	Sodium chloride	5 parts
	Potassium carbonate	5 parts
	Sulphur	5 parts
	Calcium oxide	5 parts
	Magnesium carbonate	10 parts
	Soap	10 parts
	Chalk	60 parts
	Carbolic acid	5 parts

Dose: Give ¼ of an ounce of the mixture at each feed, well mixed with the food. The two following formulas are ascribed to Dr. Haubner, Dean of the Dresden Veterinary College:

3.)	Calcium phosphate, precipitated	16 parts
	Chalk	12 parts
	Magnesium carbonate	4 parts
	Capsicum	1 part
4.)	Sodium bicarbonate	2 parts
	Gentian root	2 parts
	Ginger	3 parts
	Sodium nitrate	1 part
	Chalk	8 parts

As a prophylactic, give 1 to 2 teaspoonfuls twice a day; as a cure, give 1 tablespoonful three or four times a day.

5.)	Potassium nitrate	4 ounces
	Black antimony	4 ounces
	Gentian, in powder	4 ounces
	Resin	8 ounces
	Turmeric	8 ounces
	Madder	8 ounces
	Sublimed sulphur	8 ounces

AN ARTIFICIAL LARYNX. Prof. Anderson Stuart, of the University of Sydney, has invented an artificial larynx for a man who had lost his voice. The invention is a singular success. The changing of certain reeds contained in the instrument makes the voice soprano, tenor or bass, at will. Notwithstanding the fact that this startling information is printed by our truthful and reliable contemporary, the British and Colonial Druggist, we don't believe it. But if it were true—! What a fine thing it would be to have the speakers in the sessions of the scientific section of the A. Ph. A. endowed with such larynxes. By proper manipulation harmony might be attained.

A TEST FOR SACCHAROSE, which is intended for its distinction from glucose and lactose, is made as follows. To an aqueous solution of cane sugar a few drops of a 5 per cent. solution of nitrate of cobalt are added and then a slight excess of 50 per cent. caustic soda solution. The liquid develops a beautiful violet amethyst color which lasts for some little time. Glucose and lactose treated in the same manner produce a blue coloration which soon disappears, giving place to a slight tint of a dirty greenish hue. The presence of saccharose in a solution containing glucose can be detected even when the latter predominates to the extent of 90 per cent. This is on the authority of M. Papasogli, in Rep. de Pharm. (Ph. Jr.).

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"BOX AND CARTAGE."

During last week the drug trade of the Eastern cities has been visited by a committee of jobbers from the Western States, whose mission was to secure the co-operation of the Eastern wholesale drug trade in the restoration and maintenance of the box and cartage charge. This committee, or delegation, consisted of the following: Messrs. J. C. Eliel, of the Lyman-Eliel Drug Company, Minneapolis. (President of the N. W. D. A.); Frank A. Faxon, of Woodward, Faxon & Co., Kansas City; Charles F. Weller, of the Richardson Drug Company, Omaha; J. C. Fox, of McPike & Fox, of Atchison; W. J. Walding, of Walding, Kinnan & Marvin, Toledo; O. F. Fuller, of Fuller & Fuller Co., Chicago. After securing the unanimous consent of the trade in Baltimore and Philadelphia, these gentlemen visited New York, where three days were spent, and with the pleasing interlude of a visit to Boston, where success was attained, the New York visit terminated in an agreement among the jobbers of this city to co-operate with and join with the trade throughout the country in the restoration of the box and cartage charge.

WANT NEW YORK TO HELP.

F. W. Reeves, representing the New England Druggists' Union, was in this city for several days last week conferring with wholesale druggists and jobbers. In New England the union has been remarkably successful in getting signatures to the agreement, not to sell to cutters, and a list of these signers would simply be a Boston wholesale drug trade directory. They also have the signature of a well-known Boston department store firm, Houghton & Dutton, and there is but one cutter in Boston, Jaynes, still holding out.

Feeling that the co-operation of the New York wholesale houses and jobbers was necessary to complete success, Mr. Reeves came on here. He has met with as much success as he could have anticipated. It is rather early to say whether or not he will get the signatures of every firm that he wishes, but the chances are very much in favor of that result. It is known that Schieffelin & Co., Crittenton & Co., and Tarrant & Co. have already signed.

One of the reasons why a number of houses will put their names on Mr. Reeves' paper is because they know the New England Druggists' Union stands in a position to do much harm in certain lines to those who do not sign. Of course the matter has not been put in this light by Mr. Reeves or anybody else, but the Era representative was told by one gentleman that there was no question but what his house would have to sign to protect a particular line of goods that bear a great resemblance to another house's line. One man who would rather not have had his firm sign the agreement said that as a matter of fact the Boston cutter would never buy in large quantities from the drug end of his store while he might do quite a large business with the sundries department. He could not see where his house was the gainer by signing.

One of the gentlemen who signed the agreement on behalf of a well-known house in this city told the Era representative that he affixed his name to the paper with a moment's hesitation; in fact, he would not have sold a dollar's worth of goods to the Boston cutter under any consideration. His reason was that he did not care for the Boston man's trade, or any other man's trade who is similarly placed. He recalled that, some years ago, cutters who were "frozen out" in some particular territory would come to New York and buy goods and be very thankful to get them, the New York firm not being in any combination against cutters. When the war against the cutters was over, the very firms that had been befriended wouldn't do a dollar's worth of business with the New York house. It is simply, he said, unprofitable to do business with such people, and he for one believed there would be very little opposition here to signing the agreement according to Mr. Reeves' desire.

The following letter from Mr. Reeves is printed in this connection, as of interest:

Cambridge, Mass., Nov. 16.

To the Editor:

I did not get a chance to call on you before I left New York, but send you this letter to inform you of what I did. I received the promised co-operation of the following wholesale druggists:

Lehn & Fink, Eimer & Amend, C. G. Bacon & Co., R. W. Robinson & Son, Tarrant & Co., Max Zeller, Schieffelin & Co., Theodore Ricksecker, Parke, Davis & Co., Seabury & Johnson, Upjohn Pill and Granule Co., McKesson & Robbins, Sharp & Dohme, Fairchild Bros. & Foster, C. N. Crittenton Co., Whitall, Tatum & Co., S. H. Wetmore Co., Bruen, Ritchey & Co., Merck & Co.

I should like to have you make a note of it in your next issue, showing the retail trade who are with us as wholesalers in New York.

I have just returned home and find awaiting me a large number of letters from different parts of New England, which show that a great amount of interest is being manifested in different sections of New England. They feel that the Union is fast getting into a position to help them and they are after our co-operation. We shall give each section in turn all the benefit which can be given by the Union. The organized power of all New England will be brought to bear upon any one section, and I think we shall soon demonstrate that a great amount of good has been done through persistent and systematic work.

I wish to thank your journal for assisting us in this work and the interest manifested, and hope that the work may prove a benefit to your journal as well as to the retailers. I rather expect to be in New York again next week, and should I do so will call on you again and talk over matters that transpire during the time. Fraternally yours,

F. W. REEVES.

House Organs.

Artemus Ward has this to say, in the American Grocer, about the practice of publishing trade journals followed by some business houses. It applies appropriately to some journals in the drug trade: "The whole thing is demoralizing to the trade, to manhood, to the entire community. It weakens the proper press without giving any equivalent; it teaches salesmen, clerks and storekeepers that to rob the Government is a trifle; it turns straight trade into roundabout and deceptive systems; it deludes the people and breaks down the true landmarks of trade and journalism.

"Personal journalism gets many a rap, but the newspaper which derides, provokes and even insults many of its foes, has some claim to manhood and to sturdy and brave tendencies. It may serve high aims. The journal which is issued in the personal interest of one firm is, indeed, a sorry thing. Self-praise, self-interest, self-consciousness—every form of self except self-respect is fostered by its very existence.

"The house organs which pass through the postoffice at pound rates not only defraud the United States out of the just postage on circulars, but they stand before rival houses and tens of thousands of indirectly interested parties as a constant evidence that a man may rob the Government and yet be respectable. Years ago one lonely price list in the West bravely laid down its postal privileges and published a statement that regular postage was due and would be paid. Several price lists, whose form would contrast very favorably with that of so-called journals, are honestly paid for. Our postoffice is the most honest, businesslike and useful branch of the Government service. This house organ business is a 'fly in the ointment,' and it should be cast in the fire."

CUT-RATE WAR IN BUFFALO.

A SLASH IN PRICES TO HEAD OFF A GROCERY DRUGGIST.

Buffalo, Nov. 16.—The druggists of this city are now struggling with a cut-rate war. The action was taken to anticipate that of a big grocery firm, Faxon, Williams & Faxon, who have recently been fitting up a new store and intended to add a drug department with the kind of prices which usually attract the public. When it first became known that the grocers intended to go into the drug business, members of the Erie County Pharmaceutical Association made every effort to ascertain the policy of the firm upon the question of prices, but were unable to learn what their intentions were. At a meeting of the association, held about two weeks ago, it was decided to cut prices and thus give the new store no chance to advertise that it could undersell all the druggists of Buffalo. The grocery firm does not intend to open for business until Nov. 25, and it is thought that by that time an announcement of cut-rates on drugs by a grocery firm will fall rather flat and be an old story for the people of Buffalo.

The Van Ness-Cooper Co.

A few weeks ago the sign of the Van Ness-Cooper Co. went up on the building, No. 18 Platt street. The names were familiar to the trade in this city, because of the fact that Mr. and Mrs. Van Ness were formerly connected with the Cooper Pharmacy Co. in St. Louis, and there was much speculation as to their advent in this city. It was known by statements in the St. Louis papers that the Cooper Pharmacy Co. had left that city owing a bill to at least one drug firm, namely, the Meyer Bros. Drug Co., and it was stated in the article in the St. Louis papers that the people in the firm had gone to New York.

It now appears that Mr. and Mrs. Van Ness have incorporated the Van Ness-Cooper Co. in this State. The Era representative called at their office last Friday to ask about a sheriff's sale of some goods that had been shipped from St. Louis here and which were the property of the Cooper Pharmacy Co. Mr. Van Ness and his wife were irritated by the question, and immediately warned the reporter to be careful what he wrote connecting them with the sale in any way. They claimed that the Van Ness-Cooper Co. was in no way connected with the Cooper Pharmacy Co. They were told of the inquiries in the trade about the Cooper Co., and asked to make a statement, and positively refused, saying they would have an advertisement out this week, which would tell all they desired. A day or two later Mr. Van Ness called at the Era office, saying that the reporter had made threats and again giving warning about the Era's making any reference to him.

The drug trade is entitled to the information that the Cooper Pharmacy Co. is charged with having given the Meyer Bros. Drug Co. what was supposed to be a second mortgage on certain property in St. Louis, and when the Meyer Co. looked into the matter they found they only held a third mortgage and the other two completely covered what the property was worth. The lawyer for the Meyer Bros. Co. in this city says that his clients not only held notes of the Cooper Co., but individual responsibility for the Cooper Co.'s debts to the Meyer Bros. Drug Co. were assumed by Mr. and Mrs. Van Ness. They had always regarded the Cooper Co. as all right until they heard that Mr. and Mrs. Van Ness were going to leave St. Louis. They learned that some property of the Cooper Co. had been sent to New York billed to Van Ness, so they wired their lawyer here to attach the goods. The attachment was placed in the hands of the sheriff and the sale took place last Friday at the sheriff's auction rooms. The Meyer Bros. Drug Co. has a suit against Van Ness, which is in the Supreme Court, and which may not come up for some time

Dr. Turnbull's "Crusade" Falling Flat.

St. Louis, Nov. 16.—Dr. Louis A. Turnbull and his crusade, or rather, attempted crusade, against alleged substituters in pharmacy throughout the United States, seem to be coming out at the small end of the funnel. In a conversation with your correspondent the supposedly astute doctor let the cat out of the bag by admitting that his fight (if it ever has assumed the proportions of a fight) was not so much in the interest of legitimate pharmacy as for the interest of the St. Louis Courier of Medicine, over which he has the distinguished honor to preside. In the course of his remarks he also stated that no journal could afford to ignore or attack the movement which he was heading, because "it would make them lose thousands of dollars worth of advertising." Consequently, argued your correspondent, the doctor must be making the fight with the hope of increasing the advertising patronage and circulation of the St. Louis Courier of Medicine. "Certainly," he replied, "I am looking out for the interest of my paper," which remark was followed up with a beautifully pictured account of the wonderful influence of his paper, which he claimed reached 20,000 subscribers each issue. Dr. Turnbull was asked if he was rated to that extent in Bradstreet's, and he replied with the dignity of a prince "that he didn't care a d——n for Bradstreet, that he could prove his circulation by his postoffice receipts." Dr. Turnbull was asked if it wasn't an easy matter to send out hundreds of "samples" and count them in with the postoffice receipts, to which he replied that "all journals send out more or less sample copies every issue."

Dr. Turnbull is a man of great volubility, an elastic imagination and reckoning half the world as a lot of sinners, counting himself, of course, on the other side. It is conceded that he is attempting to get a lot of glory out of his crusade against the pharmacists, and some are enjoying the doctor's embarrassing position immensely. Dr. Turnbull seems to be particularly poor at mathematics, and some of his acquaintances admit that a course in a night school would do the doctor no injury. For instances, he accuses fifty per cent. of the druggists with substituting, and his plan is to publish the names and addresses of all druggists found substituting. There are some four hundred druggists in St. Louis, and after a diligent search, covering a period of months, Dr. Turnbull has published one name as the fruit of his labor in St. Louis. The doctor was asked by your correspondent to name the school where he learned that one out of four hundred was fifty per cent. The astute physician and editor flared up at this and said something about wheels and other machinery.

"When I said that fifty per cent. of the druggists of this country substitute," said the doctor, "I was giving you simply my belief, and did not desire that to be published, as I am not in a position to substantiate it. However, I am still of that belief. But as I said once before there is less substitution in St. Louis than in any other city in the country. Besides, we don't publish every case of substitution that we come across. We only expose the rankest cases," and Dr. Turnbull stalked away as if he were sorry he ever commenced the crusade. The druggists all over the country are getting after Dr. Turnbull with a sharp stick, and he has already been threatened with several libel suits.

The Ohio Food Commission.

Cincinnati, Nov. 17.—State Dairy and Food Commissioner McNeal was successful in preventing the State Board of Commerce from adopting the changes in the Pure Food Laws proposed by the Springfield Board of Trade. The resolutions are as follows:

"Resolved, That the officers of the Ohio State Board of Commerce be and they are hereby requested to prepare a bill to be presented at the next session of Congress, governing the manufacture, importation and sale of food, drink and drug products in the United States, which will impose severe penalties on manufacturers of impure and adulterated goods in this country, and on dealers who knowingly sell or offer for sale such adulterated products; and which will provide for the careful and strict inspection of all food products imported from foreign countries; and, be it

"Resolved, That the officers of this organization be and are hereby requested to petition the General Assembly of Ohio, that (until such time as National legislation governing the manufacture and sale of food products can be secured) the laws now on the statute books on this subject be so amended and modified that persons arrested for their violation shall have the right to make the same defense as in other criminal cases."

It was quite late when the matter was reached. Dr. McNeal was by courtesy given twenty minutes to oppose the resolutions. He declared that a National Pure Food Law, such as was proposed by the resolutions, would be unconstitutional, and that the repeal of the part of the law which made dealers liable would leave the consumer unprotected from adulterated products. In almost every case, he said, the fines assessed against the dealer are paid by the man-

ufacturer or jobber after the jobber has had his own name substituted on the docket in place of the dealer's, so that the latter's name as a dealer in adulterated products does not appear in the case.

Dr. McNeal's twenty minutes ran up to an hour and five minutes, and still he had not finished. Judge Vorhis, of Akron, arose. He said that he intended to make some remarks on this subject, but would forego his speech if Dr. McNeal would quit talking. At this direct rebuff, Dr. McNeal, much embarrassed, took his seat. The resolutions were referred to the Committee on Legislation to report to the council of the State Board.

Assistant Food Commissioner Luebbing thinks that cigars should come under the Pure Food Laws. "A great many cigars," said he, "are sold in colored paper wrappers. The acids used in coloring are injurious to the lining of the mouth."

Lima, O., Nov. 17.—Dr. J. A. Sterrett has found that a food commissioner's life is not altogether a happy one. A druggist in St. Mary's was suspected of selling adulterated whisky. Dr. Sterrett tried to buy some, but the druggist refused to sell it. The doctor then explained who he was and why he wanted the sample, whereupon the druggist seized a cheese knife and drove the doctor from the store, sampleless and discomfited.

St. Louis Druggists Have a Scheme.

St. Louis, Nov. 14.—A number of retail druggists of this city have hit upon a plan which, while not entirely new, is likely to work a decided change in pharmaceutical circles in St. Louis. For some time past nearly a dozen retailers—graduates of the class of 1891—have been discussing the advisability of forming a sort of combination for the purpose of buying goods collectively instead of individually. Druggists Frank Gartheoffner, Max J. Schneider and John Smith are reported to be the leading spirits in the movement which, while not fully developed, is meeting with much encouragement. The advantages to be gained through an organization such as proposed are, it is claimed, many. Chief among them is the decrease in the cost of goods which will necessarily follow, it is argued, on account of the increased amount purchased. It is proposed to do the buying through one man, and to distribute the goods afterward to the members of the "combination," if the expression may be used. The movement is still in its infancy and what it will amount to is a difficult thing to say. The druggists of Kansas City inaugurated a similar movement some time ago and have met with great success. They have even got so far as to operate several manufacturing plants on the co-operative plan. It is a new movement for St. Louis, however, and interested parties say it will be a great money-saving arrangement for the retailer if successfully carried out. Of course the wholesalers are not very enthusiastic over the proposed movement, but contend that it will not affect them to any great extent. It is thought that the movement will be fully developed within a week or two.

New Missouri Corporations.

St. Louis, Nov. 16.—Several new drug companies have been incorporated in Missouri during the past two weeks, which is taken as an indication of the healthy condition of the market in this State. On Nov. 8 the C. C. Williams Drug Co., of Clinton, Mo., was incorporated with a capital of $5,000. The incorporators are C. C., B. A. and C. V. Williams. Yesterday the Canton Drug Co., of Canton, Mo., was incorporated with a capital of $3,000. The incorporators are John B. Kurtz, John J. Hawkins, Edward N. Cason and others. All papers were filed at Jefferson City, the State capitol, and charters issued.

In St. Louis the drug trade for the past few weeks has been pretty fair and fully up to what was expected.

Co-operative Drug Dealing.

St. Paul, Nov. 16.—The newly incorporated Minnesota Pharmaceutical Mfg. Co., to which reference was made in this correspondence last week, is a more ambitious project than originally indicated. It is a co-operative concern with an inviting plan of operations and the interest and participation of the largest possible number of druggists in the State is being sought. The capital is $50,000, divided into 5,000 shares of $10 each, no one person or corporation being allowed more than twenty-five shares. The advantage to be derived, of course, is the chance offered every subscriber, to buy drugs and proprietary medicines at the lowest price obtainable. The officers of the company are: President, Dr. J. W. Harrah, Minneapolis; vice-president, George R. Goodrich, Anoka; secretary, Charles T. Heller, St. Paul; treasurer, S. H. Reeves, St. Paul. These gentlemen, as well as A. D. Thompson and John F. Danek, of Minneapolis, are directors. The principal place of business will be St. Paul, a building on West Third street having been selected for the purpose, and operations will begin early in December. "The nature of its business," read the articles of incorporation, "shall be the manufacturing of medicines and medical compounds and drugs of every kind, and the buying and selling of the same and the carrying on of a general drug business." It is understood that the stock is being disposed of at a reasonably rapid rate, and the general idea on which the company is formed is certainly a good one. The opinion among the trade is that all depends upon the management of the business. For example, it should and must be done upon a strictly cash basis if the enterprise is to succeed. The Era man is given to understand that this is to be done as far as possible. Cash will be required for all goods that the company has to pay cash for, and on proprietary medicines, sixty days' credit may be granted when desired. The projectors promise that the goods will be of first quality and that they "will be pushed throughout the State in the most vigorous manner possible." Pharmacists are requested to furnish formulæ to what is known as the Trade Interest Committee, and the corporation will use only such formulæ as are indorsed by said committee, as per plan adopted at the last annual meeting of the State Pharmaceutical Association. The manager of the company, has not yet been named. The trade will watch the result of this co-operative experiment with no slight degree of interest.

Censured the Druggists.

FARCICAL ENDING OF THE MYSTERIOUS ODENDAHL POISIONING CASE.

The drug trade of this city is wondering how a coroner's jury could censure the firm of Weissman & Muellenbach in the Odendahl case. It will be remembered that a young man named Odendahl was given Epsom salts that had been bought at the retail druggists' store in the Bible House, and that he died with all the symptoms of poisoning by strychnine. Some of the salts in possession of the boy's mother were examined and the alkaloid strychnia was found. An examination of the other packages of Epsom salts in the firm's possession failed to show a trace of strychnine. The question then came, where did the poison come from?

The coroner's inquest was held last week. Mr. Weissman flatly contradicted the testimony of the dead boy's brother, who bought the salts. The brother said he made the purchase of Mr. Weissman, and the latter swore he was not in the store all that Sunday. John Oehler, of McKesson & Robbins, was among the witnesses. He said it would have been impossible for any strychnia to have become mixed with Epsom salts at McKesson & Robbins', from whom the retailers procured their drugs. Tilly Harman, a young clerk at the Bible House store, said she did not know what strychnine was until the Odendahl case came up. She is only employed to put ordinary packages, and she made up the packages of salts.

The jury's verdict was: "We censure the firm of Weissman & Muellenbach for their carelessness in putting up packages of Epsom salts for public sale and for the employment of incompetent persons to do work of like character."

Meanwhile nobody knows who put the poison into that particular package of salts. The police confess their inability to clear up the mystery.

The Burroughs' Memorial Fund.

This fund seems to have stuck, and a special effort is now to be made to raise the amount already subscribed (£860) to £1,000, and to apply this sum to the foundation of a scholarship, the Council of the Pharmaceutical Society having consented to become trustee of the fund. Mr. H. Helbing, the energetic honorary secretary of the fund, expresses himself as disappointed that the fund has not received more help from the United States, the country of the late Mr. S. M. Burroughs' birth.

FUNERAL OF J. NIVEN HEGEMAN.

Although those who attended the funeral of J. Niven Hegeman, at Christ Church, last Friday, found a thoroughly representative gathering, the attendance would have been much greater had the weather been better and the hour earlier. The College of Pharmacy showed its respect to the late secretary by closing the college and sending its senior class in a body to the church, which is near the institution.

Among those present at the services were Chauncey M. Depew, who escorted Mrs. Hegeman; Cornelius Vanderbilt, President S. W. Fairchild, of the college; ex-President Ewen McIntyre, Sr., Assistant Secretary Alfred Hy. Mason, Clerk O. J. Griffin, Trustees Thomas F. Main, Reuben R. Smith, George B. Wray, Charles Rice, Thomas J. Macmahan, William M. Massey, William Jay Schieffelin, and C. O. Bigelow; Prof. J. P. Remington, George Massey, A. C. Searles, M. J. Breitenbach, Fred Hohenthal, Prof. H. H. Rusby, Prof. A. H. Elliott, Prof. Virgil Coblentz, Prof. G. A. Ferguson, Prof. Smith Ely Jelliffe, John Oehler, Dr. George C. Diekman, E. A. Sayre, C. B. Smith, Brent Good, Joseph Toy, Dr. Fr. Hoffmann, W. G. Kugler, T. J. Keenan, Ernst. Molwitz, A. P. Kirley, Luther F. Stevens, L. W. De Zeller, Louis Keyser, Thomas Brinelow, H. N. Fraser, Charles S. Erb, E. J. Malloy, C. J. Perry, Dr. John Munn, Eugene Hartnett, Wellington Schuyler and the following employees of J. N. Hegeman & Co.; Joseph B. Glenny, J. W. Ferrier, H. Coleman, Gustavus Ruckert, Fred Borggrave, J. Tannenbaum, Thomas Lamb and Thomas N. Sumner.

The interment was at Woodlawn Cemetery.

Baltimore Business.

Baltimore, Nov. 18.—The majority of the wholesale drug houses in this city report a very gratifying increase in business. Their traveling salesmen are sending in a large number of orders and a better tone seems to prevail. A feeling of confidence exists in the greater stability of values, and there are other indications of a revival. City trade as well is showing some recovery, and altogether the situation may be said to have considerably improved. Mr. Horace Burrough, of Burrough Bros. & Co., manufacturers of drugs and pharmaceutical preparations, expresses much satisfaction with the condition of business. From other sources it is learned that the improvement is not confined to any particular line of trade, but appears to be general and has every indication of permanence. Retailers are not affected to such an extent as the wholesalers, but as many of them have stopped complaining it may be presumed that they, too, feel the influence of better times. Information from Washington is not so encouraging. Druggists there are largely affected by matters relating to political life. When Congress is not in session, all trades suffer more or less. To this factor must be added the foreshadowing impress of the presidential election next year, which is already apparent, and the uncertainty incidental thereto.

St. Louis Drug Trade Situation.

St. Louis, Nov. 16.—The recent absorption of the Daugherty-Crouch Drug Co. by the Meyer Bros Drug Co. is still the subject of much discussion in pharmaceutical circles in this city. As stated in the Era local druggists looked upon it as a sort of flank movement against the Richardson Drug Co. of Omaha, Neb., which was considering the advisability of coming here and combining with the same company that has now been bought out by the Meyer Bros. Drug Co. Naturally speculation is rife as to how the recent consolidation is going to affect the plans of the Richardson Co. There is a well-defined rumor to the effect that they propose to come to St. Louis any way and open a new wholesale drug house, but the rumor could not be verified. The work of making an inventory of the stock of the Daugherty-Crouch Drug Co. is going on as fast as possible, but the work is one which requires great care, and it may be some time before it is finished. The work is being supervised by Mr. Theodore F. Meyer and Charles W. Wall, of Meyer Bros. Co. The latter company, it is understood, has agreed to pay the appraised value of the stock, and one of the officials thinks that the amount will reach between $275,000 and $300,000. Mr. Meyer states that as soon as the inventory is completed the stock will be transferred to the Meyer Bros. building.

A Druggist Accidentally Killed by a Friend.

Boston, Nov. 14.—Earl Goodrich, a well-known druggist in Athol, was accidentally shot by his friend, Dr. W. L. Edgar, while they were out hunting together yesterday. Dr. Edgar says that he tripped as they were passing through some brush, and as he fell, the full charge of shot struck Mr. Goodrich in the back of the head. Mr. Goodrich came to the town from Chicopee about six years ago. He had previously worked in Springfield, Holyoke and other cities. He was married a few years since to Miss Mabel Dexter, of Athol.

The Late M. Pasteur.

Mr. Malcolm Morris, the editor of The Practitioner, states that he once spent two days with Pasteur in his laboratory, and he was much struck by the extremely business-like way in which the work was organized and carried out. "Pasteur," he goes on to say, "was one of the most unassuming men I have ever met; so quiet and so utterly free from self-assertion was his manner that it was difficult to realize that one was conversing with a man who had revolutionized medicine and influenced the whole future destiny of the human race. It is not too much to say that the history of medicine must henceforth be divided into two epochs: before Pasteur and after Pasteur."

——George White, druggist of Petersburg, Ill., has been in Decatur, looking for a location.

T. H. Hinchman Sons & Co.

T. H. Hinchman & Sons, wholesale druggists, Detroit, Mich., announce that on Jan. 1, 1896, they will admit as partners in their business Messrs. Harry G. Baker and Charles M. Smith. Both of these gentlemen are well and favorably known to the drug trade of Detroit and Michigan, the former having been connected with the firm since 1869, serving for many years as head of the city department and later, as general Manager. Mr. Smith has had several years' experience in the retail business. He became identified with the firm in 1895. The new firm will do business under the name and style of T. H. Hinchman Sons & Co.

Druggists Dragged into Court.

Butler, Pa., Nov. 11.—The hearing of the hotel-keepers of this city before Judge Greer, to show cause why their licenses should not be revoked for violating the law, came up this morning, and, as is usual in these kind of cases, the court room was crowded.

There was very little evidence against the hotel-keepers, but a sensation was created when C. N. Boyd, J. C. Redick, J. F. Balph, S. A. Johnson, G. M. Zimmerman, S. C. Anderson, and Charles Wuller, all druggists of the city, were summoned to produce their prescription files. All of the doctors practicing were also subpœnaed to be on hand when their prescriptions were produced. The cry has been all along that the drunkenness noticeable was caused by the large and indiscriminate sale of liquor on prescriptions by the drug stores, one druggist having been convicted, and now serving a nine months' sentence.

When the licenses were granted, Judge Greer restricted the sale of intoxicants by bottle. The hotel-keepers have now taken this up, and as the prescriptions speak for themselves, the trouble has now drawn the doctors and druggists into the net, and where the thing will end is the all-absorbing question.

Bomb Wrecks Michigan Drug Store.

Constantine, Mich., Nov. 14.—At Mottsville, a small place six miles southwest of here at 10 o'clock last night some fiend threw a dynamite cartridge through the window of Dr. John J. Sweetland's drug store in the main street. The cartridge exploded with terrific force and the heavy front door was blown clear across the street.

The explosion also tore a hole three feet in diameter in the floor, slivered heavy joists, and demolished everything in the building. Dr. Sweetland miraculously escaped injury, but one of his patients, Andrew Gray, who was present, was not so lucky.

Gray received serious injuries from flying timbers and lies in a dazed and precarious condition at his home.

Dr. Sweetland is said to have made many enemies owing to a long standing feud, and it is thought one of these tried to blow him up. Gray says he saw the bomb thrown and tried to extinguish the fuse, but it went off before he reached it.

Proposition to Tax Druggists.

Chicago, Nov. 16.—A scheme to increase the revenue of this city will be included in a communication now being prepared to be submitted to the council by the city collector at the meeting next Monday evening. It provides for an ordinance forcing all druggists, grocery keepers and liquor peddlers, who now operate on city permits only, to secure a license at a fee of $250 a year. At present druggists pay but $2 for a permit, grocery keepers operate under their grocery license, and liquor peddlers are allowed to operate without a license of any kind. The ordinance desired by the collector is a measure which will compel all druggists to obtain a license to sell liquors for medicinal, sacramental or mechanical purposes. If disposed of for medicinal purposes it must be only on the prescription of a duly authorized and accredited physician, while for mechanical and sacramental purposes the name of the buyer, the quantity and the address must be made a matter of record. A test case was made a few days ago when A. H. Jones, a druggist at No. 384 West Madison street, was fined $20 by Justice Underwood for selling liquor without a license under the dram shop ordinance. It was claimed at the hearing by the representatives of the city collector's office that one druggist had sold thirteen barrels of whisky in the last year. The complaint is made by saloon-keepers that they pay $500 a year for a license, while the druggists usurp their trade, and that, too, on a permit that only costs them $2 a year. The scheme is to protect the higher licensed liquor venders and increase the revenue of the city by licensing those who retail liquor with impunity and without a license. It is thought that nearly all of the 1,200 druggists would procure licenses at $250, while the number of grocers and peddlers would be greatly reduced, thereby increasing the revenue of the city and protecting those who are licensed to transact such a business.

Light on a Medicine Co's Profits.

Boston, Nov. 18.—In the Superior Court to-day, before Judge Sheldon, in the case of Gustavus C. Kilgore and Edward A. Wilson, of Belfast, Me., against Hon. George A. Bruce, the jury returned a finding for the defendant. The action, which was tried a year ago, was brought to recover $10,000 upon a promissory note. The note was given in part payment of stock in the Dana Sarsaparilla Co. in 1892. The plaintiffs, who are apothecaries at Belfast, were stockholders in this corporation. The capital stock was $25,000, divided into 250 shares of $100 each. In 1892 dissension arose among the stockholders, who gave the plaintiff, Kilgore, an option to buy their shares for $1,200 per share. The net profits of the corporation since the beginning of 1892 to the time of the bringing of this suit were $135,000, and for the preceding year $100,000. Kilgore, holding these options, sold the defendant Bruce seventy-five shares, Charles A. West 100 shares, and the remaining shares to James E. Whitney. Fifty of the shares which the defendant bought, he purchased for himself, and the remaining twenty-five shares for others. He and West paid Kilgore $1,400 a share, while Whitney paid but $1,225.42 a share. It was in part payment of his shares that the defendant gave the note in suit. The defendant claimed that during the negotiations which preceded the sale, the plaintiff Kilgore falsely represented that all the stock he was selling, either to himself, or West, or Whitney, was being sold at $1,400 a share. He contended, therefore, that he should be recouped against the plaintiffs for the difference between what he paid and what Whitney paid.

Raleigh, N. C.

Raleigh, the capital city of the Tar Heel State, with a population of about seventeen thousand, has eleven drug stores and there are no cutters among them.

John Y McRae has just started a branch store across from the postoffice, and the outlook is encouraging.

J. I. Johnson is one of the oldest druggists in the city, having been here for twenty-nine years continuously in one stand.

Wynne & Birdsong are a new firm who have recently started the North Side Pharmacy at Halifax and Johnson streets.

W. H. King has a neat and attractive store at the corner of Fayetteville and Harget streets and has a number of specialties that he is pushing hard.

J. Hal Bobbit is a Raleigh druggist who is a firm believer in printer's ink and his store bears evidence of the harvest he reaps from the sowing thereof.

Limeade seems to be the popular drink here, and at all the soda fountains you will observe great dishes of elegant limes all ready to be squeezed on to some sugar in the bottom of a glass and then filled up with plain soda.

The chemical department of the State Experimental Station is in charge of H. B. Battle, Ph. G., who is doing some excellent work for the farmers of the State, instructing them how to supply the needed chemicals to their wasted land, etc.

William Simpson, ex-president of the American Pharmaceutical Association, has one of the neatest and best-lighted stores in the city. He is located in the Pullen Building, just below the court house. Mr. Simpson also lectures at the Shaw University, a school that was endowed years ago by Mr. Shaw, of Massachusetts, to educate the negroes. Your correspondent saw a letter that Mr. Simpson received from one of the Virginia Board of Pharmacy, stating that a pupil of this school had passed the best examination of any one that came up before them; he received 99½ on chemistry.

——Out in a certain Kansas county, druggists can sell beer only on prescription, but whiskey goes upon the applicant's affidavit.

NEW YORK AND VICINITY.

——Carl Erkens has left his place with F. Kleinschmidt, 579 Columbus avenue.

——J. L. Dykes, of New Berlin, N. Y., called on friends in the trade a few days ago.

——H. Harrison, of Hartford, Conn., has taken a position in Ferry's pharmacy at Tremont, N. Y.

——B. A. Herrick, of Norwich, Conn., came over to New York last week to buy drugs and sundries.

mond, Va., was here a few days ago.

——Emil Buehler, N. Y. C. P. '88, has resigned his position with A. J. Ditmar, 1180 Second avenue.

——John G. Low, of the Low Art Tile Co., with Mrs. Low, were in town for a few days recently.

——Mr. Way, of Schoemaker & Busch, Philadelphia, spent a few days of last week in town buying goods.

——Mr. Owens, of Owens & Minor, wholesale and retail druggists of Rich-

——John M. Scott, a wholesale druggist and prominent business man in Charlotte, N. C., is at the Waldorf with Mrs. Scott.

——Albert S. Bischof & Son, who have a store at 1646 Second avenue, opened on Friday last a new store at 2006 Third avenue.

——Dr. Greene, of Greene's Nervura, was in town last week for a few days, coming over from Boston on matters of business.

——C. W. Knape, N. Y. C. P. '91, has sold his pharmacy on Park avenue, Rutherford, N J., to its former owner, Fred W. McGee.

——The mineral water bottling establishment of William Whitman, 258 and 260 North Tenth street, Brooklyn, was slightly damaged by fire on Nov. 14.

——The Marquis Manfredi Lanza di Brolo, of Palermo, Sicily, who died in Washington on Nov. 14, was for some time in the wholesale drug business in this city.

——A Brooklyn sheriff's jury has decided that Andrew G. Collin, the well-known druggist of 321 Clinton street in that city, is incompetent to manage his own affairs.

——Louis G. Schnarnikow has resigned his position in the drug store at Eighth avenue and Twenty-ninth street, in this city, to accept a clerkship at 644 Bedford avenue, Brooklyn.

——George M. Eberle, Albany College of Pharmacy, class of '90, has resigned his position with John B. Winter at 307 Manhattan avenue, Brooklyn, and expects shortly to take a clerkship in this city.

——C. Edward Slausen, a Bayport, L. I., druggist, is said to be the inventor of an electric automatic lamp for bicycles. By the revolution of the wheels friction is created through brush contact with the spokes, and enough electricity is generated to light a lamp.

——The Box and Cartage Committee will be entertained this evening by Mr. C. G. Bacon, Jr., at his residence, 83 Park avenue. In addition to the visiting druggists some of the leading drug men of this city will be present. Mr.

Bacon has arranged for a vaudeville entertainment, which will follow the dinner.

——J. Miller Crampton, originator of Crampton's Home Remedies, died in this city last Friday, after a brief illness. Mr. Crampton was the oldest son of Dr. Henry E. Crampton and was well known in the drug trade here. The Home Remedy Co., of which he was the founder, had been recently reorganized and new capital interested. The business will be carried on as usual.

——Manager Charles H. Tompkins, of Schieffelin & Co., was reported to have died some weeks ago and when the report reached his mother in Connecticut she was naturally broken down by it. She was eighty-seven years old, and at that time in good health. Last week she succumbed to a series of illnesses, pneumonia and heart trouble, and the South Norwalk papers say, to a general breaking up that began when she heard the report about her son.

——Caswell, Massey & Co., of 1121 Broadway, are going to establish soon a branch store at Columbus avenue and Seventy-seventh street. Columbus avenue still seems to attract the druggists in spite of the fact that there are so many up that way now. But when such a firm as Caswell, Massey & Co., locate on that avenue the others must think their foresight was of a high order. Nobody has yet bought the store of Tomas & Co. at Sixty-fifth street, which has had its curtains down for months.

——Among recent incorporations is the Bell & Bogart Soap Co., to manufacture soap in New York City. Their capital is $25,000 and the directors are John N. Karsch and W. H. Bell, of this city, and W. H. Bogart, of Orange, N. J. The firm of A. W. Stewart & Co., which bought out the Abbey Pharmacy on upper Broadway a few months ago from Mr. Boney, has also been incorporated with a capital of $15,000. The directors are G. S. Smith and A. W. Stewart, of this city, and Jesse W. Smith, of Brooklyn.

——The defense of Druggist Frederick W. Turner, of 91 Lawrence street, in the suit brought against him by Mary E. Lane for $10,000 as compensation for being given the wrong medicine, is that all the plaintiff's claims are wrong. The child's mother had a prescription filled at Mr. Turner's store and when the medicine was given the child's throat and stomach were injured and remained so for months. It was alleged that the defendant's assistant who compounded the prescription was an unlicensed clerk.

——Ludwig Mond, foreign secretary of the Society of Chemical Industry, left for England last Saturday, accompanied by his son, Robert L. Mond. While Mr. Mond only spent a few weeks in this country, he found much both in and out of his line of business that interested and delighted him, and he remarked to a friend before sailing that if he had visited this country thirty years ago instead of going to England he should have stayed here. He was bidden "bon voyage" at the steamship pier by a party of friends, to whom he expressed the desire of making another trip here, for although he had seen only a small part of our wonderful country, he had not had time to digest even what he had seen.

——In last week's Era's drug market report a leading brand of quinine was said to have been sold "in 1,000-ounce lots by second hands at an advance of 1 cent per ounce, over manufacturers' quotation," owing to the inability to fill orders promptly. The trade was led to believe from this that C. F. Boehringer & Soehne's brand was the kind meant. Mr. Levi, agent for C. F. Boehringer & Soehne, says that the report could not have concerned his house, because he delivered over 200,000 ounces to jobbers in October and a proportionately large amount so far in November, and although the demand was really in excess of his supply, not a single jobber had his orders entirely curtailed. He was obliged to scale down some orders to give everybody a fair proportion.

——Frederick Boos, thirty-five years old, has been held for trial on the charge of attempting to rob Frank A. Hassig, a druggist at 784 Washington street. Mr. Hassig says that Boos and another man entered his store late one evening last week and gave him a prescription to fill. As they looked suspicious he kept his eyes on them, but they saw they were watched and did nothing. He asked for his money before handing over the medicine, whereat the men took the vial from him and started to run out. Hassig managed to seize Boos' hat and the men stopped with threats of "doing" the druggist. The latter secured his revolver and chased the men until a policeman stopped them. Boos' companion escaped. The druggist thinks the pair intended looting his store.

——George Bronson, the petty swindler who has secured money from so many druggists in the South and West, has been located again. The last time he was reported he had gone from Vermont to Ohio. Now Julian E. Kaufmann, druggist of Lexington, S. C., and a reader of the Era, writes that Bronson entered his store on Nov. 9 and tried to get eighty-two cents. Bronson said he was employed at Perry's pharmacy in New York City. Mr. Kaufmann had read about Bronson's tricks and quickly sent the swindler out of the store. When last seen Bronson was making for Augusta, Ga., so druggists there had better look out for him. So few places that do not know him remain for Bronson to work in that he will probably disappear for good soon. Mr. Kaufmann is to be congratulated on being the first druggist to turn down this man, who for over a year and a half has caused much bother to McKesson & Robbins, whom he claimed to represent.

——Among those who know all the circumstances, there is an expression of sympathy for the three members of the Publication Committee of the German Apothecaries' Society, who handed in their resignations at the last meeting of that organization. These resignations were tabled by a large majority vote, but the gentlemen are understood to have said that they will get out the November issue of the Monatsblatt and then quit. One gentleman in the trade says Messrs. Goetting, Mettenheimer and Schmidt have had a hard time building up the paper, gave it more time and attention than they could afford and got no thanks from anybody for what they did. Had they failed to make it a success, our informant avers, they would have had to pay any deficit out of their own pockets. As it is the paper is on the winning side. It remains to be seen whether those who have opposed the Publication Committee will do as well with the Monatsblatt as their predecessors have. The inside history of the bickerings over this matter will make interesting reading some day.

A Surprise at the Alleys.

Dodge & Olcott's bowling team ran up against a snag at the games last Saturday, losing their first game in the tournament to Seabury & Johnson. The results of the bowling was as follows: Dodge & Olcott defeated Tarrant & Co., 773 to 632; Seabury & Johnson defeated Tarrant & Co., 641 to 623; Seabury & Johnson defeated Dodge & Olcott, 733 to 702; Parke, Davis & Co. defeated Colgate & Co., 777 to 677; Colgate & Co. defeated Lanman & Kemp, 764 to 624; Parke, Davis & Co. defeated Lanman & Kemp, 702 to 639. Bruen, Ritchey & Co. lead the league because they have lost no games, although they have only played two altogether.

Scraps from St. Paul.

St. Paul, Minn., Nov. 15.—A. S. Blakey, a druggist at Hamline, one of St. Paul's suburbs, has just wormed out of a little scrape which caused him some inconvenience. Action was brought against him by order of the State Board of Pharmacy for doing business without a license. It was alleged in the complaint that on certain days he sold two prescriptions. The penalty named for each offense was $50. The suit has been settled by stipulation requiring him to pay one of the penal amounts and appear before the State Board to be examined for a license.

Dr. Theo F. Kerr, of Cooperstown, is moving to a new store and enlarging and improving his stock and fixtures. Mr. P. R. Sorensen, of this city, is to be the new manager.

Dr. J. B. Robertson, who owns the drug store in the prosperous town of Cottonwood, reports his medical practice so engrossing that he will be obliged to neglect his drug business or dispose of it.

W. J. Havorka, a druggist, has been arrested by the United States marshal on the charge of selling beer without paying the special government tax. He was selling Schlitz's Malt Extract, and that is a product that the government insists comes under the head of beer. The examination will be held to-morrow.

HERE AND THERE.

—L. P. Evans, of Dover, Me., has left the drug business to become an editor.

—T. B. Glazebrook & Co., druggists at Terre Haute, Ind., have sold out to John V. Cooke.

—J. Cornell & Co., of Danbury, Ct., are to have new quarters in the Cowperthwaite Building, on White street.

—Mr. Schuh has opened a new pharmacy at the corner of Hull street and Fort avenue, Locust Point, Baltimore.

—Charles B. Hildreth, 1277 Euclid avenue, Cleveland, O., is supplying his drug store with new fixtures, double bevel show cases, etc.

—In the drug store of F. Parsons & Co., Atlantic, Ia., F. Mercer succeeds clerk Harry Calkins, who has gone to Hot Springs, Ark.

—It is being strongly hinted in San Francisco that the murderer Durrant was also the murderer of drug clerk Eugene Ware, last December.

—The old established drug store of the late Dr. John R. Angney, at Fifth and Spruce streets, Philadelphia, has been purchased by Jacob Eppstein.

—By a fire in Boston on Nov. 14 the Empire Distilling Co., which does a large business with druggists, suffered a loss estimated to be about $75,000.

—Andrew Tumbleson will succeed Dr. F. A. Harrison, who recently made an assignment in order to retire, at the corner of Eden and Biddle streets, Baltimore.

—B. M. Patterson, of the firm of Grunow & Patterson, druggists, Detroit, Mich., was a caller at this office November 18. He was on his way home from Atlanta, where he visited the Exposition.

—Robert Cummins Stuart, who graduated from the Philadelphia College of Pharmacy in the class of 1895, was married on Nov. 6, 1895, at Christ Church, Houston, Tex., to Miss Rosa Allen, both of Houston.

—John Eashwiller, the wealthy druggist of Montpelier, Ind., who disappeared last week, has been found at Dayton. He tells his family that they can have all his property, on condition that they bother him no more.

—T. B. Roberts, of Allegheny, Pa., a traveller for the Nux Phospho Co., Pittsburg, Pa., committed suicide by shooting himself at Buffalo, Nov. 14. He had just received a letter from his firm conveying his discharge.

—J. Hungerford-Smith Co., Rochester, N. Y., will move into their new quarters about Dec. 1. This building which is situated on the corner of West Main and Elizabeth streets, was built especially for them after their own plans.

—The Benfield Bros. Co. drug store, corner Payne and Willson avenues, Cleveland, O., is one of the finest and most complete prescription stores in the country. It is fitted with Bangs' fixtures, and the arrangement of the prescription counter is notably perfect.

—Walter B. Nobles, the absconding cashier of the Bond Drug Co., Hillsboro, Tex., was seen in Fort Worth a few days ago. He was on his way, it is believed, to the British possessions in the Northwest, with the sheriff of Hill County.

—The V. E. Hawley Co. have been incorporated in Danbury, Ct., to conduct a wholesale and retail drug business at 143 Main street. The stockholders are M. C. Johnson, H. D. Smith and V. E. Hawley, the latter two well known pharmacists.

—At Baltimore, Md., the Faultless Chips Chemical Co. is defendant in a $3,000 damage suit brought by a young woman in their employ who lost two fingers while operating a chewing gum machine. Her father brings suit for a like amount for loss of her services.

—Druggist J. T. Pollard, of Fulton, Mo., at the beginning of the soda season offered a diamond ring to the most popular young lady in the town, to be decided by votes on the checks given with the glasses of soda. The ring was awarded to one young lady who received 3,471 votes.

—A few items from Leadville, Col., are that George E. Taylor is building a very fine residence on the hill. Harvey T. Brown spent a few days in Denver, taking in the festival of Mountain and Plain. Henry Morgan, recently with J. S. Miller, has started in for himself at Breckinridge.

—Barlow L. Walker, a well-known real estate dealer of Washington, D. C., threatens to bring suit for $25,000 damages against Druggist W. E. Shaffer for the alienation of the affections of his wife. The suit promises to be a sensational one, hypnotism and other weird and mysterious agencies figuring largely in it.

—At Rome, N. Y., James A. Owens, late of J. G. Bissell & Co., has returned from an extended visit in the West. Howard E. H. Evans has entered the employ of J. G. Bissell. Willard Roberts and Gordon Hager are attending the New York College of Pharmacy. There is a rumor of another drug store to be started about Jan. 1.

—George H. Hill, of the drug firm of G. H. Hill & Co., Middletown, N. Y., died at Thrall Hospital on Nov. 10 from the effects of a fall in his store on Friday, Nov. 8. The business will be continued by his old partner, Mr. F. M. Perlee, with Mr. Thomas Coyne as manager.

—The Dispensary law of South Carolina has been so rigidly enforced that druggists would not sell even medicinal wines. The proprietors of Vin Mariani protested to the governor on the subject, and as a result that official announces that this preparation will be exempt from seizure, when not sold as a beverage.

—James L. Hatrick, of the firm of Hatrick & Co., Ltd., London, England, and who are English agents for a number of American drug concerns, is soon to sail for the United States, and wishes to hear from any American firms who desire to open up trade in England. He can be addressed care of Wells & Richardson Drug Co., Burlington, Vt.

—Mrs. E. M. Ryan, of Swea City, Ia., is suing her husband for divorce, alleging that he, shortly after their marriage, had his wife's life insured for $5,000, and in company with his partner is scheming to make way with her and recover the insurance. The plan was to have her undergo a surgical operation from which she would not recover.

—At Charlotte, N. C., recently was celebrated the marriage of John M. Scott, oldest son of J. M. Scott, of the large wholesale drug house of J. M. Scott & Co., and Miss Bleecker Springs. It was a great society event, and many well-known society people of the cities of the Carolinas were present, and a number from as far as New York and New Orleans.

—Ed. Robinson, of Bellevue, Mich., the first druggist to be tried for violating the local option law, was acquitted. Every witness swore that he sold liquor only upon the representation that it was needed for medicinal purposes. Mr. Robinson holds a druggist's license, and the judge ruled that he could be convicted only upon the ground that he had made a business of unlawful sales.

—James W. Tufts, of soda fountain fame, has added to his philanthropic deeds by establishing an Italian Workingman's Bank and Association at the North End of Boston. Gov. Greenhalge has written a personal letter of appreciation. There has been so much trickery in the previous Italian savings institutions, that the efforts of Mr. Tufts will be received thankfully by the people who wish to put their money into safe hands.

—James Mason, a Buffalo, N. Y., druggist, was arrested a short time ago, charged with appropriating a diamond ring belonging to his brother's wife. When the case was called in the police court Mason showed a receipt in full for the ring which he said he had purchased from his brother during the latter's financial and domestic difficulties. The judge said the charge was unjust and that the arrest grew out of spite. Mr. Mason was honorably acquitted.

—Among the large number of wholesale and manufacturing druggists who have exhibits at the Atlanta Exposition, none have made a more marked impression than the firm of W. R. Warner & Co., of Philadelphia. Their exhibit is in the form of a handsome, high pyramid, made up entirely of their own specialties, and it has not only been a subject of much admiration by the visitors, but has also been the means of the firm receiving a number of congratulatory letters.

—At Rondout, N. Y., Druggists Maschal & Holmes have sold their business to Henry S. Crispell and George D. Boughton, who will continue it under the firm name of Crispell & Boughton. Mr. Crispell has for some time been managing partner of Van Dusen Bros. store. Mr. Charles S. Maschal, of the old firm of Maschal & Holmes, is now superintendent of the American Tinfoil and Bottle-Cap Co., of Kingston, an old business, recently reorganized. Frank Snyder, formerly with M. Deyo, on lower

Broadway, is now in the employ of the new concern, Crispell & Boughton.

——The political change that resulted from the election in Baltimore last week, when the Republicans carried the city for the first time in thirty years, will furnish rich pickings, of which men connected with the drug business will get a share. Among the various offices is that of health commissioner, which pays $3,000 a year, and under him are a secretary, $2,000; assistant secretary, $1,000; medical examiner, $1,000; assistant, $500; registrar's clerk, $1,000; nuisance clerk, $1,000; recorder of births, $1,000; seven sanitary inspectors, $1,000 each; four inspectors in the annex, $1,800; seven vaccine physicians, $400 each; fifteen vaccine physicians, $300 each; disinfector, $800; inspector of drains, $900; nuisance detective, $800; chemist, $1,500; food inspectors, $1,000. For the almshouse there is appointed an apothecary at $600 a year. His duties are not onerous.

——It is not often that druggists attain the prominence reached by H. H. Holmes, recently on trial for murder at Philadelphia. Members of the trade in Chicago remember him well as an unsuccessful pharmacist in that city prior to 1892, and more than one wholesaler has dealt with him, as the profit and loss account of each will show. His last venture was a drug stroe on Sixty-third street, in Englewood, near the spot where the famous "Holmes Castle" was recently burned. At that time he was assisted by his wife, a comely and intelligent young woman, apparently possessing much the more business ability of the two. It will be remembered that in the ruins of this "Castle" were found human remains, which were alleged to be those of other victims of his. At his trial Holmes—orMudgett ,which is his right name—conducted his own defense, his lawyers having abandoned the case because they could not get a sixty-day postponement which they wanted. Holmes has none of the visible attributes of a wholesale murderer, as popularly pictured. He is of slender build, with mild blue eyes and a soft and rather effeminate voice. His eyes were always apparently inflamed and inclined to be watery. His entire manner and personal appearance denote a weak character, which was borne out by the slackness of his business methods.

Cincinnati Items.

Dr. O. D. Norton was robbed of $15 on a crowded Mt. Auburn car.

J. S. Tompkins has sold his Covington pharmacy to Mr. Cox, formerly a clerk in Fortmeyer's in Bellevue.

Grant Hemphill, a druggist at 606 Elm street, has been arrested, charged with compounding drugs without a license.

H. P. Van Deeren, a druggist of Cynthiana, Ky., and Miss Lizzie Lidick formed one of two couples in a double wedding here this week.

Some of the invalids of the country have been under the impression that Eden Park contained a marvelous healing spring. Water-Works Superintendent Tharp has cruelly exploded the delusion. One old man in Dayton, Ky., attributed his length of years to the regular use of the spring water. The naked truth is that the spring water comes from the reservoir and is plain Ohio River.

ASSOCIATIONS,
CLUBS, SOCIETIES.

——The New England Retail Druggists Union reports that every retail dealer, including the great department house of Houghton & Dutton, of Boston, is now in accord with the Union, except Jaynes & Co., of Boston, but it is hoped that this latter concern may be induced to join in the effort to improve the condition of the retail drug trade.

——The next meeting of the New York State Pharamceutical Association will be held in Buffalo, June 23 and 24, 1896. P. S. McArthur, 273 Niagara street, is local secretary. Correspondence in reference to arrangements for the meeting should be addressed to him; inquiries as to the general work of the association to Clay W. Holmes, Elmira, N. Y.

——There will be a meeting of the National Committee on Legislation of the A. Ph. A. in Chicago on November 22, at which Representative Sauerhering, of Wisconsin, will be among those present by the invitation of the committee. The Committee on National Legislation of the Chicago association will also meet with the above committee at that time.

A meeting of the stockholders of the Chicago Pharmacal Manufacturing Company has been held and they have voted to co-operate with the committee of the Illinois Pharmaceutical Association appointed to act in regard to the co-operative plan. It has been decided to form a co-operative company under the auspices of the Illinois Pharmaceutical Association. The following gentlemen compose the Chicago portion of the committee: Emil Thiele, W. K. Forsyth, Louis Lehman and T. V. Wooten.

Philadelphia Apothecaries' Union.

Philadelphia, Nov. 18.—President James Buckman of the Apothecaries Union reports that at the meeting of the Board of Managers to be held on the 25th inst., it will be decided upon what day the last meeting of the fiscal year will be called.

At the latter session, which will probably take place on Dec. 12, six days before the close of the year, there will be an election of the officers of the Union for the ensuing year.

"The Union has never been in a more favorable condition than at the present time," added President Buckman. "For a time we were under a cloud, owing to the building next door to our headquarters undergoing repairs, which necessitated the tearing down of one of our walls, but now that everything is in order, business is a great deal better and our prospects for better times are very bright.

Kings County Pharmaceutical Society.

The Kings County Pharmaceutical Society held its regular monthly meeting at the rooms of the Brooklyn College of Pharamacy, Nov. 12. F. W. Reeves, of Cambridge, Mass., and agent of the New England Retail Druggists' Union, was present and told what that organization had done to bring about a better condition of affairs for the retail apothecary in New England. He thought that the retail druggists and jobbers of Brooklyn and New York should effect a similar organization. His remarks were well received, but no action upon them was taken by the society. Six new members were elected, viz.: Abraham Silverman, Leo Joffe, Jos. Dahlbender, Ferdinand Julius, J. L. Brumder and A. J. Walters. R. C. Werner, Chairman of the Committee on Legislation, reported in favor of having the existing excise law modified so far as druggists were concerned. He also reported the results of the canvass the committee had made among the newly elected assemblymen to be most satisfactory. Of those seen the majority were in favor of modifying the law. Prof. H. W. Schimpf, of the Brooklyn College of Pharmacy, read a well written paper on the "Sanitary Analysis of Water." Various points made by the writer were illustrated by practical experiments before the society. He also reported various analyses of Brooklyn water made under the direction of the city authorities. The society adjourned to meet Dec. 10, when further action will probably be taken toward having the excise law revised.

St. Louis Drug Clerks' Society.

St. Louis, Nov. 15.—The St. Louis Drug Clerks' Society held a large and enthusiastic meeting last night at the College of Pharmacy building, 2108 Lucas place. The boys turned out in full force and the interest which they are again displaying makes it look like old times. Vice-President W. C. Tritschler presided, while Rudolph S. Vitt performed the functions of secretary. Five new members were initiated and applications received from three more. Wm. Baron, Al Horstmann and Samuel G. Livingston, the special committe appointed to look after the proposed dress ball, reported that the arrangements were all complete and that the affair promises to be the most elaborate in the history of the society. The ball, it will be remembered, is to be given Tuesday evening, Nov. 26, at Union Club Hall, Jefferson and Lafayette avenues.The feature of last evening's meeting, however, was a "smoker" indulged in by all the members present. Samuel Livingston acted as toastmaster and did it in a veteranlike manner. Toasts were responded to by Charles Milne, Treasurer Al Horstman and Secretary Vitt. A luncheon was also provided and the boys had a jolly time until a late or rather an early, hour. Great interest is being manifested in the coming December and January meetings, as at the December meeting nominations are to be made for the annual election of officers which is to take place in January. A large attendance is expected as it is desired to elect a full list of representative officers.

Well Done.

William Stevens, of Liverpool, originally a diver, was, owing to ill health, compelled to go into the workhouse. He was there employed in the dispensing department, and made such good use of his time and opportunities that he has now passed the examination of the Dublin Apothecaries Hall and obtained the appointment of dispenser to the Woolrich Union at a salary of £90 per annum with a house.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Jan. 8, 1896.
Colorado (C. H. Wells, Pueblo)—Denver, Dec. 6.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Dec. 10.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Jan. 13, 1896.
Florida Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—.
Illinois (Frank Fleury, Springfield)—
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Dec. 3.
Kansas (W. C Johnston, Manhatton)—Junction City, Dec. 11.
Kentucky (Wiley Rogers, Louisville)—.
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Dec. 11.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Jan. 9, 1896.
Massachusetts (Freeman H. Butler, Lowell)—Boston, Jan. 7.
Michigan (F. W. R. Perry, Detroit)—Detroit, Jan. 7, 1896.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Jan. 21, 1896.
Mississippi (J. C. Means, Natchez)—Jackson, April 7, 1896.
Missouri (F. W. Sennewald, St. Louis)—St. Louis, Jan. 13, 1896.
Montana (G. W. Shoemaker, Billings)—Butte, April 7, 1896.
Nebraska (M. E. Shultz, Beatrice)—.
New Hampshire (George F. Underhill, Concord)—Manchester, Jan. 28, 1896.
New Jersey (Albert S. Elwell, Bridgeton)—Trenton, Jan. 16, 1896.
New Mexico (W. C. Porterfield, Silver City)—Las Vegas, Jan. —, 1896.
N. Y. New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburg, Rochester, Syracuse and Yonkers, Feb. 28, 1896.
North Carolina (Wm. Simpson, Raleigh)—. Raleigh, Dec. 3 and 4.
North Dakota (W. S. Parker, Lisbon)—.
Ohio (W. R. Ogier, Columbus)—Cincinnati, Jan. 14, 1896.
Oklahoma (C. P. Wickmiller, Kingfisher)—.
Oklahoma City, Jan. 7, 1896.
Oregon (Dan J. Fry, Salem)—Portland, Dec. 10.
Pennsylvania (Charles T. George, Harrisburg)—Philadelphia, Jan. 18, 1896.
Rhode Island (William E. Cates, Providence)—Providence, Dec. 2.
South Carolina (H. W. Hummel, Charleston)—.
South Dakota (I. A. Keith, Lake Preston)—Sioux Falls, Jan. 8, 1896.
Tennessee (J. O. Burge, Nashville)—Memphis, Jan. 15, 1896.
Vermont (J. G. Bellrose, Burlington)—Montpelier, Jan. 7, 1896.
Virginia (E. R. Beckwith, Petersburg)—Richmond, March 16, 1896.
Washington (W. H. T. Barnes, Seattle)—. Tacoma, Feb. —, 1896.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Heimstreet, Janesville)—Milwaukee, Dec. 11.
Erie County N. Y. (C. O. Rano, Buffalo)—Buffalo, Dec. 7.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn) Brooklyn, Dec. 17.
New York City (William Balser, M. D., 218 East 13th street)—College of Pharmacy building, Dec. 9.

——Among the appointments to be made by Gov. Greenhalge of Massachusetts, who has just been re-elected, is that of a successor to John A. Rue, of North Adams, as a member of the Board of Registration in Pharmacy; but is is probable that Mr. Rue will be reappointed.

——The West Virginia Board of Pharmacy is now composed of O. P. Sydenstricker, Lewisburg, president; J. Wm. Brown, Charlestown, vice-president; H. F. Pfost, Jackson, secretary-treasurer, and A. T. Young, Wheeling. Mr. Young has just been appointed a member of the board to fill the position formerly held by R. T. De Vries, Jr.

——At a recent meeting of the Massachusetts Board of Registration in Pharmacy the following-named candidates were granted certificates as druggists: W. H. A. Walsh, of Quincy; John A. Tupper, of Cambridge; Rosaire Dubrule, James J. Brown and Harry L. Timmons, of Lowell; Howard L. Brown, of Pittsfield; Harry J. Ramsey, of Somerville; Willis St. L. Furbush, of Wakefield.

——The Wisconsin Board of Pharmacy won a summary victory recently in the Circuit Court at Madison, in its prosecution of A. A. Mayers, a druggist of that city, for violation of the new pharmacy law prohibiting the sale of poison except by a registered pharmacist. A detective employed by the State board bought a bottle of laudanum from a boy clerk, who was not a druggist, in Mayer's store. Suit was brought in a civil action for forfeiture, in justice court, but in spite of plain violation of the law the jury found for the defendant. The case was taken to the Circuit Court and before it had proceeded far the judge stopped the trial and directed the jury to bring in a verdict for the State. The lowest penalty is a forfeiture of $50 and costs.

——The Michigan Board of Pharmacy and the would-be violators of the State law among the druggists and drug clerks of Detroit have done with each other for the present. The cases of all have been disposed of, fines paid and promises made. A. M. Reid, Dr. M. E. Knapp, Herbert Jenkins, Joseph Breyers, Mrs. Leon F. Freytag and Edward S. Navaun were fined $10 apiece. John Newman paid $15, Irving Beck $25 and Henry Dedenbach $20. Mrs. Harriet L. Seaman, in view of her very great affliction in the conviction of her druggist-physician son of the murder of Emily Hall last January, so excited the sympathy of the judge, and of the board of pharmacy as well, that she was let off on suspended sentence. The board has on its war paint and feathers, and intends to prosecute every violation of the law.

——The Georgia Board of Pharmacy met Nov. 4 in the Capitol. The full board was present. Messrs. S. C. Durban, chairman, Augusta, Henry R. Slack, secretary, La Grange, George F. Payne and Harry Sharp, Atlanta. Mr. John P. Turner, of Columbus, the newly appointed member, was sworn in for a five years' term by Governor Atkinson. The board passed a vote of thanks to Dr. J. W. Goodwyn, the retiring member, for his faithful services during the past eight years. The board re-elected the old officers, S. C. Durban, chairman and Henry R. Slack, secretary-treasurer. Eighteen candidates were examined, and the following passed: T. R. Thornton, pharmacist, Atlanta; B. S. Persons, Wm. H. Baily, Ph. G., col., and Henry Hirsch, apothecaries, and the rest as druggists: J. L. Askew, W. E. Barnes, J. L. Christian, J. L. Estes, George Griffin, Thos. Howell, C. A. Kelly, Ph. G., col., and Dr. E. D. Merrell. The board then visited the Cotton States Exposition, which, excepting the World's Fair, Chicago, was the best they had ever seen. They adjourned to meet in Atlanta March 24.

New Use for the New Woman.

Wichita, Kan., Nov. 16.—Charles L. Lease, the husband of the populist agitator, Mary E. Lease, acting upon the advice of his distinguished wife, has defied the State Board of Pharmacy by reembarking in the drug business and refusing to pay the annual fee of 50 cents, as required by the State law. Mr. Lease was for several years a registered pharmacist, but he quit business over a year ago and has since devoted his time to gardening and housekeeping. He is held for trial for violation of the pharmacy law. If the case goes against him it will be appealed to the supreme court. Mrs. Lease has made a profound study of constitutional law. She declares that she will go before the supreme court in her husband's defense if necessary, and is confident of her ability to prove that the section of the law providing for the assessment of fees for the support of a State institution like the Board of Pharmacy is unconstitutional, being class legislation.

Illinois Board.

Chicago, Nov. 18.—The Illinois State Board of Pharmacy held its monthly examinations in this city last week. Out of sixty applicants fourteen were passed. This being the last regular meeting of the year the board, with three invited guests, who are also ex-members, Messrs. Ebert, Jamieson and Hogan, assembled at the Bismarck Friday evening, Nov. 15, for a repast in honor of the retiring member and president, Mr. H. H. Greene. After the repast Mr. Greene was presented by his associates with a magnificent watch charm, an emblem of the order of Knights Templar, of which order Mr. Greene is one of the officers for the State of Illinois. The presentation was made by Mr. Culver and Secretary Fleury, of the board. It was announced during the remarks that Mr. T. N. Jamieson had been honored in being elected chairman of the Republican State Central Committee of Illinois. This position has never before been held by a Chicago man nor by a fellow-druggist. Mr. Jamieson is becoming recognized as one of the foremost political leaders, not only in Illinois, but in the Union. Being called upon for remarks he said among other things that he is proud to be a druggist and never expects to be anything else, and that he attributed whatever success he had attained in his new sphere not to the example of Talleyrand, who regarded language as a means of concealing thought, but to that of Bismarck, that language, in politics as elsewhere, should be a medium for the expression of truth.

Mr. H. H. Greene, the retiring member and president, having served the allotted time and being ineligible for reappointment by an unwritten law adopted for the succession on this board, has retired. He has proven himself one of the board's most efficient members.

Mr. Greene is one of those chiefly concerned in the modification of the Pharmacy act of 1881 in 1887. When he first began the agitation against the then existing law, much feeling was shown against what was termed the meddling of this man from the rural village of Bloomington. He was, however, invited to a conference at the State capital during the session of the Legislature of 1887, and the masterly manner in which he handled the question of qualification for registration by practical experience, made such an impression upon the conference that with slight modification his views were unanimously adopted and the law was so passed.

Mr. Greene assured the board that he would always retain his interest in the welfare of pharmacy and would hold himself ever ready to espouse the cause of its advancement, should the occasion arise.

Gov. Altgeld has before him the names of the following three gentlemen for the position made vacant by the retirement of Mr. Greene: T. H. Patterson, Chicago; C. H. Tyler, Decatur; H. Lee Hatch, Jacksonville.

Caught Him that Time.

St. Paul, Minn., Nov. 16.—An amusing little story is being told here at the expense of a member of a State Board of Pharmacy in an adjoining State, where the law as to registration is enforced with considerable diligence. The gentleman, who may as well be called Mr. Brown as anything else, went to a small town where he was a stranger and, visiting a drug store, presented a prescription to be filled. Mr. Brown was setting a nice little trap. A young clerk put up the prescription under the eye of Mr. Brown, who, after receiving and paying for it, asked, in the language of your average ante-election newspaper: "Are you registered?" The clerk was not. Quietly did Mr. Brown walk out of that pharmacy, but deeply, darkly dangerous was the gleam of his eye. Mr. Brown lost no time in bringing action, under the State law, against the proprietor of that store. When the case came to trial, the attorney for the defense, a bright young chap just starting out in the profession, "didn't do a thing" but show that there had been no violation of the law, which requires that prescriptions be put up under the supervision of a registered pharmacist; and Mr. Brown, under whose eye this particular prescription had been compounded, was a registered pharmacist. And then the judge "didn't do a thing" but dismiss the case.

Yes, it was a nice little trap that Mr. Brown set.

——Among the new city councilmen elected in Baltimore on Tuesday of last week is Mr. Charles S. Montell, who is in the wholesale drug business.

COLLEGES AND SCHOOLS OF PHARMACY.

——Dr. C. H. Hughes, of St. Louis, lectured before the Alumni Association of the St. Louis College of Pharmacy on Nov. 19. His theme for the evening was "How Pharmacy Aids and May Aid the Physician in Practice."

——The Brooklyn College of Pharmacy has seventy-seven students, thirty-seven of whom are in the senior class. Prof. A. Percival Lohness is now professor of materia medica, botany and pharmacognosy in place of Dr. Joseph H. Hunt, resigned.

——The Board of Trustees of the Chicago College of Pharmacy has a plan or foot to reorganize that institution with the same name upon a stock basis, $10,000 in stock to be issued at $10 per share. All the apparatus and property of the present incorporation is to be turned over to the new organization, and the new organization will assume the responsibilities of the old. A meeting for the purpose was held Nov. 12.

——The second social meeting of the Alumni Association of the Philadelphia College of Pharmacy of the series of 1895-'6 will be held in the college museum on Tuesday afternoon, Nov. 26. The programme will consist of a lecture on "Asphalts and Their Uses" by Prof. Samuel P. Sadtler. The interest of the occasion will be added to by a recitation entitled "The Society Belle, or, the Tragedy of a Slipper," by Miss Florence Sutliff, and another on "A Fair Encounter" by both Miss Sutliff and Miss Mamie Karwitz. These two ladies are from the Mt. Vernon Institute of Elocution.

——Owing to poor health, Charles A. Vroomann, one of the assistants in the department of pharmacy at the New York College of Pharmacy, has been obliged to resign his position and has been succeeded by William A. Hoburg, Jr., one of the prize men of the class of '93, N. Y. C. P. Mr. Hoburg has recently been with R. Lucke, at Eighty-first street and Amsterdam avenue, and before that was with Hermon W. Atwood at his Long Branch store. He is secretary of the Alumni Association of the college. Mr. Vrooman, who was a member of the same class, '93, will now take a trip to Colorado, with the expectation of regaining his health.

——The death of Secretary J. Niven Hegeman, of the New York College of Pharmacy, has brought to the attention of the officers of that institution the fact that no provision exists empowering anybody to sign checks or transact like business in case of the secretary's demise. It is also quite a question how the vacancy shall be filled, but this will probably be solved by the president appointing a secretary pro tem., or calling a meeting of the college at which a temporary officer may be elected. The matter will be settled in a few days.

It is understood that Mr. Hegeman's business will go on as usual for the present at any rate. All the four stores are doing an excellent business, and Mr. Glenny will look out for the interests of the firm

The California College of Pharmacy has just graduated the largest class in its history. Following is a list of the graduates who also acquire the right to be licensed as pharmacists:

Adial Sabin Jones, San Francisco; Haydn Mozart Simmons, San Francisco; Joseph Louis Lengfeld, San Francisco; Carl Torvald Lauritz Gydison, Salinas; Nicholas Robert de Urinella, Mexico; Henry Jones Miller, Oregon; Henry Milton McQueen, Missouri; Charles D. Fairbanks, Tustin, Cal.; Joseph Hildreth Brown, Oregon; John Francis Christopher, Los Angeles; William C. Dore, Berkeley; Pratt Cook Inmann, San Rafael; Joseph Silvia Onesti, San Francisco; Frederick George Ulman, Oak Grove, Cal.; Leo Munter, Germany; Charles Christopher Rubel, Marysville; J. Wirt Cummings, Oroville; Frank Charles Becker, Merced; Walter C. Powell, Oregon; Franklin Thomas Duncan, San Francisco; Charles Alfred Bayley, San Francisco; Harold Skinner Cottle, San Jose; Charles Abraham, San Francisco; George Walker Hawkins, San Francisco; Richard Jones Baily, San Francisco; John Crockett Newton, San Francisco.

Prof. Rusby's Lecture.

There never was any doubt of Prof. H. H. Rusby's popularity at the New York College of Pharmacy, but had there been, it would have been completely dissipated at the Professor's lecture last week at the college. His class and many friends gathered to hear him lecture on "Poisonous Plants in the Vicinity of New York," greeted him with cheers and certified to the fact that he was "all right" for several minutes. When the applause had subsided, Prof. Rusby went ahead. The lecture was illustrated by beautiful stereoptican views of the flowers described.

Philadelphia College.

Philadelphia, Nov. 15.—As predicted in the Era of last week, a committee of students from the Philadelphia College of Pharmacy waited upon Director of Public Safety, Abraham S. Butler, and asked him to exercise his power to prevent the further persecutions of the students by the police.

The director received the young men very kindly, told them that he understood the police around the college and the students had been at loggerheads resulting in the arrest of three students, and that he was sorry the difficulty had occurred.

He also explained to the young men that he was a youth once himself and knew just what an overflow of spirits generally existed in a crowd of college students, and at times they were liable to forget themselves and make much more noise than they really thought.

Before parting the director put the young men on their honor that in the future they would do the best to preserve order among themselves, and he would immediately withdraw all special policemen from the neighborhood.

The boys enjoyed their visit to the Director very much and voted him a jolly, good fellow.

Professor Henry Trimble, Chairman of the committee under whose auspices the pharmaceutical meeting will be held on Tuesday, November 19, says the meeting promises to be one of unusual interest.

Probably the matter that will attract the greatest attention is the growing Kola plants exhibited by Joseph W. England and described by Professor E. S. Bastin.

Other interesting specimens have been promised for this meeting.

These gatherings are held in the interest of the whole drug trade and druggists generally are invited to attend and take an active part.

Ohio Normal University Pharmacy Department Notes.

Ada, O., Nov. 11.—The enrollment in the pharmacy department is larger than ever before in the history of the school. The new building opened for use at the beginning of the school year, is filled with students. Students have entered from Ohio, Pennsylvania, Indiana, Michigan, New York, Missouri, Kentucky and Minnesota, Michigan contributing a larger number than any State excepting Ohio.

Dr. Robert Nourse, of Washington, lectured in the college halls recently on the subject of "Narcotics."

R. D. Sanford, who has just completed his course, has accepted a position with the Tom Johnson Steel Co., at Lorain, as assistant chemist.

F. B. Hall is with the Murdock Co. at Parkersburg, W. Va., as chief chemist, and M. S. Woosley is in the laboratory of the Carnegie Co. at Homestead, Pa.

Messrs. Graber, Hatch, Seifert, Bradshaw and Miller are attending the Cincinnati College of Medicine. Percy Lee, of the same class, is at the Indianapolis school.

Messrs. Everett and McCrory have just opened a new store in Fairmont, W. Va., which is pronounced one of the finest in the State. Mr. McCrory has just returned home from a visit to his many friends in the university.

Joe R. Blackburn, of Bellaire, a graduate of '92, was elected to the Ohio Legislature in the late landslide. Joe will be one to look out for the interests of the pharmacist when any of those new pharmacy bills to register any and every one comes up.

Nov. 10, Rev. Mr. Campbell addressed the students upon the necessity of applying every energy in making thorough preparation for the careful discharge of the duties of modern pharmacy.

The church was crowded and the closest attention was paid to the excellent discourse. The many temptations to young men engaged in the work were brought out in a most forcible manner. The sins of substitution with its fearful results upon the patient, the greed of gain which induces the dishonest practice, the temptation to "tiple," running saloons under the guise of drug stores, sales of narcotics and the effect of such sales upon the poor victims of the habit, the duty of the druggist when he sees the habit being formed; counter prescribing, Sunday opening, loafing in the store and behind the prescription counter, the duty of the pharmacist to study and keep abreast with the times; the high position in the community that he should aim to maintain, his influence as a professional citizen and his duty as such, and, lastly, his duty to the church, were some of the questions. After the services the students were introduced to the speaker by Principal B. S. Young.

Chicago College.

Chicago, Nov. 14.—Prof. E. B. Stuart gave the students of the Chicago College of Pharmacy a talk this evening on "Milk Inspection." Professor Stuart was formerly connected with the college and recently has resigned from the department of milk inspection of the city of Chicago. His address was listened to with great attention as well by the students as by others in attendance. The speaker began by outlining the powers and duties of the department of milk inspection as defined by the ordinance creating it. Under the law milk, in order to be up to the proper standard of quality, should not contain less than 3 per cent. of butter fat. It should contain about 12 per cent. of other solids, casein, albuminoids, etc. The milk of different breeds of cattle varies in richness, and is not so rich in the spring and during wet weather when the milk is then naturally "watered," because the food taken by the kine contains more water then than at other times. In several States provision is made for this in the inspection laws. Under the present city ordinance milk from cows fed on the refuse from breweries and distilleries is not permitted to be sold. Examination has developed the fact that such milk is liable to contain bacteria dangerous to the public health. Not more than three cows are allowed to be kept on one lot within the city limits. This provision was incorporated in the ordinance to do away with the keeping of a large number of cows in poorly ventilated stables, reeking with filth, and in themselves, as well as on account of the milk, a menace to health. Milk taken from cattle in such quarters is invariably impregnated with bacteria of a very suspicious character. The investigation of the milk was begun with samples taken from the cans as they reached the depots of the various railways over which daily milk shipments are made. In general the quality was up to the standard and many times above, only 6 per cent., in fact, falling below the prescribed grade. Turning its attention to the milk as sold by the milkmen after being taken from the railway depots, the department revealed the startling fact that only 20 per cent. of such milk was up to the proper standard.

This, it may be said, was the result of the sharp competition between milkmen, and the extent to which milk was diluted was limited only by the vigor of the customer's "kicks." Now, however, thanks to the department, only about 10 per cent. of the samples taken in the city falls below the requirements. Milk from cows fed on distillery slops is a thing of the past.

The speaker now described his method of detecting coloring matter in the milk by the use of carbonate of soda and filter paper; the chemical tests applied to determine the proportion of fat and other solids by the use of salicylic acid and ether. The method, however, now in use in the Chicago department for determining the quality of the milk is one invented by Professor Babcock, of the University of Wisconsin, and depends upon the principle of centrifugal force.

The bottles are so arranged as to lie horizontally and are filled with equal parts of milk and sulphuric acid, the necks of the bottles being slender and small, and graduated so that the percentage of cream can be at once determined. The machine is set in motion at the rate of about 200 revolutions per minute, the centrifugal force carrying the denser parts of the solution to the large end of the bottle, leaving the fat globules at the neck beneath the graduated scale. Professor Stuart next adverted to the subject of ice. Ice is subject to impurities as well as other things. An opinion seems to be all too prevalent among the uninformed that ice and the water resulting from melting the ice are necessarily pure. This is an entire fallacy. Hence the department had undertaken the inspection of ice as well as of milk. The speaker, having finished, called upon those present for questions. Mr. Ebert desired to have explained to the students how a druggist who did not possess the milk-testing apparatus could make an estimate of the quality of the milk. Professor Stuart complied with the request and explained a process and formula whereby milk could be tested by any druggist with the ordinary means at his command.

During his remarks the speaker had referred to milk as a natural emulsion. Professor Hallberg asked if an artificial emulsion, such as the various emulsions of cod liver oil, could be tested by the centrifugal machine. The speaker replied that he had never tried it, but thought they could. The discussion next turned toward the purity of the milk in relation to the time which would elapse before fermentation set in. The statement was made that pure milk would keep any reasonable length of time in the ordinary temperature of a kitchen if the air were excluded from it. Professor Stuart said that in his opinion absolutely clean milk does not need sterilization, that it is, in fact, naturally sterilized by the absence of germs, and will keep any reasonable length of time.

After the lecture one of the well-known physicians of the South Side who heard it, broached this proposition, which, if at all tenable is a subject for physiological investigation: Milk is not an emulsion natural or artificial. It is not to be compared with the emulsion made from oil, gum and sugar, but is made up of living organized cells, which, like all living matter, is subject to change under favorable conditions.

On Thursday evening, Nov. 21, Mr. Hiss will speak on the "Present Aspect of Pharmacy."

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ALABAMA.

Selma.—Galt & Co., sold to Groves & Co.

CALIFORNIA.

Anaheim.—H. C. Foster, discontinued.
San Jose.—C. E. Cass, filed bankruptcy petition.
San Francisco.—J. W. Scammel, now Mrs. E. Scammel.

COLORADO.

Denver.—Kennedy Drug & Chemical Co., incorporated.
Rifle.—A. Glover, sold to W. S. Bennett.

CONNECTICUT.

Danbury.—Mrs. V. E. Hawley, sold to the V. E. Hawley Co.
Hartford.—F. A. Pierson, sold to F. E. Graves.
New London.—C. C. Lippitt, State st., assigned.
Wethersfield.—G. B. Smith, sold to Bulkley & Hammer.

DELAWARE.

Wilmington.—E. T. Dilworth, sold to J. C. Robinson.

GEORGIA.

Augusta.—J. B. Perry, damaged $200 by fire; insured.
Claxton.—J. F. Currie & Co., removed to Lyons, Ga.
Valdosta.—Dunaway & Paine, now W. D. Dunaway.

IDAHO.

Idaho Falls.—Changnon & Baker, sold to A. G. Changnon & Co.

ILLINOIS.

Freeport.—H. C. Heyer, sold to William Schleizer (City Drug Store).
Harvard.—C. A. Stone, in hands of sheriff.
Rockford.—John R. Porter, recently deceased, succeeded by the John R. Porter Drug Co.
Salem.—Ray & Crowell, new store.

INDIANA.

Coal Bluff.—A. Sampson, removed to Carbon, Ind.
Delphi.—Robinson & Thompson, now W. P. Thompson.
Hartsville.—R. W. Ross, sold to S. I. Stearns.
Moore's Hill.—Lewis & Noble, now C. H. Lewis.
Syracuse.—Hoopingarner & Miller, now Miller & Bushong.
Washington.—Pensinger & Seneff, sold to Jackson & Thompson.

IOWA.

Creston.—Kingsbury & Taylor, sold to Atkinson & Taylor.
Denison.—F. O'Dell & Co., sold to Schlumberger & Richardson.
Des Moines.—H. Roberts & Co., assigned.
Milton.—G. S. Pennington & Bro., sold to McKibben Drug Co. (Reported recently as Mr. McKibben.)
Packwood.—M. Childress, sold to Weller & Carse.

KANSAS.

Andale.—T. H. Cornwall, removed to Mt. Hope, Kan.
Argonia.—Janeway & Dunham, now Janeway & Janeway.
J. W. Dunham, opened new store.
Atwood.—Atwood Drug Co., new store.
Beaumont.—George Westacott, sold to W. J. Phillips.
Bently.—G. W. Young, removed to Andale, Kan.
Benton.—J. W. Dill, sold to J. M. Marlatt.
Coldwater.—Morrison & Lockwood, out of business.
Halstead.—D. V. Riesen, sold to A. B. Rose.
Kingman.—E. Hayes & Co., discontinued
Medicine Lodge.—Mrs. J. R. Young, succeeded by J. R. Young Drug Co.
Pawnee Rock.—Bartle & Lyle, who recently succeeded Bartle & Holland, have sold to E. W. Smith.
Robinson.—C. H. Royer, sold to J. W. Noll.

MARYLAND.

Baltimore.—Dawson's pharmacy, Fayette and Pearl, sold to Dr. Jos. Hart.
B. W. Charshee, 1201 Druid Hill ave., sold to J. V. Singer.
F. H. Cooper, 900 Hanover, discontinued.
William Dawson, 904 Madison ave., discontinued.
F. A. Harrison, 132 E. Biddle, sold to Andrew Tumbleson.

MASSACHUSETTS.

Athol.—Earl Goodrich, accidentally killed.
Attleboro.—H. P. Childs, sold to Irving Stimson.
Boston.—Clarence M. Rogers, voluntary insolvency petition.
Malden.—I. W. Lyman, has reopened Central Pharmacy, 3 Pleasant st.
Salem.—Thomas Tudbury's store, sold to M. Edward Rogers.
Worcester.—C. J. Foley, now Timothy Foley.

MICHIGAN.

Bay City.—H. J. Taylor, Washington st., new store.
Coopersville.—J. B. Watson, succeeded by R. E. Watson.
Grand Rapids.—Peter Beyer, removed to Overisel, Mich.

MINNESOTA.

Ellsworth.—E. F. Tabler, sold to M. Holleran.
Erskine.—M. McKinnon, new store.
Minneapolis.—M. J. Ham, sold to A. E. Moberg.
Olivia.—J. E. Davenport, sold to Davenport & Gibbs.
St. Paul.—Conger Bros., damaged by fire.
Wells.—N. C. Nelson & Co., sold to J. C. Williams.

MISSOURI.

Cora.—George Wattenberger, new store.
Lexington.—J. W. Embry, sold to Crist & Gardner.

NEBRASKA.

Elgin.—W. A. Peterson, burned out.
Waverly.—E. R. Vining, attached.

NEW HAMPSHIRE.

Milton.—B. B. Sloan, failed.

NEW JERSEY.

Rosenhayn.—E. E. Howard, burned out; partially insured.

NEW YORK.

Attica.—C. D. Jefferson, deceased.
Elmira.—Carey, G. E. S. S. Medicine Co., sold by sheriff.
Jamestown.—William Koehl & Co., damaged by fire; insured.
Kingston.—Maschal & Holmes, sold to Crispell & Boughton.
Syracuse.—W. L. Marsh, deceased.

NORTH CAROLINA.

Washington.—D. T. Taylor, reopened at same location, Main st.

OHIO.

Canton.—Durbin, Wright & Co., incorporated as Durbin & Wright Co.
Dayton.—Frizell, Evans & Bro., damaged $2,000 by fire; fully insured.
West Manchester.—S. H. Overholtzer, succeeded by W. E. Juday.

PENNSYLVANIA.

Chester.—Mrs. G. B. Wilson, 3d and Penn, sold to F. T. Van Artsdalen.
Johnstown.—J. A. Baird, new store.

SOUTH CAROLINA.

Pelzer.—W. A. Davies & Co., removed to Greenville, S. C., where they succeed D. T. Bacot & Co.
Ridgeway.—Linder & Team, sold to Dr. J. W. Team.

SOUTH DAKOTA.

Gettysburg.—F. C. Brooks, new store.
Reville.—J. T. Tidball, moved to Brookings, S. D.

TEXAS.

Bogota.—Dr. Heizer, new store.
Dallas.—J. E. Harper & Co., sold to S. H. Tillman.
Dodd.—L. L. Nichols, sold to M. B. Keithly.
Fort Worth.—F. M. Howe Drug Co., sold to Smallwood & Anderson.
Gordonville.—W. T. Flowers, assigned.
Holland.—W. T. Douthitt, sold to O. R. Manes.

VERMONT.

Barre.—H. P. Kendrick, deceased.

VIRGINIA.

Newbern.—R. E. Caldwell, damaged by fire.

WASHINGTON.

Spokane.—J. A. Crowley's stock, sold by sheriff to O. H. Anger.

WEST VIRGINIA.

Martinsburg.—E. C. Williams, West King st., new store.

WISCONSIN.

Fond du Lac.—Giesse & Taugher's store, sold to George Silverthorn.
Janesville.—Palmer & Son, now Palmer & Bonesteel.
Mukwonago.—F. H. Escher, sold to Stone & Alexander.
Richland Center.—Dieter Bros., now L. M. Dieter.
River Falls.—Youell & Chapman, sold to Chapman Bros.

MANITOBA.

Winnipeg.—W. H. F. Gibbs, sold to E. T. Howard.

PATENTS

TRADE MARKS, DESIGNS, ETC.

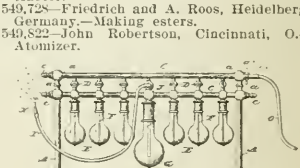
PATENTS

Issued Nov. 5, 1895.

549,138—George Krell, Hüsten, Germany.—Apparatus for concentrating and distilling sulphuric acid.
549,236—George J. Seabury, New York, N. Y.—Adhesive plaster.
549,405—Alfred C. Stevenson, Oakdale Station, Pa.—Medicated ventilator.

Issued Nov. 12.

549,607—Charles Morgan, assignor to Arcade Mfg. Co., Freeport, Ill.—Cork extractor.
549,728—Friedrich and A. Roos, Heidelberg, Germany.—Making esters.
549,832—John Robertson, Cincinnati, O.—Atomizer.



Claim.—An atomizer having an inlet pipe, C, communicating with one or more suspended atomizing tubes, F, having atomizing holes, "f," of smaller area than any of the subsequent openings in the flasks, E, pipe, C, mixing flask, exit and discharge tubes into which the atomized product is projected to permit the expansion of the air therein, substantially as and the purposes specified.
549,831—Joseph Steuer, Chicago, Ill.—Soap holder.

TRADE-MARKS

Registered Nov. 5, 1895.

27,178.—Remedies for Rheumatism, Neuralgia, etc. Paul J. Fouquier, London, England. The word "Givi."
27,179.—Remedies for Certain Named Diseases. Frederick W. Breaker, St. Louis, Mo. The hyphenated word "Ump-ta."

Registered Nov. 12.

27,199.—Salve. Rachel A. Cox, Brooklyn, N. Y. The word "Relievaline."
27,200.—Salve. Emil A. Huber, New York, N. Y. The abbreviation and words "St. Emilion Salve."
27,201.—Internal and External Remedies for Pain, such as Neuralgia, Gout, Toothache and Stomach-ache. Walter E. Scott, St. Louis, Mo. The letter "N."
27,202.—Certain Proprietary Remedy. Finlay, Dicks & Co., New Orleans, La. The word "Kokorana."
27,203.—Remedy for Kidney Diseases. Clem H. Tingley, Columbus, O. The words "Kidney Kure" arranged with a single initial letter.
27,206.—Emulsion of Vegetable Oils with Hypophosphites of Lime and Sodium. Wilmer L. Keller, Baltimore, Md. The word "Trinolea."
27,237.—Hair Reviver. Forresta G. Hutchison, Chicago, Ill. The words "Apachean Hair Reviver."

——Armstrong Bros., Decatur, Ill., druggists, are to move into their new store at North Main and William streets, on Dec. 1. All the druggists in that city are cutting prices, business reported very dull, and crops a failure in the surrounding section.

WHAT DRUGGISTS MUST KNOW.

—10c p skirlet Dianon die
—A Bottle of Madacomantum
—3 grane quining copcel
—Carbolick 25 cts
Calabore 10
—½ pt. akenol
—cogill
—I Want 2 larg size neapel that go on a tube read on and 5 cent Weret of Cordial
—2 packages peneroil
—5c kidnap
—Exes powder (Insect powder)
—5 cent of White led
5c. of Bearnsum
5c. of Rose Water
5c. of gleascerene
—gross o Seppiment
alcoholl
Bed Bug Poison
—hundred pill half grained power fline
—please dear ser send me the best box ove pills that you have for I have headake and have spels ove throwing up
—antecanyon
—Tincture of Gementic Ginger
—10c red die for paint sokx
—10c handgint tame
—Prax Nige fane.

JOS. SCHANHER,
Central Drug Store,
Mt. Clemens, Mich.

—Brendes Pilen 5c.
—Wilkensohn Suding Syrub
—Bottle Masserteine (vaseline)
—fore 10 Sents lickerous poder
—Grimedatir. (cream tartar)
—Deposto fohigectu (Glycerine suppositories).
—5 scherwell water (Javelle water)
—5 Tanzye Tea.
—Bidsinus oil. (Castor oil)
—5c epicap Sirip
—Scylatin soda
—A pack of cuban cigarats (cubeb)
—Please Sand me hard kinine pills 2 grane for 5 Sants nite pils
—5c Amonida.
—Anti Cameo Capsules
—box Koff drops 5 cent.
—calbo Ass
—Tincture of Zinc.
—Brohma Seltzer.
—Vanasatine
—Parieargi 10c
—10c Senner Manner.

DAVID GOLDSTICKER.
51 So. Orange avenue,
Newark, N. J.

Eli Lilly & Co.'s pharmaceuticals can be obtained through the regular jobbing trade, and the discount upon them is 40 per cent. Get this firm's catalogue, do a little figuring, and remember to specify "Lilly's" when ordering.

If there is anything "special" in buying plasters the druggist ought to know it. The Deane Plaster Co., Yonkers, N. Y., are making a special offer on all kinds, particulars of which will come by simply writing for them.

The best word that can be said in favor of any particular article can be said by users of that article. The Paddock Cork Co., of Brooklyn, N. Y., present such evidence in favor of their corks in their advertisement in this issue.

The next time you have to repair your ceiling, figure on the paneled metal ceilings made by A. Northrop & Co., Pittsburg, Pa. They are fireproof and waterproof, never fall down, can be put on over old plaster, and they are artistic. Send stamp for illustrated catalogue.

People commenced chewing pepsin gum when Beeman's was the only kind upon the market. Their memory of this brand is kept fresh by continuous advertising, and this popular demand should have something to do with the druggist's specifying Beeman's on his orders.

BOOK REVIEWS.

JOHN DALTON AND THE RISE OF MODERN CHEMISTRY. By Sir Henry E. Roscoe, D. C. L., LL. D., F. R. S. 212 pp. $1.25. New York: Macmillan & Co.

This is a book which will prove of great interest to the student of chemistry in whatever field he may labor, for it throws many sidelights upon the life and character of one of the world's greatest chemists.

John Dalton was born in the village of Eaglesfield, England, in 1766, and passed most of his life in Manchester. His father was one Joseph Dalton, a Quaker. In early life Dalton was a schoolmaster and "considered to be very studious." His first attempts at scientific investigation were meteorological. In those first beginnings, as in his later scientific work, he used home-made instruments, often crude and inaccurate according to modern notions. These instruments he not only made for his own use, but he sold them to others. In 1787 Dalton tried his hand at public lecturing with but scanty success. He also devoted some time to botanical classification and to collecting the flora of the district in order as he hoped "to earn an honest penny." In this work he informs Mr. Crosthwaite that he thinks he "could engage to fill a book of two quires for half a guinea." His complete "Herbarium" occupied eleven volumes. But he was nothing more than a collector, for scientific botany was then non-existent. From the collecting of plants he passed to collecting insects. In 1793 he went to Manchester as a teacher in an academy whose object was to give a high-class education, free from every religious or political test, both to laymen and to candidates for the Presbytarian ministry. He taught mathematics, natural philosophy and chemistry, using for the latter subject Lavoisier's "Elements of Chemistry" and Chaptal's "Chemistry." He remained for six years in the academy, when he resigned his position and devoted himself to the prosecution of scientific inquiry, earning his living meantime as a private teacher.

By the year 1826, Dalton had achieved a European renown, but he was not so famous in the city of his adoption. To bring out the contrast, the author relates how M. Pelletier, a Parisian savant, came to Manchester with the express purpose of visiting the illustrious author of the Atomic Theory. How, doubtless, he expected to find the philosopher well known and appreciated by his fellow citizens—probably occupying an official dwelling in a large national building devoted to the prosecution of science, resembling, possibly, his own College de France or Sorbonne. There he would expect to find the great chemist lecturing to a large and appreciative audience of advanced students. What was his surprise to find on his arrival that the whereabouts of Dalton could only be found after diligent search. At last he found him in a small room of a house on a back street, engaged looking over the shoulders of a small boy who was "cyphering" on a slate. "Est que j'ai l'honneur de m'addresser à M. Dalton?" for he could hardly believe his eyes that this was the chemist of European fame, teaching a boy his first four rules. "Yes," said the matter of fact Quaker. "Wilt thou sit down whilst I put this lad right about his arithmetic?" In 1801 he wrote an English grammar, in which he got rid of the "articles" from the parts of speech, by classing them with adjectives as "definitives." From this time on he prosecuted a number of researches on meteorology, and atmospheric phenomena. He discovered that he was "color-blind," and upon investigating the subject he wrote a Memoir entitled "Extraordinary Facts Relating to the Vision of Colours with Observations." Up to the year 1796 we have no evidence that Dalton had taken any special interest in chemical research, but from that time on he was constantly occupied in endeavoring to obtain a knowledge of the laws which express the chemical and physical properties of gases. In 1801 he read a paper on the constitution of mixed gases, in which he gives a statement of four important laws which form the basis of our present knowledge. The next important research is an "Experimental Enquiry into the Proportion of the Several Gases or Elastic Fluids Constituting the Atmosphere," read Nov. 12, 1802. His paper next published was one upon the "Tendency of Elastic Fluids to Diffusion." The phenomena of the solubility of gases in water next attracted Dalton's attention, especially as regards the solubility of the gases under variation of pressure, and from a consideration of this subject was evolved a law which has stood the test of time, viz.: "Dalton's Law of Partial Pressures." His views, how the gas dissolved in water, are interesting. He believed that the different gases which do not combine chemically with water are absorbed in certain definite fractions of the bulk of the water, in amount corresponding to the cubes of the reciprocals of the natural numbers, 1, 2, 3, etc., the same gas always being in the same proportion, provided the temperature and pressure remain constant. This phenomenon he looked upon as a purely mechanical one, and he gives pictures of this arrangement—"a horizontal view of air in water," and "a profile view of air in water"—with marks where the particles of the different gases are supposed to lie. Though Dalton's theory of solubility was altogether mistaken, it was a fruitful one and led him to the greatest of all his discoveries, viz., to the the determination "of the relative weights of the ultimate particles of gaseous and other bodies." In 1803 he read a paper, which was later published in 1805, containing the first table of atomic weights. This table was the great foundation-stone in chemical science; for upon it and what naturally followed it all the edifice of modern chemistry rests.

Passing over the very entertaining chapter describing his personal habits, daily life, frugality, etc., we are made acquainted with his atomic theory, read extracts from his laboratory notebook

and lecture notes, and the symbolic language he introduced as his system of chemical nomenclature. In spite of his rough methods of experimentation, his results stand out the greatest landmarks in the science. His great achievement was that he was the first to introduce the idea of quantity into chemistry. The atomic theory is almost as old as the hills, but no one before Dalton used the theory of atoms to explain chemical phenomena. To him is due the glory of placing the science on a firm basis, by showing that the weights of the atoms of the different elements are not identical, but different, and that combination amongst these elements takes place, if more than one compound be formed of the same elements in simple arithmetical proportion.

He read no less than 116 memoirs and essays to the Literary and Philosophical Society of Manchester. In manners, he had not the refinement of Wollaston nor had he the eloquence of Davy, for he was of rough speech and provincial accent, some of his expressions, as one of the reviewers of his day remarks, "were uncouth and scarcely appropriate to the subject." He always dressed in the habit of a Quaker—knee breeches, grey stockings, and buckled shoes. Reserved in general society, his conversational powers were seen at their best when surrounded by a few congenial spirits, enjoying a pipe of tobacco. Of his pipe he was very fond—so much so that in his opinion every philosopher ought to smoke; and the only fault that he could find in the character of Sir Humphrey Davy was, that he abjured the "weed." He never took part in any social, much less any political, matters. His interests and energies were wholly absorbed by his scientific work. He was wanting in the larger sympathies engendered by a liberal and academic education. As in his science, so in his social relations, he worked in a narrow groove, and scarcely understood or appreciated action of a wider character. He was found dead in his bed July 27, 1844.

Such is, in outline, the picture of John Dalton presented by the distinguished author in the work before us. As we have intimated at the outset, no one can read it without gaining a better insight into the character and life of the most ingenious and original philosopher of his time. The volume is embellished with a portrait of Dalton and several facsimiles of his writing, one of the latter being taken from a leaflet and showing his atomic symbols.

THE ART OF COMPOUNDING. A Text-Book for Students and a Reference Book for Pharmacists at the Prescription Counter By Wilbur L. Scoville, Ph. G., Professor of Applied Pharmacy and Director of the Pharmaceutical Laboratory in the Massachusetts College of Pharmacy 264 pp. $2.50 net. Philadelphia: P. Blakiston, Son & Co.

Notwithstanding this book is largely a compilation, it is one which will be appreciated by the dispensing pharmacist, for it contains a vast amount of information upon practical prescription compounding.

In presenting the subject, the author first classifies the principles so that the student may understand the reason as well as the facts of dispensing. These considerations are undertaken in the general text, the subjects being introduced by definitions, etc. These principles are then illustrated to show their range and variety of application, and with an endeavor to make them of practical utility at the prescription counter. To this end prescriptions have been selected and arranged to follow the various chapters. An idea of the scope of the work can be gleaned from the following chapter-headings: Introductory; The Prescription; Nomenclature; Mixtures; Emulsions; Confections, Electuaries and Jellies; Pills; Lozenges; Troches, Bacills, Tablets, etc.; Powders; Suppositories; Ointments, Cerates and Plasters; Poultices, Plasmas, Pencils and Medicated Dressings; Homœopathic Pharmacy; Incompatibility.

The author's treatment of the subject is very similar to that employed in the "Art of Dispensing," an English work well known in this country. It is much larger, however, and far better adapted to wants of American dispensers. Quite a noticeable case of tautology occurs on page 113, line 10 from the bottom, where the statement is made that "tragacanth has a strong affinity for aqueous water," etc. A very few errors in proof reading are also noticeable. Upon the whole the work is very satisfactory.

—In the Court of Quarter Sessions, Philadelphia, recently, one H. McVaugh pleaded guilty to exposing for sale milk which had been adulterated by the addition of boracic acid. The chemist, Dr. W. C. Robinson, said his analysis showed that to every forty quarts of milk there had been added one ounce, two drams and fourteen grains of boracic acid. Boracic acid, the doctor said, was used as a preservative to prevent the fermentation or souring of the milk during warm weather. The effect of this acid was to prevent the proper digestion of food taken into the stomach, as its presence there also prevented any fermentation, which fermentation is wholly important to the proper digestion of the food.

Counsel for the defendant asked the court to discharge McVaugh, inasmuch as he was ignorant of the law which forbids the addition of boracic acid to the milk, because of the fact that the law was just passed by the Legislature. The Judge held the matter under advisement.

Pamphlets, etc., Received.

Association Proceedings: Pennsylvania, 1895; Michigan, 1895; Georgia.

Massachusetts Board of Pharmacy, 1895.

Colleges: Maine State College, 1894.

Price Lists: P. J. Noyes Mfg. Co., Lancaster, N. H.; Stearns & Gordon, Jersey City, N. J.; Powers & Weightman, Philadelphia, Pa.; Schoellkopf, Hartford & Maclagan, New York; Rosengarten & Sons, Philadelphia; Chichester Chemical Co., Philadelphia; J. A. Pozzoni Pharmacal Co., St. Louis; Mallinckrodt Chemical Works, St. Louis; Larkin & Scheffer, St. Louis; New York Quinine and Chemical Works, New York.

TRADE NOTES.

From information furnished by manufacturers and dealers in regard to their products.)

Make toilet paper a leader by buying right and selling in a similar manner. Get catalogue and prices of the Morgan Envelope Co., Springfield, Mass., which show how it can be done.

Emil Willendrup, the New York City representative of F. Huhn, has returned from a trip to Europe, and is again visiting the trade with a superior line of lithographed labels and labeled boxes.

Anderson's Automatic Water Still is a practical apparatus for all kinds of work in a retail pharmacy or small laboratory, and pays for itself by saving money for the pharmacist. Its good points should be investigated, and this can be done by securing the catalogue of the Anderson Cycle & Mfg. Co., Detroit, Mich.

Wing's perfumes for the holiday trade of 1895 are up to date with new and exclusive designs in boxes and cut and decorated bottles. They comprise a line which customers will examine with pleasure on account of their beauty and novelty. Send for list to F. F. Ingram & Co., Detroit, Mich.

Higgins' Dehydrated and Benzoated Lard is made by a new process from leaf lard, by which all foreign substances are eliminated, and a pure white article free from granulation is obtained. It is of great value as a basis for ointments and cerates. Write for prices to Schieffelin & Co., New York.

Avery L. Rand, 127 Purchase street, Boston, is an exclusive large edition printer, but his prices are of the other kind. As an example he charges 30 cents per thousand for 6x9 circulars, one or both sides, in lots of 100,000. Pamphlets cost $1 per 1,000 and upwards. Proprietary medicine men should remember this address.

The customer in search of a malt extract cannot fail to be impressed with the name "Liquid Bread." It suggests quite strongly just what most people want in illness or convalescence. It is consequently a ready seller, and prices and information may be obtained by addressing the manufacturer, David Nicholson, St. Louis, Mo.

There may be some profit in making or in buying perfumes in bulk and bottling them. It depends upon the bottles and the stoppers. The cost of ornamental stoppers is quite reasonable, as the samples and prices of the Hero Fruit Jar Co., Philadelphia, will show. It will pay to figure on this matter of perfumes and fancy bottles and stoppers.

Manufacturers who are thinking of drug mills should think of Mead & Co., of Detroit, Mich. Their catalogue describes mills which they claim will grind more material with less power than any other machine, and they have a plan for showing purchasers just what their mills will do, without the trouble of visiting their factory to see them in operation.

Witch Hazel Jelly is for chappel hands and sore lips. People now have these afflictions and are looking for a cure. The druggist should look for the same thing. The Mayell-Hopp Co., Cleveland, make it, and all jobbers have it.

The little book about Raymond's Pectoral Plaster will be read now that coughs and colds are prevalent. Druggists who have the plasters should know that now is the time to sell them, and should be well supplied with advertising matter, which is sent free. Address Raymond & Co., 62 Carroll street, Brooklyn, N. Y.

Every druggist is interested in making ointments, cosmetics, cold creams in the best possible way with the best possible material. The Adeps Lanæ Co., 99 Nassau street, New York, publish a little book on Adeps Lanæ "N. W. K.," a pure neutral anhydrous wool-fat, which gives some points on this matter. Adeps Lanæ "N. W. K." costs 65 cents per pound, and it is all wool-fat—no water.

Twenty-five to fifty per cent. discount on a stock of druggists' fancy goods is something worth looking into. Such stocks are now being bought by the retailer for the holiday trade. Amos M. Lyon Co., 20 Park place, New York, are offering such discounts on a line of goods which are particularly appropriate for the coming season. Write to them for particulars and prices.

The F. Hammar Co., St. Louis, Mo., invite correspondence from Eastern jobbers regarding their combination white lead. They put it up in all sizes of kegs from 12½ to 100 pounds, and deliver in ton lots and over with freight prepaid. They send sample jar of this lead for test and comparison, and furnish plenty of samples for the jobbers' salesmen. Write to them for quotations.

Advertising by an artistic calendar is advertising every day in the year. The Osborne & Murphy Co., Red Oak, Iowa, make calendars for this purpose. Their catalogue for 1896 contains over 100 etchings from recent paintings and these they use on art calendars for advertising by retail druggists. They send this catalogue upon request only, with agreement to return by mail within ten days.

Goldbeck's Malt Extract must be a good one, because it is made by a firm which always turns out the best of brewed products, and it is likely to be the cheapest because the makers, John F. Betz & Son, Philadelphia, have one of the largest brewing plants in the country, and have every facility for buying and manufacturing. Send for prices and discounts which will settle these points.

If there is any chance of doing a truss business in your neighborhood, it can be done most profitably with Seeley's trusses. I. B. Seeley & Co., Philadelphia, furnish the best of means for interesting truss wearers in their goods through their publications, which bear the dealer's imprint. Send for some of these, and their book on "Mechanical Treatment of Hernia," and see how a truss business may be worked up.

Wire easels, soap baskets, brush racks, pen rests and racks, waste baskets, lamp chimney heaters, candy tongs, sponge baskets, book holders, etc., are all articles which the druggist can sell, and they are all listed in the catalogue of Woods, Sherwood & Co., Lowell, Mass., who make them of Sherwood's White Lustral Wire. If you are looking for more business send for this catalogue, and figure on ordering a boxful of these goods.

There are many decidedly interesting points about "Old Prentice Whisky" which every druggist should know. The makers, J. T. S. Brown & Son, Louisville, Ky., have recently issued a reprint from Boufort's Circular, which tells all about it—the distillery where it is made, the Old Prentice spring, the methods of mashing and distilling, etc., illustrated with some fine half-tone views. Send for this. A good half hour can be spent reading it and looking at the pictures.

Resorcin, Boehringer's (B. & S. brand), is an absolutely pure product, meeting the requirements of the Pharmacopœia; but in addition it occurs in pure white, beautiful, needle-shape crystals, the highest standard product of its kind in the market. It is furnished through wholesale druggists only, in 1-ounce, ¼-pound, ½-pound and 1-pound packages. Specify and insist on getting, Resorcin, Boehringer's (B. & S. brand), and you will never in future take any other.

The painting season isn't over yet. Agricultural implements and vehicles are to be painted for the winter, and there are lots of things around the house to which stains, enamels and varnishes should be applied. They will be applied if people are reminded with John Lucas & Co.'s advertising matter. The dealer's name on the advertising material shows where these things can be purchased. Better try Lucas' colors and novelties with the advertising. Write John Lucas & Co., Philadelphia, about this matter.

The "Full House" poker playing cards, made by the United States Playing Card Co., Cincinnati, O., with eleven and twelve spots of each suit to accommodate more players in a game, and to avoid filling out hands from the discard, are becoming exceedingly popular. They are new, and patent has been applied for. Their newness, both in style and idea, attracts the attention of card players. They cost $3.34 per dozen packs, revenue paid, and samples will be sent upon application.

The propriety of selling such things as tea in the drug store has been argued on both sides of the question, and a great many druggists do not like the idea. The matter has now been arranged in favor of keeping tea. The William S. Merrell Chemical Co., Cincinnati, O., have placed a compressed tablet of tea upon the market, and the druggist now has an opportunity for doing a tea business without compromising his dignity or encroaching too much on the lines of other tradesmen. Write for prices and particulars.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Socotrine Aloes, Balsam Peru, Balsam Tolu, Angostura Tonka Beans, Mexican Vanilla Beans, Borax, Cacao Butter, Caffeine, Carbolic Acid, Gentian Root, Golden Seal Root, Japan Wax, Oil Citronella, Oil Sassafras (artificial), Chlorate of Potash.

Declined: Acetanilid, Gum Chicle, Flaxseed.

New York, Nov. 19, 1895.

Business in drugs and medicinal chemicals has continued of satisfactory volume, and an increased inquiry can be noted for the many novelties, etc., suitable for the approaching holiday trade, which are to be found in the "sundries" department of all the large jobbing drug houses. The weather has been too mild during the past week to admit of much activity in the class of goods usually in demand for consumption at this season of the year, but the check to trade on that account is only of a temporary nature, and interest will undoubtedly revive with the advent of more seasonable conditions. That this is the prevailing opinion, is demonstrated by the continued firm views of holders regarding values, and their disinclination to force their goods upon reluctant buyers. The general market, in other respects, is without new feature of essential importance, and the aggregate movement into consuming channels is of full average proportions and indicates continued confidence in the improved situation. No new developments of a speculative character are discernible, and recent operations are not likely to seriously interfere with legitimate trade, inasmuch as the articles operated in are of only minor consequence and cannot possibly affect the general market. As a rule collections are good, and financial affairs generally continue upon a sound and healthy basis. Proprietary articles are receiving their full share of attention, particularly the varieties recommended for pulmonary troubles.

OPIUM.—There is no change in the general position of this article, and nothing has developed to aid either dealers or consumers in forming any clearer idea than has prevailed for some time concerning the future outlook. Buyers are operating cautiously, and limit their purchases to actual necessities, many of them believing that the present firmness is only the result of manipulation, and that lower prices are sure to follow any attempt to market the large stock which is steadily accumulating in the primary market. At the same time nearly all the large holders here, either decline to quote, or offer only small lots for immediate consumption. This condition necessarily reduces the available spot stock to meagre proportions, and those willing to sell have no difficulty in sustaining values, but the main question seems to be, how long will they be able to hold? With a harvested crop considerably above the average, and all conditions favorable to the "fall sowings," buyers naturally look for corresponding-

ly low prices and govern their operations accordingly.

MORPHINE.—Business continues of fair volume with manufacturers' prices unchanged and steady, although the market is somewhat sensitive in sympathy with opium.

CODEINE is somewhat irregular, owing to competition between local manufacturers and importers. Some holders have reduced their quotations 10 cents per ounce, but the former cheap sellers have made no change.

QUININE.—Is moving along steadily at full previous prices, and the strong features of the market, which have been conspicuous for many months, are all retained. Legitimate consuming channels continue to absorb considerable stock, and one of the leading foreign makers is said to be oversold. Buyers for foreign account are yet willing to pay current rates for large parcels, but, owing to the persistent efforts to prevent speculation, they are unable to fill their orders. Occasionally, however, they have found scattering lots in second hands, and during the past week a few thousand ounces have been added to their holdings, but the total quantity is far below what they appear willing to purchase. It is evident that all are looking for a general advance in manufacturers' prices.

ACETANILID.—The market is unsettled and irregular, owing to keen competition between sellers, and careful buyers can readily supply their wants at 1 cent per pound under quotations.

ALCOHOL.—Business continues to move along smoothly under the improved conditions heretofore noted, and former quotations are still current.

BALSAMS.—All varieties are in good demand from the consuming trade, with values ruling firm. Tolu and Peru are both scarce and wanted, and the principal holders of the latter have further advanced their quotations 10 cents per pound. Copaiba and Canada fir are unchanged in prices, with the former particularly active in a jobbing way.

BEANS.—The stock of Angostura tonka is steadily growing smaller, and the jobbing quotation shows an advance of 10 cents per pound, with the tendency toward a decidedly higher basis. Mexican vanilla are active and strong with values of intermediate grades fully 50 cents per pound higher. According to advices from Mexico it is evident that the plants were severely damaged by frost last winter, and reliable authorities claim that the output will be materially curtailed during the next three or four years, and that extreme prices will prevail.

CACAO BUTTER.—Is scarce on the spot and very strong in sympathy with primary markets, and the inside quotation has been further advanced ½c per lb.

CAFFEINE.—The market is somewhat steadier and values are about 25 cents higher than a week ago, but the demand is rather limited.

COD LIVER OIL.—Continues active and firm at unchanged prices, with holders of desirable brands not anxious sellers.

CUTTLEFISH BONE.—The market continues to improve in tone under the influences previously noted, and holders are limiting offerings to actual current necessities of the consuming trade.

ACID, CARBOLIC.—The better brands have been advanced ½c per lb for bulk and 1c for pound bottles.

ALOES.—The Socotrine variety has developed increased animation both here and abroad, with prices showing an advance of 2c per lb.

CHICLE.—Large arrivals from primary markets and a continued slow consuming demand have influenced an easier market with a further decline of 1c per lb.

OIL CITRONELLA continues strong with prices again ½@1c higher, and holders offer very sparingly.

OIL SASSAFRAS.—The artificial variety has been marked up 1@2c per lb.

GENTIAN ROOT is firmer under reduced stocks, and both whole and powdered are fractionally higher.

GOLDEN SEAL ROOT continues scarce and wanted, with a further advance of 1c per lb.

FLAXSEED.—Whole, cleaned in barrel lots has been reduced to $5.50, and ground to 3c per lb.

JAPAN WAX.—Values show a further advance of ¼c per lb, and the outlook favors a still higher range in the near future, owing to increasing scarcity and advancing primary markets.

BORAX.—There has been a general advance of ¾c per lb on all varieties and quantities from first hands. The improvement is attributed to higher foreign markets.

CHLORATE OF POTASH.—The market is firmer in tone, and quotations for both English and Continental are ½@¼c higher.

SUGAR OF MILK is again very scarce, and the principal manufacturers are obliged to cut down their orders, but former prices will yet buy forward deliveries.

London Market Report.

London, Nov. 9, 1895.

A very quiet week in both drugs and chemicals, and but few changes to note.

BARK (Cinchona) stock 1st inst., 28,470 packages against 32,804 same time last year.

ASAFETIDA.—A quantity will be offered in next week's auctions, Stock, 746 packages against 233 last year.

BALSAM PERU very scarce, 9s. paid this week; 9s. 3d. now asked.

BALSAM TOLU is again dearer. Quotations for genuine vary between 2s. 8d. and 2s. 10d.

CAMPHOR, crude, has been very dull, and many who don't know have been prophesying a "slump." This, however, will not come yet. The syndicate have cleared the market of low "forward" offers, and have made "spot" sales both for France and the United States up to 200s. Stocks are heavy, being 16,375 packages against 3,906 last year.

CARDAMOMS.—Stock 1,068 cases against 1,171.

CACAO BUTTER.—At our sales this week competition was very keen, and up to 1s. 5d. lb. was paid for lump, this marking a rise of 3½d. lb. since last auctions.

CREAM OF TARTAR is again easier at 96s. for crystals, 98s. for powder.

GLYCERIN.—Refined is dearer and quotations for double-distilled 1.260 s. g. range from 65s. to 70s. cwt. in tins and cases, with second-hand holders offering at slightly below the former price.

MENTHOL very firm @ 14s. 3d. to 14s. 6d.

COD LIVER OIL.—Rather more business doing in Norwegian; quotations 170s. to 180s.

OPIUM.—Very firmly held here, but market exceedingly quiet. Bids slightly below current quotations have this week been refused for quantity.

ORRIS ROOT.—Lower at 75s. for good picked.

QUININE very dull. Stock, 2,069,904 ozs. against 2,896,368 ozs. this time last year.

RHUBARB.—A good business done this week in rough horny high-dried for the United States, @ 6½d. to 7d. lb. Stock of all kinds, 1,073 chests against 966 last year.

SENNA.—Stock of all kinds, 2,701 bales against 2,614 bales.

Everybody is reading about Scott's Emulsion—they can't help it, as the advertising for this season is new in style and display, and quite as convincing as ever. In ordering, the 50-cent size should not be forgotten. It is popular on account of its size and cost.

The frank confession of preference for the American Silver Truss by dealers and physicians of the highest standing who have given this truss a trial may safely be accepted as conclusive proof that its merits are so great that the good of the public demand their recognition.

The largest manufacturers of folding paper boxes in the country are naturally able to quote the lowest prices. The National Folding Box and Paper Co., New Haven, Conn., claim the distinction of being the largest manufacturers, and they are ready to prove the statement about prices upon application.

Wampole's Beef, Wine and Iron costs from $1.30 to $1.50 per gallon in bulk, and from $40 to $42 per gross in bottles, according to quantity. A pure sherry wine is used in its manufacture, and quality is guaranteed. Samples will be sent upon request. Address H. K. Wampole & Co., Philadelphia.

Beach & Clarridge Co., Boston, are free with two things, their illustrated catalogue of flavors and their Hot Soda Formula Book. Both are necessary for an extra good hot soda business. One describes the right kind of material, and the other tells how to compound and dispense it.

Many of your customers know of Huyler's candies. They read about them and buy them of the confectioner, upon railway trains—in fact, everywhere. The druggist who has Huyler's licorice tablets will find that Huyler's candy reputation makes them ready sellers. All jobbers have them.

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A. PH. A. OFFICERS.

We have just issued, and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the present.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address The Pharmaceutical Era, New York.

"BOX AND CARTAGE."

Last week we announced that as a result of the visit and missionary work of a committee of Western jobbers the wholesale drug houses of Baltimore, Philadelphia, Boston and New York have finally consented to resurrect and hereafter enforce the box and cartage charge, which for many years has not been imposed by the trade of these Eastern cities, and druggists may soon expect to see these items again appear upon their invoices.

The jobbers cannot be blamed for taking this action to protect their interests, and it will be interesting to see if they all keep faith and how their customers accept these charges. A prominent jobbing house in this city were the first to announce that they would make no further charge for boxing and carting. They claimed that their action was due to the fact that complaints were constantly coming from their customers that other jobbers did not make any charge for these items. In other words, the tight and loose bill plan of other jobbers forced them into setting an example which has been generally recognized by the jobbers throughout the country. Nearly every year since there has been some periodical action on the part of the jobbers to reinstate the old system, and in a number of Western localities the custom has been to make this charge. It is not then surprising that these Western jobbers should come East to try and make this movement universal.

We don't believe that the average retail druggist objects to reimbursing the jobber for the actual expense incurred for containers in which to pack his goods. But when the jobber carries this matter to the other extreme and charges his customer exorbitant prices for these containers, it then amounts to an imposition which the retailer should most strongly resent.

The country druggists have objected to a charge for carting their goods to the depot, when their city brethren were supplied free of this expense, and they have believed that they were made to pay the expense of the city free-delivery system. Wholesale druggists deliver goods free to their city customers, and while the jobber may argue that the city customer pays more for his goods, he will have hard work to make the country druggists believe this, and it surely is less expensive to deliver a load of boxes at a depot than to distribute them to a large number of retailers in distant parts of a city.

There is no denying the fact that the jobbing drug trade has its grievances and that the business is not what it was a few years since. There are too many wholesale druggists, and many of the goods they handle are now handled by jobbers in other lines. We do not know that the jobbing druggists are any worse off than the grocery or dry goods jobbers, but as the druggist's business is smaller in volume, he must expect to watch more closely his incidental items. The condition of the jobbing drug trade is further jeopardized at this time by the possible disruption of the rebate system on the sale of proprietary goods, because the proprietors have failed to approve of the sales plan. The jobbers are to be congratulated that they are so completely organized, that they can reintroduce this charge for boxing and carting and make it unanimous throughout the entire United States. This action is a splendid test of their appreciation of united effort. It shows the value of organization. It is to be hoped that the competition between the different jobbers will regulate these charges for boxing and cartage so that it will not become an abuse. In the mean time we would advise that our retail friends watch these items closely, and not allow themselves to be imposed upon. If a jobber attempts to charge you for old, second-hand patent medicine boxes, and a cartage item for hauling the goods a half a mile, which is more than the freight for 100 miles, then is the time for you to kick and kick hard. It is better to kick once in a while on general principles, just to let them know that you are watching them.

THANKSGIVING, 1895.

This 28th day of November, 1895, is a day upon which we, if we have due regard for proprieties and proclamations, have a certain duty to perform. With the exception of the retail druggist, who has to content himself with simply rejoicing in his continued existence and keep more or less open shop, most of us have a day off, a matter which with proper frequency is of itself the ambition of the greater part of the human race. But even with this advantage in the way of time certain critical people, who pretend a deep knowledge of mind and motives, have detected a growing disposition on the part of the American people to be less thankful than formerly, and have given more or less plausibility to their contention by claiming that a nation of "kickers" cannot go further than mere formality in this thanksgiving business. They have even noted a

decadence of that devout spirit which, when one has nothing in particular to be thankful for, calls forth an expression of thankfulness that things are not worse than they really are or not as bad as they might be. There is undoubtedly something to be seen from this point of view. We are always looking for something better and are pretty well dissatisfied with what we have. This relates more to the big affairs of life, the things which worry most, but there are many of the minor ones, those which crowd many smiles into the day's doings, of which it might be well to take note on our national day of thanksgiving. This spirit once assumed broadens and lengthens the list of good things which we possess, and even the druggist with his trade woes is in good humor in spite of himself as he contemplates it.

We have mentioned the retail druggist with his open shop upon Thanksgiving Day in a way which might imply that he was not thankful. But surely he has his reward. Think of the stomachic troubles, the headaches and bad-tastes in-the-mouth which his fellow-citizens will bring to him the following day to be relieved by his pills and potions, while he himself is as chipper as ever, for his digestion has been aided by the filling of prescriptions between mouthfuls of turkey.

A NEW ABBREVIATION.

A correspondent who has suffered lingual, orthographical, and other woes with the famous abbreviation "A. Ph. A." writes us regarding the quite perceptible hesitation in grasping the meaning, noticeable on the part of members when the new designation is hurled at them. He also complains of the "mouth exercise" which the juxtaposition of consonants makes necessary, and suggests that a melodious "m" be interpolated, making the abbreviation "Am. Ph. A.," which might be euphoniously combined in a two-syllabled word, "Ampha," which could be ejaculated in a more graceful manner without the labial contortions so apparent when the pharmacist endeavors to speak of his favorite society. Our correspondent's suggestions are, we are sure, in line with similar aspirations entertained by other members of the association, who have undoubtedly lain awake nights contemplating this stuttering affliction, and have suffered progressively from logographic alalia, logoplegia, resulting finally in incurable logodiarrhœa. But to attempt to remedy the matter at this date would, we are afraid, involve us in a philological squabble, productive of undesirable results, or of a new term which only our confreres of Russian or Polish extraction could safely attempt to pronounce. There is certainly no objection to the euphonious sound of the word "Ampha," euphony being the main object of our correspondent, but there might be philological objections. The sound of the coined word is so suggestive of the prefix amphi-, meaning, about, on both sides, around, etc., that the announcement, in the proposed abbreviation, that a person belonged to the American Pharmaceutical Association, might be met with the inquiry, "The amphi- what?" with an embarrassing expectancy that it might turn out to be a class of people inhabiting both land and water, as circumstances might dictate, or that the connection might be with amphoric, describing the sound produced by blowing across the mouth of a bottle, a procedure out of keeping with the circumspect character of members of the A. Ph. A. It will thus be seen that difficulties increase correspondingly with attempts to remedy the matter. Our only hope lies in the death of that peculiar fad in Americanism which has built up an organization which has usurped the common designation of a useful and honored society. Until that time we shall probably have to continue with our lingual gymnastics.

THE DRUG STORE.

The modern Pharisee and the person who has "rights" and is disposed to enforce them to the letter are two individuals who do most in the way of strewing thorns upon the pathway of life. In spite of the code of ethics promulgated nearly nineteen hundred years ago, which included the golden rule and the assertion that a soft answer turneth away wrath, these classes still flourish, the sixth commandment being a safeguard for their continued existence. It is quite evident that this offensive spirit of superiority and stickling for rights has crept into a discussion which periodically engages medical and pharmaceutical journals upon the relations which should exist between pharmacist and physician. We have always felt that there was a safe and easy middle course to be pursued which would allay disturbances of temper, and whenever differences existed mutual forbearance or concession would settle all difficulties. Pride and a certain degree of obstinacy forbid that such matters shall be settled by an agreement that one party is all right and the other all wrong; but when one is willing to concede a point, the other is usually quite as willing to show a similar liberality. A feeling of this kind undoubtedly prompted a recent editorial utterance of the St. Louis Clinique, from which we quote with some pleasure, not because pharmaceutical vanity has been touched, but because there is a flavor of justice about it, tinctured with good-humored frankness. The editor of the Clinique, under a caption which also heads this article, says:

"We are not going to enter into the much-vexed question of how far the druggist may encroach on the sacred prerogatives of the doctor, for there are two sides to this question, and we have only this to say in regard to it, that if a good pharmacist did not often lend a helping hand although unasked, and always unthanked, many a physician would be answering suits for damages, or even worse—lingering in a felon's cell. But what we intended to bring out is the wonderful influence of the drug store in a community. In large cities, of course, this is not seen or felt as it is in villages and country districts where the 'drug store' is the rallying point for everything social, political and religious. There is always the public telephone, in most smaller towns even the postoffice. At all events, stamps and government stationery are always to be had there. Everything can be bought at the drug store outside of dry goods and groceries, and even these are to be found at the cross-roads pharmacy. The boys buy their marbles and the girls their dolls, and both their school outfits; sweethearts buy their valentines and Easter and Christmas cards and souvenirs of every kind. The oldest inhabitant always hangs out at the drug store, the political caucus is always held there, or thereabouts, and even the sly deacon slips behind the prescription case to get a nip 'for his stomach's sake.'

"Now, then, the drug store has come to stay. You might as well try to uproot the oaks of the forest that have braved the storms of centuries as to try to break up an institution that has such a hold on the community. What if the pharmacist does sometimes substitute a simple article for another. Nine times out of ten he will put something better than the doctor has written, unless, of course, it is a prescription involving upon its very face most careful compounding which is very rare in country districts, and should be equally so in the city.

"The druggist is the doctor's best friend. He sends him patients, he covers up his flagrant and dangerous errors, he lauds his successes and hides his failures.

"We are for the druggist in the fight first, last and all the time. Gentlemen, if you catch us in any mistakes, please 'substitute' and oblige."

It is safe to say that such an expression of cordiality and fraternal feeling from the physician would in most instances meet with the heartiest response, and it is safe to say that even the liberty which the above expression allows would under such circumstances never be exceeded, and the confidence which it implies would place the druggist in a position where he would be satisfied with nothing short of his very best in ability and carefulness to deserve it. The latter need not wait, however, for such advances. The initiative is as much his duty as that of the physician. Where there are evidences of thin ice forming between medicine and pharmacy a little warmness of heart will do wonders in thawing it out.

PLANT ANATOMY

As announced last week, there has been secured an additional contribution to the series of papers on the Study of Pharmacy. This paper, a very important one, receives publication of its first installment in this issue, and will continue through about three numbers of this journal. The subject treated constitutes a distinct branch of science which, within but very few years past, has come into prominence and recognition as of great practical utility and value. Methods for the study of botany have changed amazingly during the past score of years, and we now look below the surface, beyond outward and mere physical characteristics, into the inner structure, the minute framework of the plant, and study the vital forces regulating the growth of the plant organism and operative in its functions. The present paper is, therefore, properly inserted at this stage, to round out and give a compre-

hensive idea of the subject botany, and the manner in which its study must be prosecuted in accordance with modern discoveries and theories.

NOT CREDITABLE.

In an editorial utterance in Vol. I. No. 1. of the Southern Journal of Pharmacy and Materia Medica, the following occurs: "We are well aware of the futility of all efforts for the subversion of natural laws, and of any attempt at altering the essential characteristics of human nature; we will therefore try to take things as we find them. . . ."

We must warn our new contemporary against such policy, even though the excuse may be offered that it is characteristic of human nature. For instance, the publication in the S. J. of P. and M. M., without credit, of the Era's list of "Meetings of Boards of Pharmacy" is an illustration of "taking things as we find them." The Era's list of board meetings is one which requires a constant revision of dates, to render it effective, and when such information is published in a monthly journal, care should be exercised to get the Era's latest revised list, as a list published Nov. 1 for board meetings, a greater number of which were held during the previous month, is certainly of little value. We do not greatly desire credit in such instances, as the matter is one of dates which any one can secure, but we do object to having such misinformation published under an opening paragraph which is among our "standing matter."

ADVERTISING MISCELLANY.

The widespread interest which has been manifest in our department of "Advertisements for Retail Druggists," and the very evident appreciation of the value of illustrations in connection with advertisements is a strong incentive toward a further continuation of this feature of the Era, and it will be our endeavor to continue it so long as it can be made valuable to the retail druggist. But in order to make this most effective the retail druggist should signify what he wants. His daily contact with the articles upon his shelves must suggest many things that could be profitably advertised, and at the same time suggest some pictorial ideas which might accompany the advertisement. We would, therefore, like to hear from our readers upon this point, and we convey to them the assurance that if they do not see what they want in the advertising column of the Era, they are most cordially invited to ask for it.

An idea upon retailers' advertising, which has been brought out through the experiences and sample advertisements contributed to the Era by several readers, is the possible benefit which might occur if wide-awake retailers were to exchange samples of advertising with each other. If a druggist in Maine finds that a particular advertisement is a good one, through its particular style or setting, he might be able to exchange it for one which a druggist in California has found equally effective. This could be done through correspondence, and a bright druggist with four or five correspondents equally as bright might derive much benefit through such an exchange of ideas or samples. If the idea is worth anything, we will be pleased to publish the names of druggists who wish to enter into such correspondence.

W. A. Livingston, 8 North Market street, Johnstown, N. Y., sends us a unique little advertising scheme which is worthy of notice. It is a monthly publication of four pages, one column to the page, eight inches to the column. Its title is The Saunön. A continued story written by a well-known Johnstown authoress furnishes the reading matter, and it is of sufficient interest to make people call for the next month's issue of the paper. Mr. Livingston occupies a little of the space for advertising some of his specialties and seasonable articles, and we learn from perusing these ads. that "Saunön" is the name of headache cure.

PRACTICAL HINTS.

—Have you thought up your window display for the holidays? Make a good one, and make it early.

—Around the holidays is of all times the one when your store deportment must be of the best. If anxious to have a good holiday trade, see that your clerks and yourself do nothing to repel the patronage you seek.

—It is a good idea, and it pays, too, to display a little of the prevailing holiday sentiment around Christmas time. Decorate your store a bit, and show a recognition of the peace-on-earth-good-will-toward-man spirit which is all around you. A supply of tasty inexpensive souvenirs, a good-wishes card or something of the sort, to give to your customers might be a good thing.

—If you expect to make a feature of holiday goods, adopt business methods to dispose of them. See that your selection is of goods adapted to your trade, display them well, and, above all things, advertise them in every legitimate way. Don't wait for people to ask if you keep this or that; show them that you do, before they have a chance to ask for it.

—Many of the druggist's staple goods can be put up in shape to attract the holiday shopper; toilet articles, brushes, etc., can be made up in sets. Buy some bulk perfume and bottle it yourself, make a supply of sachet powders in attractive envelopes, etc. There is a good profit in such things. These goods can be brought to attention while people are in the best buying mood of the year, and the effect of a little effort at this particular time will have an influence long in the future.

—Endeavor to be ready to meet all demands arising from changes of the season. In times of peace prepare for war. A stock of cold cream, chilblain lotions, cough cures, etc., should be prepared before the cold weather has actually arrived. Such goods should be of your own manufacture, too, and appropriately advertised.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

The trade in holiday goods is one in which all tradesmen endeavor to participate and the druggist is no exception. The advertising druggist will, of course, want to say something about his stock, and our sample advertisement is suggestive along that line. People at this season are not looking so much for bargains as they are for articles of good quality, and then they usually have more money to spend. The object, therefore, it seems to us, is to get people into the store to examine the goods. The quotation of either low or high prices might keep them away, while the inspection of a really handsome article often induces a liberality in expenditure not previously thought of. Holiday goods are usually exceptional and cannot be judged by prices of standard articles with which most customers are familiar. People expect something unusual in character and to some extent in price. The unusual character of the goods is, therefore, a good point to dwell upon.

KNIGHT & DAY,
Druggists.

Our holiday box has arrived and we have secured a sort of sub-agency from that estimable gentleman who does the biggest business in the country on the night before Christmas.

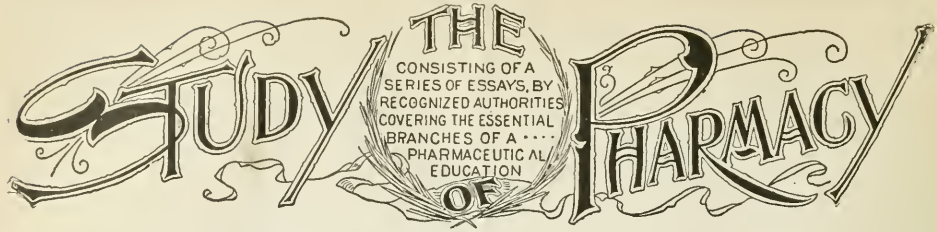
There are lots of people in this vicinity who will appreciate a present more highly if it is some of our perfumes, toilet articles, albums, or other handsome and useful novelties, which we have procured for the occasion.

We can't name prices — you will have to see the goods to judge whether prices and quality are right. We are so sure both are right that we invite you to compare them.

KNIGHT & DAY, DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number

[This cut is mortised so that any firm name can be inserted on side of box]



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[Continued from page 647, November 21.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXV. PLANT ANATOMY.

By SMITH E. JELLIFFE, M.D.

CHAPTER I.

THE CELL IN GENERAL.

The present hypothesis of the structure of all matter is known as the atomic theory. It teaches that all matter, both organic and inorganic, is made up of particles that cannot be divided; these it calls atoms. These atoms exist only in combinations of two, three or more, when they are termed molecules. From these molecules, invisible, are built up the cells, visible, which are the microscopical units of all organisms.

The Cell is then, from this standpoint the unit of structure of animal and vegetable life; not the smallest unit, which, as we have seen, is the atom, nor the largest, which varies extensively in both the animal and vegetable worlds; but it is the smallest organized unit that has as yet been seen by the human eye aided by the microscope.

The cell may thus be taken as the unit of plant life; and with its study commences that branch of knowledge known as Vegetable Histology. Its exclusive study is termed Vegetable Cytology.

Vegetable Histology is that portion of knowledge which deals with the cells of plants, either as individuals or in their various combinations known as tissues. It classifies them and arranges them according to some logical plan of growth or of function, and inquires into their origin, their method of growth and combination, and the part they play in the economy of the plant's existence.

There are reasons to believe that in pre-historic times there was a period when the structure of cells was very simple indeed, and attempts have been made to ideally reconstruct those early forms. As time progressed and varying circumstances arose, simplicity of cause and effects gave way to complexity, and the plant world as seen to-day is one vast forest of effects, having their origin in causes remote and present.

To be rightly understood the cells of animal and plant life must be considered as an elaborate product of millions of years of manufacture. Each part has been, and is being, studied with great minuteness, and the results of the study of vegetable Cytology already fill many large volumes.

For the purposes of the present outline, the plant cell may be considered as a sac containing a large number of contents, which vary widely in physical and chemical properties.

Cell Wall. The lining membrane is called the Cell Wall. It is not always present, as in many one-celled plants, as yeast, nor is to be found in the youngest growing parts of the plant, as in the apices of stems and roots, nor in the immature pollen grains and the just fertilized cells of the ovule.

Cell Contents. While alive and growing the plant cells contain what is called the Plasma, which is a general term including a number of diverse substances to be studied under the head of cell contents. PROTOPLASM has been used extensively in this sense and as a biological conception it is proper so to use it; but protoplasm must be considered as a combination of substances rather than any one chemical entity.

CHAPTER II.

CELL CONTENTS.

The following classification of cell contents has been here adopted:

1. UNFORMED NITROGENOUS CONTENTS. Including the so-called Cytoplasm of the cell body.
2. FORMED NITROGENOUS CONTENTS. Including the
   - (a) Cell Nucleus and its parts.
   - (b) Aleurone Grains.
   - (c) Plastids.
3. NON-NITROGENOUS CONTENTS. Including Starch, Amylodextrin, Fatty oils and fats, Calcium Salts, Sulphur, etc.
4. CELL SAP. Containing:
   - (a) Organic Substances in Solution. As Inulin, Hesperidin, Asparagin, Leucin, Tyrosin, other Glucosides, Alkaloids, Sugar, Mucilage, Tannin, Bitter stuffs, Coloring matters, Ethereal Oils, Resins, Gums, Rubbers, Plant Acids, etc.
   - (b) Inorganic substances in solution. Salts of Sodium, Potassium, Lithium, etc.

I. THE UNFORMED NITROGENOUS CELL CONTENTS.—The main constituent is the Cytoplasm of the cell body. It is generally viscid in consistency, alkaline in reaction, and fills the cavities of very young cells. After the cells commence to grow portions of the Cytoplasm are consumed in the building up of the plant, and small vacuoles appear in it; these grow larger as the plant increases until the cytoplasm may make only a thin covering on the inside of the cell wall. In this condition the term Primordial Utricle has been applied to it, and the vacuoles may become filled with a transparent substance called the Cell Sap, which may come to occupy the major portion of the cell body. In still older tissues, as in woody stems, the cytoplasm may disappear entirely and the cell cavity may become filled with the cell sap, or be empty and dead, in which case it serves as a mechanical support only.

(Fig. 9.) Interspersed through it are many small granules, the Microsomes, whose function is still far from being understood.

The Cytoplasm is a very complex body, but it will not be in place here to more than outline its main characters.(a)

It is the seat of the active life processes of the plant and represents the results of the active metabolism of the plant tissues.

2. FORMED NITROGENEOUS CONTENTS. (a) The Cell Nucleus.—This is a most important member of the cell body. It is generally immersed in the cytoplasm and lies, as a rule, to one side of the center. It is to be found in young growing tissues, but in older tissues it may be absent. The pharmacognocist rarely finds the nuclei in the tissues of drugs that he is called upon to investigate. Nuclei are generally single in plant cells, but they may be increased in number, as is to be found in the bast cells of hops and nettles and in some of the lacticiferous vessels of poppy and euphorbia, and in many of the lower orders of plant life, such as the Algæ and Fungi. Nuclei are generally small. The structure of the nucleus is very complicated. In general it consists of a nuclear membrane, quite delicate, which surrounds the plasma of the nucleus. In this plasma are a number of substances as yet little understood. The most important are those known as Chromatine and Pyrenine, of which latter substance the nucleolus, a minute granule found in the nucleus, is composed.(b)

In the nucleus the important process of Cell Division has its origin. This process will be summarized under Growth.

(a) The student is referred to Reinke. Studien über das Protoplasma; Hertwig. Die Zelle und die Gewebe, 1892; for a more complete statement of what is known about this interesting substance.

(b) Hertwig. Die Zelle und die Gewebe.

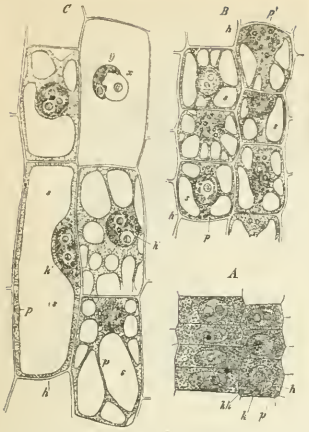

Fig. 9.—Parenchyma-cells from the central cortical layer of the root or *Fritillaria imperialis*; longitudinal sections (x 550). *A* very young cell lying close above the apex of the root, still without cell-sap. *B* cells of the same description about 2 mm. above the apex of the root; the cell-sap *s* forms separate drops in the protoplasm *p*, behind which lie walls of protoplasm; *C* tells of the same description about 7—8 mm. above the apex of the root; the two cells to the right below are seen in a front view; the large cell to the left below is in section; the cell to the right above is opened by the section; the nucleus shows under the influence of the penetrating water, a peculiar appearance of swelling (*x*, *y*).

(b) Aleurone Grains. These form the reserve nitrogenous materials of the plant in an analogous manner to the starch grain, which is the great reserve for carbohydrate material of the plant. Aleurone grains vary considerably in size and shape, from round to elliptical, egg-shaped, or some times crystal-like in form. (a) In general they are colorless, sometimes brownish, greenish or yellowish. They are found abundantly in seeds

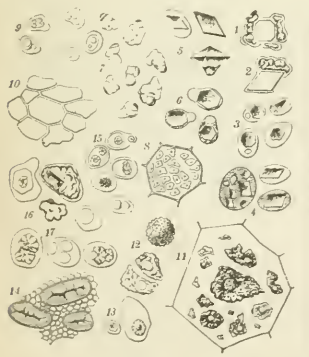

Fig. 10.—Aleurone grains from the seeds of 1 and 2—Bertholletia excelsea. 3. Ricinus communis, acted upon by water. 4. Elaeis guineensis. 5. Myristica fragrans. 6. Cannabis sativa. 7. Datura Stramonium 8. Gossypium spec. 9 and 10. Cydonia vulgaris. 11, 12 and 13 Amygdalus communis. 14. Phaseolus vulgaris. 15. Coriandrum sativum. 16. Vitis Venifera. 17. Foeniculum (Tschirch) reduced.

(a) For methods of staining the aleurone grains, see Zimmermann. Botanical Microtechnique.

and especially in oily nuts, often making up from 10 to 25 per cent. of such nuts as the almond and Brazil nut.

(a) Morphologically the Aleurone grain consists of 1. the Membrane. 2. The Mass of the Grain. 3. The Inclusions. These may be crystalloids, globoids, or oxalate of calcium crystals.

(c) THE PLASTIDS. These bodies in great part are the active builders of plant tissues. They are universally distributed throughout the vegetable kingdom, failing to any great extent only in the fungi. We distinguish two types:

1. Leucoplastids. White or colorless.
2. Chromoplastids. Variously colored. Green, blue, yellow, red, etc.

1. The Leucoplasts are small, colorless albumenoid bodies widely distributed in plants. They are the first steps in the building up of the Chlorophyll grain and through this to the starch grain. They are quite minute in size, and are most abundant in roots, especially in those roots that not only are storehouses for starch, but which also manufacture some, as Iris.

2. The Chromoplasts include a number of diverse elements, the most important one of which is the Chlorophyll grain. The Chlorophyll grains are the main organs of assimilation of the plant; by them the active energy of the sun's

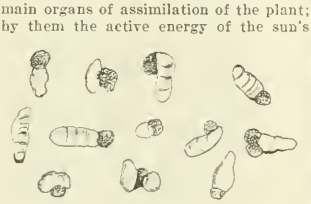

Fig. 11.—Leucoplastids in Rhizome of Iris, in process of forming starch. (Tschirch.)

rays is converted into potential energy and is stored up in the starch grain which the Chlorophyll grain is making at the same time from the carbon dioxide of the air and the water that comes from the root.

In many of the lower forms of plant life the chlorophyll grain is irregular in shape, but in the higher forms from the mosses upward they are rounded or slightly oval. In size they vary from 3 to 11 micro. m.

The structure consists of a protein body substance similar in all respects

Fig. 12.—Cells of an alga showing spiral band-shaped chlorophyll grains.

to a leucoplast. This is somewhat spongy and is infiltrated with the coloring matter, which is generally green; the whole is often enclosed in a delicate albumenous membrane.

While the chlorophyll grain is usually found only in the vegetable kingdom, it is not exclusively its own, for there are a number of the lower animals, Protozoa, in which a certain amount of chlorophyll is found.

Many of the herbs and trees undergo wonderful color transformations which are, in the main, due to chemical modification of the chlorophyll; these modifications are of a very intricate nature which is but little understood. The brownish green is said to be due to the acid Phyllocyanin; it is the commonest coloration met with in the dried drugs of the market.(a)

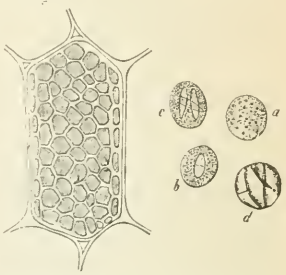

Fig. 13.—Chlorophyll grains *E*. A cell filled with chlorophyll grains. *a* Chlorophyll grain, *b*. *c*. *d*. starch inclusions in grains. (Tschirch).

The chlorophyll grain often contains Inclusions; these may be:

(a) Formed. Starch, the most important; Protein Crystalloids, rarely.

(b) Unformed. Fatty oils, coloring matters and a number of minute and little understood materials.

The coloring matters of the lower orders of plant life, as Diatoms, Marine

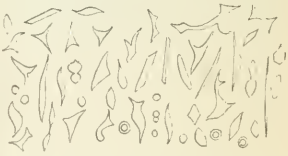

Fig. 14.—Chromatophores from flowers of Tropaeolum and from fruit of Capsicum. (Tschirch)

and Fresh Water Algæ that are other than green, are mainly mixtures of chlorophyll and other coloring materials. Chondrus crispus, our only official alga, is reddish to purple, and its coloring matter, like many of its kind, is composed of chlorophyll and Phycoerythrin.

Other Chromoplasts. The numerous coloring matters of flowers and fruits are included under this comprehensive head. These coloring matters for the main may be considered as dissolved in the cell sap, though this is not the absolute rule by any means. In general it has been observed that the oranges and yellows are usually bound up with the plastids, and the blues and reds are in solution in the cell sap. These coloring matters when organized enough to have any form are quite irregular; triangular, circular, oval and polyangular forms are found in the same plant.

Bacterioiden. Within the past ten to fifteen years there have been discovered upon the roots of many plants, the family Leguminosæ in particular, peculiar tubercular swellings which have been found to contain small bacteria-like bodies. The function of these bodies, it has been inferred, is to take in nitrogen for

(a) See Tschirch, p. 58.

the plant, and numerous investigations

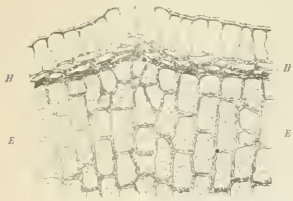

Fig. 15.—Aleurone grains in seed of Sabadilla H. Seed coats. E. Endosperm with oil drops and aleurone grains. (Vogl reduced).

of the past few years seem to point in that direction. The subject is in much controversy, however, and time alone can give us the correct solution of the presence of these bodies. (a)

3. THE NON-NITROGENOUS CELL CONTENTS. The most important of these are the Fatty Oils, Fats, Starch, Amylo-dextrin, Calcium salts and Sulphates.

Oils and Fats. These are generally found either in the protoplasm of the cell body or in the cell cavity, in the form of minute drops. Sometimes they are found in a more or less solid condition, irregular in shape. They should be considered as reserve products, sometimes replacing starch and sometimes in combination with starch, serving as nutriment for the young plant after germination. They are, therefore, most often found in the seeds and fruits of plants, less often in the stems or roots.

They are present in Senega, Gentian, Glycyrrhiza, Flos. Tiliæ and Chamomile, in most pollen grains and in the stigmas of Crocus, also in the spores of Lycopodium and in Ergot. Chemically they are ethers of glycerine formed with the fatty acid series, or acrylic series.

Starch is found throughout the vegetable kingdom in large quantities and two types are to be distinguished, Assimilated Starch and Reserve Starch. The first has been spoken of under the paragraphs upon the Leucoplasts and the Chromoplasts. The Reserve Starch is the starch of assimilation which has been dissolved and has passed through the leaves and into the bark, where it is called transitory starch and is in small grains 2-5 mm. in diameter. From here it passes on and is found stored up in the roots and stems, tubers and seeds to serve as a reserve food product. This reserve starch is generally in larger-sized grains measuring from 30-200 mm. in diameter.

There are numerous classifications of the starch grain; the most important of these are to be found in Wiesner's Mikroskopische Technologie and in Nägeli's Stärke Koerner. I here append the classification of Vogel:

A. Granules simple, bounded by rounded surfaces.
  I. Nucleus central, layers concentric.
    a. Mostly rounded or from the side lens shaped.
      1. Large granules, .0396-.0528 mm. Rye starch.
      2. Large granules, .0352-.0396 mm. Wheat starch.
      3. Large granules, .0264 mm. Barley starch.
    b. Egg shaped, oval, kidney shaped. Hilum often long and ragged.
      1. Large granules, .032-.097 mm. Leguminous starches.
  II. Nucleus eccentric, layers plainly eccentric or menisens shaped.
    a. Granules not at all or only slightly flattened.
      1. Nucleus mostly at the smaller end, .06-.10 mm. Potato starch.
      2. Nucleus mostly at the broader end, or toward the middle in simple granules, .022-.060 mm. Maranta starch.
    b. Granules more or less strongly flattened.
      1. Many drawn out to a short point at one end.
        a. At most .060 mm. long. Curcuma starch.
        b. As much as .132 mm. long. Canna starch.
      2. Many lengthened to bean shaped, disk shaped or flattened; nucleus near the broader end, .044-.075 mm. Banana starch.
      3. Many strongly kidney shaped; nucleus near the edge, .048-.056. Sisrynchium starch.
      4. Egg shaped; at one end reduced to a wedge, at the other enlarged; nucleus at the smaller end, .05-.07 mm. Yam starch.

B. Granules simple or compound, single granules or parts of granules, either bounded entirely by plain surfaces, many angled, or by partly rounded surfaces.
  I. Granules entirely angular.
    1. With a prominent nucleus. At most .0066 mm. Rice starch.
    2. Without a nucleus. The largest .0088 mm. Millet starch.
  II. Among the many angled, also rounded forms.
    a. Few partly rounded forms present, angular form predominating.
      1. Without nucleus or depression, very small, .0044 mm. Oat starch.
      2. With nucleus or depression, .0132-.0220 mm.
        a. Nucleus or its depression considerably rounded; here and there the granules united into differently formed groups. Buckwheat starch.
        b. Nucleus mostly radiatory or star shaped; all the granules free. Corn starch.
    b. More or less numerous kettledrum and sugarloaf-like forms.
      1. Very numerous eccentric layers; the largest granules .022-.0352 mm. Batata starch.
      2. Without layers or rings, .08-.022 mm.
        a. In the kettledrum-shaped granules the nuclear depression mostly widened on the flattened side, .008-.022 mm. Cassava starch.
        b. Depression wanting or not enlarged.
          aa. Nucleus small, eccentric, .008-.016 mm. Pachyrhizus starch.
          bb. Nucleus small, central or wanting.
            aaa. Many irregular forms, .008-.0176 mm. Sechium starch.
            bbb. But few angular forms; some with radiatory nucleal fissure, .008-.0176. Castanospermum starch.

C. Granules simple and compound, predominant forms egg shaped and oval, with eccentric nucleus and numerous layers, the compound granule made up of a large granule and one or more relatively small kettledrum-shaped ones, .025-.066 mm. Sago starch.

Amylo-dextrin is not found free in nature, but in combination with starch, reacting in this combination with iodine a violet red or reddish brown.

Mineral Salts. Salts of calcium, oxalate, carbonate, sulphate and phospbate.

Calcium oxalate crystals are widely distributed in plant cells, being found in all parts of the plant save the cells that functionally are used for purposes of conveying plasma materials. The commonest form is that of crystals occurring in clusters or singly. They are

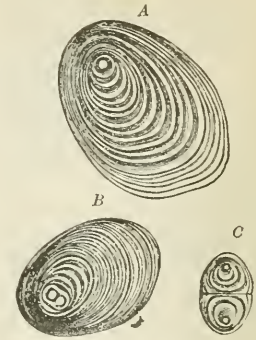

Fig 16.—Starch grains of Potato. (Sachs)

more or less needle-shaped; hexagonal forms are also found, as well as monosymmetric and octagonal forms. In some plants, Cortex Cinnamomum, Belladonna, Dulcamara, the crystals exist as crystalline "meal" that can only be distinguished by means of the polariscope. Special forms have received the

Fig. 17.—Upper surface of leaf of Hyoscyamus, showing oblong crystals. K. Also vessel bundles f. c. (Vogl.)

name of Rhapides, or needle-shaped; Quadrangular, or rhomboidenal, and Agglomeratur, or clustered crystals.

Calcium carbonate is less often found than the oxalate. It may be in incrustations covering cell walls or in the form of cystoliths, which are mulberry-like masses; these are to be found in Cannabis, Humulus and Ficus in abundance on the epidermal tissues, especially those of the leaves. The inner portion of the cystolith is free from $CaCO_3$.

Microchemically, acids have no effect upon calcium oxalate, while they dissolve the crystals of calcium carbonate with a formation of gas, bubbles of which may be seen by means of the microscope.

Calcium sulphate and phosphate are rarely found in crystalline condition. The phosphates are a constant ingredient of plant ash, but are seldom seen in a crystalline form save in a few plants. Euphorbiaceæ.

THE CELL SAP. It has already been pointed out that in the vacuoles and other spaces left by the retreating protoplasm in the cell cavity, and penetrating at times the cell wall and the protoplasm, there is a watery material

(a) Tschirch, Bericht. des Deut. Botan. Gesell., vol. V., p. 58. The literature up to that time is there given.

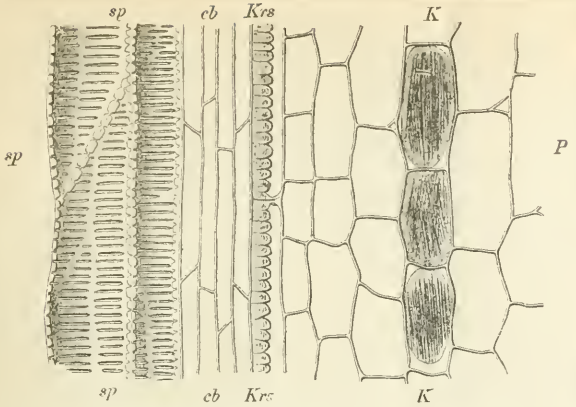

Fig. 18.—Rhizome Veratri. Longitudinal section of portion of root. *P.* parenchyma, *K.* acicular crystal sacs. *Krs.* Endodermis, *Sp* Ducts. (Vogl.)

with an acid reaction. This goes by the name of the cell sap. It contains in solution many materials both organic and

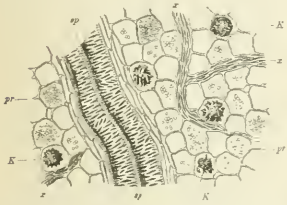

Fig. 19.—Rhizome Rhei. Longitudinal section. *sp.* Vessels, *K.* Crystal sacs, *pr* starch conducting parenchyma. *X.* Obliterated parenchyma.

inorganic. The soluble organic substances include Inulin, Hesperidin, Asparagin, Aloin, Sugar, Alkaloids, Glucosides, Acetates, inorganic salts, etc.

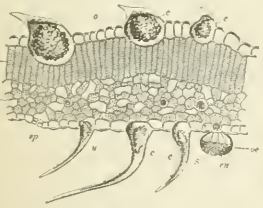

Fig. 20.—Cross section leaf of Hemp, showing *C.* Carbonate of Calcium crystals (urvstolithes), *or.* oil glands, *sp.* Stoma, *Sch.* mesophyll. (Schlich).

Inulin is an isomer of starch, and, like it, is a reserve material. It is found extensively in the roots of plants of the Compositæ, in which it varies from 1--50 per cent. Inula Helenium has 44 per cent., Taraxacum 20 per cent., Pyrethrum 50 per cent. Microchemically it is to be distinguished by its insolubility in alcohol and glycerin. If the fresh roots be placed in these solutions the Inulin will precipitate out in the form of sphæro-crystals, which fill the entire cell. Molisch's test is also of value. A-naphthol, in 15--20 per cent. alcoholic solution, is added to the section on the slide, and after 2 to 3 drops of sulphuric acid have been added, if there be present cane sugar, milk sugar, glucose,

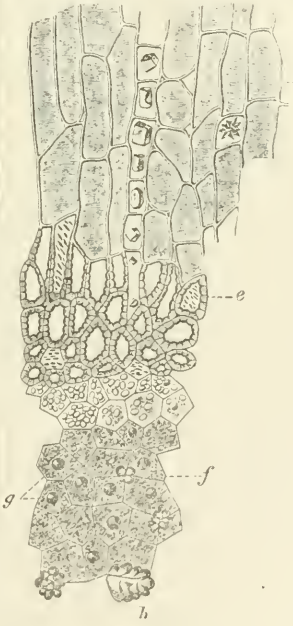

Fig. 21.—Cross section of Aleppo Gall, showing *g.* Tannin particles. (Hartwich).

lævulose, maltose or inulin, the section will become violet in three or four minutes. Thymol used in the same way gives a carmine-red reaction. Molisch's test is, however, not exclusive enough. Orcin in a saturated alcoholic solution boiled with hydrochloric acid gives an orange red solution if inulin be present.

Asparagin, Leucin, Tyrosin can only be mentioned with aloin, quassin, santonin and other complex chemical compounds, which are often included under the loose title of neutral principles. Asparagin is of interest on account of its relation to the formation of albuminoid materials, it being a sort of transition product in the formation of the nitrogenous materials.

Sugar in its many forms is commonly found in the cell sap. As thus found its most important forms are Dextrose, Lævulose and Saccharose. Less often Mycose, Melitose, Synanthose, Inosite and Milk Sugar have been described as present.

Microchemically, Trommer's test and Fehling's are to be recommended. It should be borne in mind, however, that

Fig. 22.—Underside of Epidermis of Duboisia, treated with warm potassa showing precipitate of alkaloid. Duboisin (Hyoscyamin), *x* 250. (J. Moeller).

the tests for sugar will react to many other substances found in plant tissues, such as glucosides, etc.

Glucosides stand in close relation to sugar. They are built up of complex molecules of carbon, hydrogen, oxygen and sometimes nitrogen, which possess the common property of being converted into glucose and other allied products by the addition of weak acids or inorganic ferments. Some of the more common glucosides are Salicin, Solanin, Hesperidin, etc.

Tannins are complex compounds. They are found extensively in the barks of plants and throughout the leaves. They occur either in solution in the cell, or in the form of small grains, or even in incrustations of the seed walls.

Alkaloids. Under this heading is generally included a large number of natural basic compounds which are nitrogenous and which give certain characteristic chemical reactions. They are probably products of destructive metabolism and are found in the cell sap. They are generally rich in the meristematic tissues, but their exact locality is still in doubt. It is probable that in an unaltered condition alkaloids are not to be detected by the microscope. By means of micro-chemical tests, however, many have been isolated and studied. In many cases the active medicinal principles depend upon alkaloids, as in Morphine, Strychnine, Physostigmine, etc.

Many of the alkaloids are highly poisonous, but there are a number that are inert.

Resins, Oleo-Resins, Gum-Resins, Ethereal Oils and Balsams, all exist singly or in combination, either in the cell sap or in special passages, excretory passages or glands distributed throughout the plant body. Medicinally they form an important class of products.

The Gum-Resins are often found in the so-called milky juices of the plants. Balsams generally contain either Benzoic or Cinnamic acid. They are very complex mixtures. Caoutchouc is found quite extensively in milky saps.

The Volatile Oils are widely distributed and are to be considered as secretions. They may be in the cell sap or may exist in special glands or intercellular spaces.

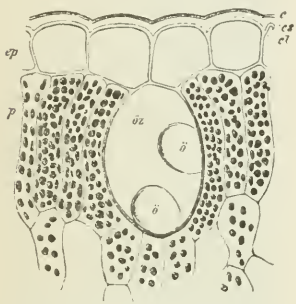

Fig. 23.—Cross section of Sassafras leaf showing *o*, oil drops in *oz*. suberized oil cell. *ep*. epidermis. *p*. Palisade cells. (Tschirch)

Ferments form an interesting class of nitrogenous plant products. In the germinating seed they are of vital importance, converting many products for the use of the young plant. Diastase, Papain, Emulsin and Myrosin are among the most important.

Plant Acids. The aromatic plant acids are widely distributed. Some are important to the constructive metabolism of the plant body, but their offices are as yet not fully known, while others are employed in destructive metabolism, or katabolism.

(To be continued.)

IMPROVED MANUFACTURE OF A COLORING AND FLAVORING EXTRACT FOR LIQUIDS, the subject of an English patent to J. F. Theurer, Milwaukee, Wis., consists in evaporating a malt wort to a thick syrup in a vacuum pan, and then subjecting this thick syrup to heat under a high pressure until there is imparted to it a rich brown color and an aromatic or slightly acid flavor. It is generally found best to employ a temperature of 240° to 250° F, and a pressure of 25 to 30 pounds above that of the atmosphere, and to continue the treatment for about two hours. The product is free from the bitter or burnt taste which the ordinary caramel prepared at a high temperature possesses.

(Written for the Era.)

THE FAMOUS HOLLIS POISONING CASE.

Being a Detailed Account of the Tragedy and of Druggist Ayer's Connection with it.

By HOWARD FIELDING.

(Concluded from p. 649 Nov. 21.)

This story was commenced in the October 10th issue.

VIII.

THE SOUTHERN WINDOW.

When Ayer went to the Hollis house to keep his appointment with Boland, he learned that that gentleman had not arrived, but that Mertou, the senior partner of the law firm, was present. He was in the room where Stephen Hollis had died

Ayer sent up his name, and the servant brought back word that the lawyer would see him.

In a large apartment which seemed to have served Hollis in the dual capacity of bed chamber and workroom, Ayer found the lawyer seated before a desk. A small safe which was open, stood beside the desk, and Mertou seemed to have just finished an examination of the contents of both.

An alcove with curtains held the bed wherein Hollis had lain in his last illness. There had been little attempt to set the apartment in order, and the character of a sick room still clung to it. There were the little tables which had held the vials of medicine and the night lamp, with the usual contrivances for the comfort of an invalid. The household had lacked direction since the death of Stephen Hollis, for that event had prostrated his sister who had been confined to her bed ever since. It should be said in regard to her, that no theory of the case had ever included her guilt as among the possibilities. Her character and conduct were such as to disarm suspicion.

"I received a communication from my associate, Mr. Boland," said Merton to Ayer, "in which you were mentioned as one possessing important information regarding this case. Mr. Boland also mentioned a declaration of our client concerning a possible motive for the present proceedings against him."

"You refer to Dr. Stanley's note," said Ayer. "Mr. Hollis spoke of it to me. It can have nothing to do with the affair. I am perfectly sure that Dr. Stanley has had no hand in bringing the accusation against your client. I am his friend and am entirely in his confidence. It was his opinion that Stephen Hollis died a natural death."

"Did you know of the existence of the note?"

"No; and I doubt it even yet."

The lawyer caressed his chin as one who is perplexed.

"I was intimately acquainted with the late Mr. Hollis' affairs," he said, "and I never heard of the loan to Dr. Stanley. Moreover, I have just examined all his papers very carefully and I can find neither the note nor any memorandum referring to it. However, Mr. Edward Hollis was specific in his statements regarding it. He saw it in this drawer"—the lawyer indicated one in the desk. "My partner's memorandum states that our client declares that he saw it during his uncle's last illness. Stephen Hollis kept the keys of the desk and its drawers in a secret place, somewhere about his bed. While he was ill and unable to leave the bed, he asked his nephew to take the keys and get a document from the desk. While searching for that, Edward came upon the note. There was nothing else in the drawer. Edward mentioned it to his uncle, who said it was a private matter between himself and Dr. Stanley, and was never to be spoken of to any one."

"Did Edward keep the keys?" asked Ayer.

"No; he returned them to their hiding place. I found them there, after the receipt of Mr. Boland's note. I had already had the desk and drawers opened by a locksmith."

"Doubtless Stephen Hollis left his bed and destroyed the note," said Ayer. "At any rate, the matter seems to me to be unimportant. It may have been restored to Stanley as the equivalent of his fee. Certainly it can have no bearing on this case. I wonder that you waste time with it; and I warn you that if you conduct your client's case on the theory that Dr. Stanley is furnishing the evidence for the prosecution, you will make a fatal mistake. In regard to this note, why don't you ask Stanley about it and clear up the whole business?"

"I have sent word to his house," said the lawyer. "I expect him every minute."

At this moment a servant announced that Dr. Stanley had arrived.

"I will see him downstairs," said the lawyer, rising. "Meanwhile, I will be obliged if you will wait for me, Dr. Ayer."

Just as the door was closing behind Merton, Ayer caught a glimpse of Nellie, the maid, in a room on the other side of the hall. As soon as the lawyer was out of the way, Ayer called to the girl, and she came to him.

"It was you who found that bottle and brought it to the store for Dr. Stanley," said Ayer.

"Yes, sir; it was," said the girl.

"Where did you find it, and how did it happen to escape the police?"

"I'll show you, sir," she replied and led him to a window that lighted the alcove.

"These curtains," she said, laying her hand upon some heavy hangings that were drawn back, "were kept closed while Mr. Hollis was sick. The sun shines right in here from ten o'clock till four, and he could not bear the light. The room was always dark. His medicine bottles were on that table. It was moved over here, in the corner by the window where he died. And some one must have set that bottle on the window seat, and it got shut into these blinds, so it stood like that, and was out of sight."

Nellie showed how the wooden shutters had stood, inclosing the bottle so that it was not visible from the room. It had stood there several days. She had found it because she had opened the window and looked out. In turning her head she had seen the bottle which had nothing to conceal it on the side toward the window.

"I am obliged to you, Nellie," said Ayer, giving her money. "I am going back to the store now. Tell Mr. Merton that I could not wait for him, and if you can get a chance to speak to Dr. Stanley, say that I want to see him at the store as soon as possible."

He slipped by the door of the drawing-room in which Stanley and Merton were talking, and as he did so he heard the lawyer's rasping voice saying:

"You put a serious imputation on my client. If, as you say, the note never existed, and he has invented it in the hope of casting suspicion upon you, the inference is that he is guilty, and that this is the expedient of a desperate man."

"That's what it is," said Stanley; and Ayer heard no more.

As soon as he reached the store, he went to the closet in which he had concealed the bottle containing the eserine solution. He took it to the outer store and set it in the window, giving one of the clerks strict injunctions to see that no person disturbed it.

He had scarcely done this when Dr. Stanley hurriedly entered. Ayer was walking toward the rear of the store. Stanley followed him.

"Have you said anything?" demanded the physician.

"About my error? No."

"Good. I was afraid you might, and that would have been a pity, for Ed. Hollis is certainly guilty."

"How do you know?"

"He has invented a story that I was indebted to old Hollis, and implies that I killed the old man and stole a note for seven thousand dollars or some other preposterous sum. What do you think of that?"

"I think it's the truth," said Ayer, sternly.

Stanley staggered back.

"My God!" he cried. "You're not going back on me, Willis, are you? Don't do it. Stand my friend in this."

"As you have stood my friend in what has gone before," replied Ayer, with a sneer. "Ah, Lawrence Stanley, I have made a bigger mistake than the substitution of one drug for another in this case. I have mistaken a black-hearted thief and murderer for an honest man, and my friend.

Stanley was livid.

"What do you mean?" he gasped.

"Do you know where Nellie Martin found that bottle?"

"No. What has that to do with it?"

"She found it in the southern window of Stephen Hollis' room, where for days it stood in the bright sunlight. Yet we found the contents colorless. What does that mean?"

Stanley gasped out an inarticulate reply. He snatched a bottle of brandy from a shelf, and poured out a glassful.

"It means," Ayer continued, "that you have played me false throughout, and would have sacrificed me to shield yourself."

"Indeed?" said Stanley, upon whom the draught of brandy seemed to have exercised a wonderful effect. "It seems to me that I have constantly tried to shield you, and to persuade you to keep your mouth shut."

"Before that bottle was found, you did so," said Ayer. "Then you feared that it was in the hands of the police, and that they would find its contents harmless. If that was to be so, your best chance was to convict Edward Hollis. But when the bottle was found, your whole demeanor changed. You were willing that I should take the blame, and ruin myself."

"But your test?" said Stanley. "You yourself found eserine present."

"In which bottle?" cried Ayer. "Not in the one that came from Hollis' home, for had there been eserine in that it would have shown the reddish-yellow color characteristic of that substance after exposure to light and heat. No: I found eserine in the duplicate bottle which I gave you to substitute for the other. You pretended to be anxious to help me out of the scrape. And what did you do, as a matter of fact? It is clear enough now. You took the bottle and emptied out the contents. Then you made up another solution containing eserine in place of strychnine. It was a shrewd game. Instead of getting me out of a scrape you intended to get me into one, and you very nearly succeeded.

"On that night when Nellie Martin brought that bottle here, you came in, having in your pocket the duplicate bottle containing the eserine solution which you had prepared. You were just in time. When I stepped out to get the potash and to speak to the policeman, you changed the bottles. I tested yours, and found what you had put there. Meanwhile you had mine which was all right in your pocket."

Stanley was listening, with a faint smile about his lips. He seemed to take only a languid interest in what he said.

"As to the two drams that were missing from Dr. Gordon's solution," Ayer continued, "of course you took them, and it was you who changed the bottles in my poison closet—a shrewd trick. I know just when you did it. It was on the evening after Hollis' death, when Barker had left the store and Edward was apologizing to me for breaking that showcase. You were alone here in this room, and you were then fresh from the shock of Barker's suspicions."

"You are right in every particular," said Stanley languidly.

"I suppose you used the eserine which you stole from Gordon's bottle, to dose the solution which you put up in the bottle I gave you."

"There, for the first time, you are wrong," said Stanley. "What I did with that eserine, you shall know presently. Meanwhile, let me say, that the jig is up for me It would have been up whether Steve Hollis had lived or died. I am overwhelmed with debts and dishonor. I have lost all my own money in speculation, and thousands that were not mine, but were intrusted to me by persons who knew me and had confidence in me. The devil take all people who had confidence in me. They were my ruin. Poor people liked me, and asked my advice, and I invested their money—for myself. Well, it's all over. I had a pull on Steve Hollis, but it wasn't strong enough. He would have forced payment on the note and ruined me. So I dosed him, and stole the note—and here I am."

"Are you ready to give yourself up? Shall I call the police?"

"Not yet, Willis; not yet, I beg of you. Who's there?"

It was Dr. Barker who had just entered the store. Ayer spoke his name and Stanley said: "Let him come in."

"Ah, doctor, "he continued, as Barker appeared, "we've found out who killed Steve Hollis."

Barker started.

"His nephew, of course," he said. "I have known it from the start. And, by the way, Ayer, I'll trouble you for that scrap of paper you found in Gordon's office. It is mine. I got it in Edward Hollis' room, and it was I who dropped it between the leaves of that book. I went to see whether the words conformed to anything in the book. I had learned of Hollis' having been seen reading it. With a little detective work, I"—

Stanley threw back his head and laughed.

"Detective work!" he cried. "Why, you chump, I poisoned Steve Hollis right under your nose. I did, for a fact. I'd given him some eserine and it wasn't enough, so I gave him a little more, and you were looking at me when I did it."

Barker staggered back, horrified by this shocking disclosure.

Stanley's display of nerve seemed to be telling on him. He leaned back wearily in his chair and closed his eyes.

"The effect of eserine in fatal doses, on the human machinery," he muttered, "is not so agreeable as the books would have us think. I feel decidedly bad."

Ayer and Barker sprang forward.

Stanley feebly waved them back.

"I told you, Willis," he said, "that you should know what became of the two drams taken from Gordon's bottle. Well, my boy, they're inside of me at this moment. I kept the stuff in my pocket, and just now, when I took a pull at your brandy bottle, I flavored your bad liquor with cold poison."

"We must save him!" cried Barker.

"I guess not," said Stanley, producing a pistol. "Stand back, gentlemen, and let me die in peace."

Barker hastily retreated, but Ayer sprang upon Stanley, struck the revolver from his hand, and closed with him, intending to secure him, and then force restorative treatment upon him. But seemingly the violence of the struggle accelerated the action of the poison, for when Ayer gained the mastery he found that he was holding a corpse in his arms.

Two hours later, when the body of the murderer and suicide had been removed, and the shock of these terrible events had somewhat spent itself, Ayer bethought him of the bottle which he had placed in the sunny window. He took it out, and marked how much it had already been tinged with color by the light.

THE END.

DIGESTION IN PLANTS.

The plant processes that correspond to animal digestion form an exceedingly interesting study. Literary Digest quotes from Knowledge the following parts of an article by J. Pentland-Smith on the "Digestive Ferments Contained in Plants:" "Take a section of the maize fruit, cut so as to show the connections of the nourishing matter, or endosperm, with the embryo plant. The endosperm is markedly divisible into two portions; that to the left, shaded darkly, consists of cells filled with nitrogenous material, the cells of the lighter shaded part adjoining the embryo being densely filled with starch. Starch is insoluble in water, and so cannot diffuse through the cell walls. It is found that during the formation of the endosperm a ferment is formed whose function appears to be the conversion of starch into a substance that can easily pass through the cell walls, and so be directly available as food for the growing embryo. This ferment has received the name of diastase. It converts starch into sugar. But diastase is not confined to the seeds of certain plants. It is of very common occurrence in the vegetable world. Indeed, one observer has asserted that it is present in all living plant cells. We may take as an instance the potato tuber and show its use there. During summer the chlorophyll-bearing cells of the potato plant manufacture a large quantity of sugar, much more than is required for its own growth. The superfluous sugar is carried down to the underground stem and is there stored in the form of non-diffusible starch in portions of the stem, which in consequence becomes much swollen, forming the potato tubers. These remain dormant during winter, but burst into vitality the following spring. Each eye, which is in reality a bud, shoots out into a stem bearing leaves, even although the tuber be kept in a dark cellar, and one observes that at the same time the tuber decreases in size and ultimately becomes quite shriveled up. The development of the stem thus takes place at the expense of the tuber; it is accompanied by complex chemical changes, one of which is the conversion of the starch in the tuber into sugar by the agency of the diastase stored up there. The sugar thus formed helps to build up the protoplasm of the growing aerial stem.

"Numerous other instances might be cited of the presence of this ferment in plant cells. In fact, its common occurrence has led to the classification of ferments having a similar action as diastatic ferments. It is obvious that the ptyalin of the saliva is one of these. . . .

"Yet another digestive action occurs in the endosperm of grasses, according to Brown and Morris. Previous to the dissolution of their starchy contents the cellulose cell walls near the scutellum become soft and ultimately disorganize. This is accompanied with the appearance of starch in the epithelial secreting cells. The diffusible substance formed from the cellulose is not known. Probably it is sugar, which, passing into these cells, becomes stored up as starch. The ferment causing this action has been isolated; it is a proteid substance, and is secreted by the epithelial cells of the scutellum. These cells thus secrete two ferments, one to dissolve the cell walls of the endosperm, and another to dissolve the starch grains thus exposed.

"Prof. Marshall Ward, in an elaborate paper in the 'Annals of Botany,' shows that he succeeded in isolating a cellulose-dissolving ferment from a fungus called 'botrytis,' that sometimes causes havoc among lily plants, giving rise to what is known as the lily disease. The threads (hyphæ) of this fungus eat their way into the interior of the living cells of the host plant. From their tips a brilliant, refringent, viscid fluid is secreted. Marshall Ward cultivated the fungus in Pasteur's solution—a nourishing fluid containing the constituents of fungus food in a readily available form—and so procured a large number of the fungal hyphæ. On squeezing these in water he obtained a large quantity of a fluid containing the ferment in solution, for when it was applied to thin sections of the lily stem, the cellulose walls were observed to swell up and become gradually dissolved."

Having considered the digestion of these bodies, the writer next directs our attention to enzymes, by whose action complex nitrogenous compounds are rendered directly suitable for plant food. The most remarkable examples are found among the so-called insectivorous plants. He says:

"The pretty little Sundew (Drosera rotundifolia), consisting of a small root and rosette of reddish-green leaves, nestling in tufts of sphagnum moss, displays a markedly digestive action, causing it to resemble the animal stomach in many respects. . . .

"Insects retained by the viscid fluid secreted by the leaves soon undergo decomposition. The nitrogenous parts of the body are digested—the hard outer skeleton alone is left—and the products of digestion are absorbed by the leaves. After stimulation by the absorption of nitrogenous matter, the secreted fluid contains a ferment and an acid. The ferment in presence of the acid attacks proteids and converts them into peptones. The stomach, we previously noted, contains an acid, and a ferment called pepsin, which has the same property as that of Drosera. Pepsin also is only secreted after the absorption of the nitrogenous matter by the walls of the stomach. In these respects, then, it appears that the digestion occurring on the tentacles of Drosera is similar to that taking place in our stomachs. It would appear that the ferment of Drosera is the same as, or at least closely allied to the pepsin found there. . . ."

CINCHONA.

In an article written for the Br. & Col. Dr. we are told that thirteen species of cinchona are known to yield barks which are met with in commerce. The most important species are now largely cultivated in India, Ceylon and Java. The species named are C. Calisaya, discovered by Weddell in 1847, although its bark had been an article of commerce for some years; S. Condaminea; C. Succirubra (Howard's Nueva Quinologia), largely cultivated in British India, although a native of Ecuador, known in commerce as red bark, and C. Lancifolia, a native of New Granada, cultivated in India, and imported in large quantities for the manufacture of quinine, commonly known as Columbian bark.

The history of this article of commerce is exceedingly interesting, but the earlier records are lost in obscurity, and it is by no means certain that the aborigines of South America had any knowledge of its medicinal properties; certain it is that to this day the Peruvians themselves make no use of the bark, nor is it included in the methods of their itinerant doctors.

The earliest records of the bark is said to be when it was first introduced into Europe, 1640. It is, however, said that in the year 1739 a Jesuit missionary residing in Loxa, was cured of fever by the administration of the bark.

Whether this is correct or not, it is agreed that the medicinal property of the bark was accidentally discovered. It was long used for the purpose of dyeing, and exported from the country for that purpose by the Spaniards. An ancient tradition given by Condamine, says that the Americans owe the discovery of the remedy to some wild beasts which were remarked to resort to the bark for the cure of some disease. But another account, with a greater appearance of reality, is that some cinchona trees, being thrown down by the winds into a pool of water, lay there till the water became so bitter that every one refused to drink it. However, one of the neighboring inhabitants, being seized with a violent paroxysm of fever, and finding no other water to quench his thirst, was forced to drink this, by which he was almost immediately cured of his complaint. He afterwards related the circumstance to others, and prevailed upon some of his friends, who were ill of fever, to make use of the same remedy, with whom it proved equally successful.

The use of this medicine, however, was very little known till about the year

1638, when a signal cure having been performed by it on the Spanish Viceroy's lady, the Countess del Cinchon, at Lima, it came into general repute, and hence obtained the name of the countess's powder, or cinchona. On recovery of the lady, she distributed a large quantity of the bark to the Jesuits, in whose hands it acquired still greater reputation, and by them it was first introduced into Europe. It is said that Louis the Fifteenth, when Dauphin, was the first in Europe who experienced its efficacy. It subsequently obtained the name of "crown bark," from having been used by the royal family of Spain.

The cinchonas are evergreen, and all natives of South America, in an area which includes portions of Venezuela, New Granada, Ecuador, Peru and Bolivia. They are confined to the mountain districts, none growing in the plains, the average altitude being given as 8,000 feet above sea level. The tree attains considerable height, sending off large branches covered with rough, brown bark. The C. Officinalis has been found with a trunk as large as a man's body, but since the demand for bark has increased there are only young and smaller trees to be found. As the climate of these regions varies considerably, it affects the growth much more than does the variety of the soil. That which suits it best is a red clay, or rocky ground on the banks of mountain streams.

The season proper for collecting the bark is from September to November, as these are the only months in the year in which there is little or no rain in these districts, for it is useless to cut the bark when wet, as it then loses its color, turns black, and is worthless. Should it, however, become wet accidentally, it must at once be dried to be of any value at all. The work is, nevertheless, carried on throughout the year at intervals.

The collection and preparing of the cinchona bark involve great hardships, and mean very arduous labor. The men employed are generally Indians and half-breeds, engaged by companies or individual merchants. These men are known as "cascarilleros," from the Spanish "cascara" bark. They are governed by a major domo, who directs all operations, receives and examines the bark direct from the workmen, and who then stores it for future use.

The whole district is examined, and the forests explored in all directions, so that the greatest gain may be obtained; and at a given point, so as to form a convenient center, a camp is formed, and the workmen are sent singly, or in small parties, to search for cinchona trees and to collect the bark. In order to do this, the tree must be felled, being cut a little above the root, the bark having been removed previously, it being thicker at this point, therefore of more value. Nothing is lost; even the ground is removed round the trunk, so that every portion may be obtained. After the tree has been felled, the periderm is removed by striking it with a mallet, thus exposing the inner bark, which is then cleaned by a brush.

The bark is then divided into sections, and these are removed from the trunk by a knife, for the convenience of transport; the pieces are generally made about 18 inches long by 5 inches wide, the bark from the branches is removed in the same way, with the exception of leaving its exterior coat or periderm. The process of drying varies according to the place from which it was taken—branches or trunk. The thinnest pieces, which are intended for quilled bark, need only to be dried by action of the sun's rays, which causes them to take the round form, but the thicker parts from the trunk and large branches make the flat cinchona. This must be subjected to a degree of pressure, without which it would dry of various unsuitable shapes or become round, which would not be desired. After exposing the bark to the sun, the pieces are placed upon each other in crossed squares, and on top of the whole is placed a heavy weight; this is continued until the drying process is completed. Should this not be done, as is sometimes the case, the bark is more or less curled, or otherwise misshapen. It sometimes happens that a degree of moisture is purposely left, in order that the weight might be increased. After this process has been completed, the workmen carry their load to the camp, where it is examined and stored by the major domo.

Preparing the bark for exportation is a business of itself. The bark is selected, and, if found necessary, subjected to a fresh process of desiccation, formed into bundles, which are sewn up with canvas, and transported to the depots in the towns, where they are put into a new envelope, usually a fresh hide, which on drying makes of the whole a hard pack, and on arriving in Europe they are known as serons, weighing usually about 160 lb.

The reckless way in which cinchona bark has been collected from the districts of South America has resulted in the utter destruction of many of the forests of that country, so that the attention of scientists was directed to the possibility of cultivating the tree in other countries. The idea was advanced in the years 1792 and 1837 to transplant young trees to Algeria, but the cultivation was not a success. After many attempts in various places by a succession of well known botanists, cinchona plantations were established in the valleys of the Himalaya, British Sikkim, and in Ceylon, and by the Dutch in Java. This cultivation proved a success.

THE INDIA RUBBER INDUSTRY IN SOUTH AMERICA.

The world's consumption of india rubber has been growing so enormously during the past few years that the time does not seem to be far distant when the demand will exceed the supply. Already the difficulty of getting a sufficient quantity of rubber to meet current needs has led consumers to fear that there will be an early famine. One of the chief causes of this heavy increase in consumption is, of course, the employment of this material in the bicycle trade, and long before the limit has been reached in this direction another scope, that may be quite as wide and general, is being opened up in the use of pneumatic tires upon vehicles of all descriptions. The United States is the largest consumer of india rubber at the present moment, but that country is run pretty close by Great Britain. The other markets follow a long way behind, but the amount imported by France and Germany is a no mean proportion of the trade done in this material. It is certain that the threatened famine in india rubber, or, more properly speaking, caoutchouc, would not be so imminent as it is now if the owners of the plantations in West Africa and elsewhere had been a little less reckless in their method of tapping the trees. In order to more easily get at the milky juice it has long been the custom in West Africa and in some of the South American States to cut down the trees bodily, so that the collectors only secured one lot of caoutchouc from each tree instead of a large number of periodical yields. The prevalent idea that this policy was justified by the almost unlimited range of forests producing caoutchouc was very soon found to be groundless, and now that it is too late to have any immediate effect upon the supply, stringent regulations have been made in many countries to prevent the cutting down of trees, and owners are going to a great deal of expense in laying out new plantations, which must, however, take several years before they come to maturity. In the meantime efforts are being made to compensate for these limited supplies by producing artificial india rubber, and several new processes have lately been brought out in France and Germany, though without as yet producing india rubber of a suitable quality upon a commercial scale.

The most obvious way of meeting the demand for this material is to give more attention to some of the other rubber-producing trees that are to be found in considerable quantities in South America and elsewhere. At the present moment French capitalists are trying to make profit out of the scarcity of india rubber by utilizing the balata, which for many years past has been employed upon a small scale for a variety of purposes. There are at least two descriptions of balata, the one white and the other red, the latter being known in the English colonies as the "bullet tree," a corruption, no doubt, of the native word "bolletrie." The species being exploited in French Guiana is the Mimusops balata, a magnificent tree which is peculiar to all the Guianas. It attains a height of from 90 to 100 feet. The wood is very much sought after for cabinet making on account of its beautiful color, while it has also the property of resisting the depredations of insects. These merits are almost fatal to the existence of the tree as a rubber producer, and in some of the South American States forests are being cut down without any regard to the profit that can be secured by tapping them in an intelligent manner. In Venezuela the tree is also to be found in great abundance, and, in point of fact, it grows very freely in the mountainous districts of the northern States of South

America. Nevertheless, in British Guiana immense forests are found in the low-lying districts of swampy Cauje. In a report on the balatas, published a little while ago by M. Hayes, a colonizing agent, it was said that there was a sufficient expanse of forest in the Guianas to allow of the exploitation of rubber being carried on for centuries. It was, however, necessary that something should be done to prevent the wholesale destruction of the Mimusops balata, which would very soon disappear if allowed to be cut down indiscriminately for its wood, and one of the richest and most prolific resources of South America would thus be destroyed. In fact, both in Venezuela and in Dutch Guiana the trees are cut down with a view of collecting as much of the juice as possible, and in French Guiana the same process was for a long time employed. When the trees are thus felled circular cuts are made every twelve inches and receptacles are placed underneath to catch the juice. The bark is also sometimes removed from the tree and the juice extracted from it by presses.

In British Guiana it is only allowed to tap the trees without felling them, and a similar restriction is now imposed in the neighboring French colony. The English method of collecting the rubber is to make horizontal incisions half way round the tree and connect them with a vertical channel to allow of the fluid flowing down into the receptacle, but a better method is said to consist in cutting out rectangular pieces of bark, from which the juice is extracted by presses. Alternate rectangles must, of course, be left on the trunk, and these can be removed at the next tapping when the exposed parts of the tree are sufficiently healed. To secure perfect vitality in the tree it is preferable to only tap it over a third of its circumference every five years. If properly carried out the collection of balata rubber is a very profitable industry indeed. One traveler in French Guiana, who was accompanied by three men, collected 666 liters of juice in 119 days, which produced on coagulation 360 kg. of rubber. Had the men been able to give their time exclusively to the collection of rubber there is no doubt that the amount would have been doubled or trebled. It is, indeed, estimated that a single balata will supply a kilogram of rubber every year without suffering to any appreciable extent from the tapping. The system usually employed for securing coagulation is to pour the liquid into large shallow pans about four inches deep. A hard crust very soon forms at the surface, and this is removed to allow of another crust forming, and so on until the whole of the juice is solidified. The crusts are then hung on lines to dry. The balata rubber, though perhaps slightly inferior to caoutchouc for certain purposes, and notably as an insulating medium, is yet specially adapted for a great many uses, such as machinery belting, mackintoshes, surgical appliances, etc., and its merits are so far recognized that a considerable trade has grown up during the past two or three years in the Guianas. While the exports of balata rubber from British Guiana in 1881 were only 41,000 pounds, in 1889 they were no less than 363,480 pounds, and though the total fell in 1892-93 to 237,450 pounds, the value has been rapidly increasing, and for the two years named was £20,605. In Dutch Guiana the industry has not been carried on in such a systematic manner. Nevertheless, two American companies are exploiting the balata on a large scale and are sending the product to the United States. That the industry can be made a very profitable one is seen in the price paid for the rubber, which varies in Paris from 3 francs to 8 francs a kilogram, according to the quality. It is evident, therefore, that while industrial enterprise is under a cloud in South America, it may be to the interest of capitalists to turn these balata resources to account, the more so as rubber is one of those rare things that are not likely to suffer depreciation to such an extent as to make its production unremunerative. (So. Amer. Jr., Iron Age.)

IMPROVED ELIXIR AROMATIC.*

By Emile Ott.

The National Formulary, as well as the U. S. Pharmacopœia, give formulæ for elixir aromatic in which it is necessary to have a preparation in stock that is never called for, except in making elixir aromatic, as suggested in the question. It no doubt would be a saving of time and trouble and obviate the necessity of having unnecessary bottles on our shelves by making the elixir direct from the oils. Through experience I have made the preparation according to the following formula and have had satisfactory results:

Oil orange	30 drops
Oil lemon	8 drops
Oil coriander	2 drops
Oil anise	1 drop
Syrup	375 ccm.
Alcohol	250 ccm
Water, enough to make	1000 ccm.
Precipitated phosph. of calcium	q. s.

Mix and follow directions according to the U. S. Pharmacopœia.

A formula that has also given satisfaction is as follows:

Oil orange	10 drops
Oil almond, bitter..	1 drop
Oil clove	1 drop
Oil cinnamon	1 drop
Alcohol } aa.....	360 ccm.
Syrup }	
Talcum	15 grams
Water, enough to make	1000 ccm.

Mix the oils with 15 grams of talcum, add the alcohol and syrup, mix thoroughly, and, finally add the water. Let it stand in a closed vessel or bottle for 24 hours and filter through paper.

This formula gives a preparation that can be colored with a sufficient quantity of tincture cudbear or red aniline. Solution to be used when curacao is ordered in prescription and the genuine or imported article is not specified. It is a good imitation of the imported liquor.

*Proceedings of the Pennsylvania Pharmaceutical Association.

ADULTERATION AND SUBSTITUTION OF DRUGS.*

By H. Schweitzer.

When a year ago it was decided to protect the patent rights for phenacetine against numerous infringers, the chemical investigations involved were placed in my charge.

Besides searching in some directions which are of no interest from a chemical point of view, I ascertained the character of the adulterants, and the extent to which adulteration and substitution of phenacetine take place. It is the object of this paper to show the character of these adulterations and substitutions.

Regarding the composition of the sophisticated powders, I found that in several cases acetanilide was substituted for phenacetine, and 21 specimens contained sugar mixed with acetanilide; 12 samples proved to be a mixture of acetalilide and bicarbonate of soda, and one powder contained acetanilide and bismuth; 35 specimens of phenacetine were adulterated with acetanilide, 2 with sugar, 1 with borax, and 2 with acetanilide and sugar. One powder put forward as phenacetine was sulphate of quinine, and one was antipyrine.

Everybody will admit that the substitution of acetanilide for phenacetine is reprehensible in the highest degree.

My method of examination was as follows: It commenced with the determination of the melting point. In accordance with the results of this test the powders were divided into two groups, the one with the correct melting point of phenacetine, 134.5° C., and the other with a different melting point.

The powders of the first group were then subjected to tests for solubility in cold and boiling water, alcohol, ether and chloroform, and finally they were ignited. All the powders melting at 134.5° C. behaved in all these determinations like pure phenacetine, and were pronounced to be unsophisticated.

Powders with a melting point below or above 134.5° C. were subdivided into three groups, namely: one with constant melting point indicating a pure chemical individual; the other with unconstant melting point, etc., mixtures of organic bodies; and the third showing the presence of unmelted substances at 155° C.

To the first group belong the powders consisting of pure acetanilide, antipyrine, and also sulphate of quinine, which melted in its own water of crystallization.

Acetanilide is identified by its melting point of 113° to 115° C., the larger crystals fusing at a somewhat lower temperature than the finely powdered substance. Again, the powders were subjected to tests for solubility in water, ether, alcohol, chloroform. They were then ignited;

*This paper is printed in the Journal of the Society of Chemical Industry, as a contribution from the New York section of the society. As originally read it presented severe and unjust imputations against the integrity of American pharmacists, which were vigorously resented by members who participated in the discussion following its reading. The most objectionable portions and the discussion consequent thereon are here eliminated.

finally the carbylamine reaction was carried out by heating 0.10 grams of the powder with 1 cc. of NaOH (15 per cent. NaOH) and three drops of chloroform, whereupon the offensive smell of phenyl-isocyanide was given off.

All powders giving the last reaction, melting at 113° to 115° C., and corresponding to the tests of solubility for acetanilide, were considered to be pure.

Another powder melting at 113° C. possessed an intensely bitter taste and was very easily soluble in water, alcohol, fusel oil and chloroform, but insoluble in petroleum ether. The qualitative test for the constituent elements showed the presence of nitrogen and the absence of sulphur.

A solution of 9.30 grams of the powder treated with 0.10 grams of nitrite of sodium in 2.5 cc. of water turned greenish-blue on the addition of 10 drops of acetic acid (1.06 sp. gr.), and in the course of an hour green crystals appeared in the fluid. By these tests the powder was recognized as antipyrine.

For the identification of the powder consisting of sulphate of quinine, we tender the following determinations: The powder, forming long silky-white needles, melted in its own water of crystallization when carefully heated in a glass tube over the open flame. If the warmed mass was allowed to cool and was then heated with alcohol, it became carmine red. The taste of the crystals was intensely bitter, and they were soluble with great difficulty in the ordinary solvents, alcohol, ether, chloroform, cold and boiling water. Both nitrogen and sulphur were found to be present.

The powders with unconstant melting points fused below 134.5° C. and were recognized to be mixtures of phenacetine and acetanilide. We observed the strange fact that all of these mixtures began to melt at 92° C. and became perfectly clear at temperatures up to 132° C. The regularity of the temperature at which these mixtures began to melt was so striking that it was considered important to inquire further.

For this purpose we compounded mixtures of finely powdered and intimately mixed acetanilide and phenacetine in varying proportions and determined their melting points, heating very slowly and noting the beginning of the melting point and the temperature at which the mass became perfectly clear.

The result is given in the following table, each test being several times repeated:

No.	Mixture consisting of — Phenacetine	Acetanilide.	Begins to Melt at	Completely Transparent at
	Per Cent.	Per Cent.	°C.	°C.
1	99	1	92	134.0
2	95	5	92	133.0
3	85	15	92	128.0
4	$66\frac{2}{3}$	$33\frac{1}{3}$	92	126.0
5	60	40	92	125.0
6	50	50	92	122.0
7	40	60	92	118.0
8	$33\frac{1}{3}$	$66\frac{2}{3}$	92	114.0
9	15	85	92	110.0
10	5	95	92	106.0
11	100	0	133	134.5
12	0	100	112	114.0

From this table it appears that all the mixtures begin to fuse at 92° C., whereas pure phenacetine and acetanilide do not show the least change at this temperature.

According to our experience this test is such a positive indication for a mixture of phenacetine and acetanilide that it is not necessary to carry out any of the more complicated reactions described for the recognition of such a mixture.

For the identification of the mixture it is sufficient to state that the substance begins to melt at 92° C. and becomes completely transparent below 134° C. It is soluble in water, alcohol, ether and chloroform. On heating 0.10 grams of powder with 1 cc. of caustic soda (15 per cent. NaOH) and three drops of chloroform, the offensive smell of phenyl-isocyanide is observed. The qualitative test for the constituent elements establishes the presence of nitrogen and the absence of sulphur.

Finally, the examination of the last group of powders, showing the presence of a substance which does not fuse at 155° C., will be described.

These powders were first ignited, then classified into two groups, the one consisting only of organic substances and the other containing mineral matter.

On ignition all the powders containing only organic bodies gave off a smell like carbohydrates, such as starch or sugar, and the powders themselves had a sweet taste. We therefore extracted the powder with ether and examined the portion soluble in ether, as above, establishing the presence of acetanilide and phenacetine, or mixtures of the same. The portion insoluble in ether was identified as cane sugar by the sweet taste, the smell on ignition, and the reaction with Fehling solution before and after inversion by means of dilute acid.

The powders containing an admixture of inorganic substances were likewise extracted with ether, and the residue from the ether solution examined as above, and only acetanilide or phenacetine was found to be present. The portion insoluble in ether was subjected to the ordinary methods of inorganic analysis. In cases of the presence of bicarbonate of soda we observed during the determination of the melting point, a liberation of gas at about 125° to 130° C., and we find that this generation of gas is a sure indication of the presence of bicarbonate of soda.

REMOVAL OF BLOOD STAINS.—Dr. Blenkiser, in the Scalpel (Ph. Jr.) recommends tartaric acid for this purpose: surgical instruments, sponges, the hands of the operator, and other blood-stained articles may be readily cleansed by washing them in a tepid solution of tartaric acid, and then rinsing in water without soap. When porous material is blood-stained the tartaric acid solution should be well wrung out before rinsing them.

PHARMACY.

SUBCUTANEOUS INJECTIONS OF CAMPHOR as a remedy for cases of collapse such as occur in acute pneumonia is recommended by Schilling, a German authority, who employs it in 10 per cent. solution in olive oil. In adults he injects at once 10 grams of such a solution, 5 grams into each forearm. He reports excellent results from the treatment.

DETECTION OF PARAFFIN IN OLIVE OIL.—Carpentier recommends the following method: Ten grams of the sample is saponified with alcoholic potash, and the resulting product dried at a temperature of 80° to 90°. It is then powdered and mixed with sand, and exhausted with petroleum ether in a Soxhlet tube. On evaporation of the petroleum ether the paraffin can be weighed, as the menstruum has no action upon the soap. (Bull. des Chim. Belges, Ph Jr.)

AN IMPROVED PROCESS AND APPARATUS FOR THE PRODUCTION OF CHLORINE FROM GASEOUS HYDROCHLORIC ACID is the subject for an English patent granted to P. R. J. Krause, Kadi Kieuy, near Constantinople. (Jour. Soc. Chem. Ind.) Hot sulphuric acid is run in regulated quantity from an elevated concentrating pan into the top of a tower constructed similarly to a Glover's tower, which also receives in like manner nitric acid through a measuring apparatus. A little below the cover to the tower is a perforated stone diaphragm, so that a chamber is thus formed in which the acids mix. Hydrochloric acid gas enters the upper part of this chamber through a flue, and the quantity of the gas entering in a given time being ascertained, the proportion of nitric acid to be admitted is known by the formula—$6HCl + 2HNO_3 = 4Cl + 2NOCl + 4H_2O$. The proportion of sulphuric acid to be admitted is regulated according to the density of the acid flowing from the bottom of the tower, which should not be allowed to fall below from 1.45 to 1.50. Superheated steam is passed through tuyères below the diaphragm in such proportion as to maintain the temperature of the sulphuric acid at from 125° to 130° C. The chlorine and nitrosyl chloride gases pass from the bottom of the tower by a pipe. The spent acid flowing from the bottom of the tower is pumped from the receiver into the elevated concentrating pan, to be again used.

A FAMOUS HAIR LOTION.—The original formula for the so-called Dr. Locock's hair lotion is, according to Phar. Jour., this: Expressed oil of mace, 4 ounces; olive oil, 16 fluid ounces; stronger water of ammonia, 16 fluid ounces; spirits rosemary, 32 fluid ounces; rose water, to 2 gallons (imperial). The lotion was first prescribed by Mr. Alexander, the celebrated oculist, for his wife, and it proved successful. Dr. (afterward Sir Charles) Locock, being an

intimate friend, introduced it first in his own family, and afterward recommended it extensively among his lady patients—hence the name. The art of dispensing the lotion consists in thoroughly beating up the expressed oil of mace with a wooden pestle, adding the olive oil in fairly large quantities at a time, and very small quantities of strong ammonia to saponify each such addition. Toward the middle of the process, the oil of mace assumes a granular appearance of a reddish color. Should it not do so, or should the mace be converted into a gelatinous mass, further manipulation may be abandoned, for the resulting emulsion will separate. When all the olive oil has been incorporated, add the rose water freely—then the spirit of rosemary, and finally the remaining portion of the ammonia. It will be found that the amount of liquor ammoniæ fort. necessary in the first instance will not exceed 4 fluid drams. The cream color of the lotion is produced on adding the remaining portion of the ammonia, and the emulsion so made will keep permanently without a sign of decomposition or separation. Twenty minutes should be the time occupied in manipulation.

ESSENTIAL OILS.—Cedro oil, (the oil from citrus medica) differs somewhat from citron oil in physical and chemical properties. It forms a yellow liquid of somewhat pleasant taste. Its specific gravity is 0.871, and its optical activity +67° 8′. The genuine oil is said to be unobtainable in commerce. It is very expensive and usually adulterated with citron oil. Natural wintergreen oil has recently been investigated, and minute differences detected between the oil from Gaultheria and that from birch. That from Gaultheria contains 99 per cent. of methyl salicylate, and the remaining 1 per cent. consists of a paraffin, probably triacontane $C_{30}H_{62}$, an aldehyde or ketone, a secondary alcohol $C_8H_{18}O$, and ester $C_{34}H_{22}O_2$; to the latter the oil probably owes its small optical activity. The birch oil contains 99.8 per cent. of methyl salicylate, traces of the paraffin and of an ester $C_{34}H_{24}O_2$. It is optically inactive. Coriander oil has also received some attention. The oil from the entire fresh flowering plant was found to the extent of 0.12 per cent. It had a specific gravity of 0.853, and its optical activity becomes +1° 2′. The oil from the half-ripe herb, with the fruit, has a yield of 0.17 per cent. It has a specific gravity of 0.866 and a rotation of +7° 10′. It is soluble in three parts of 70 per cent. alcohol. Its specific gravity rises on keeping to 0.869. The oil from the ripe coriander fruit is yielded to the extent of 0.83 per cent. and has a specific gravity of 0.876 and an optical activity of +10° 48′. It is soluble in three parts of 70 per cent. alcohol. (Schimmel, Br. & Col. Dr.)

PROPERTIES OF SOLID CARBONIC ANHYDRIDE.—P. Villard and R. Jarry (Comptes. Rend. Jour. Soc. Chem. Ind.) because the statements regarding the properties of solid carbonic anhydride are very conflicting, have carefully reinvestigated the subject. Solid carbonic anhydride melts at —56.7° C., and the vapor tension is then 5.1 atmospheres. When liquid carbonic acid is cooled, solidification begins at —56.7° C., and the temperature remains at that point and the vapor pressure at 5.1 atmospheres, till the whole is solid. When evaporating freely in the air at ordinary pressures the temperature of the solid falls to —79°, where it remains till all has volatilized. The addition of ether does not sensibly alter this temperature, the reduction due to the solution of the solid in ether at —79° being only 1°. On the other hand, the addition of chloride of methyl produces a reduction of temperature to —85°, the solid carbonic acid dissolving rapidly below —65° without the evolution of gas. In a current of dry air, solid carbonic anhydride attains a temperature of —90° C. When solid carbonic anhydride is allowed to evaporate freely into a vacuum, the reduction of temperature reaches —125°, when the vapor pressure is 5mm. and evaporation proceeds very slowly. This should render it possible to produce liquid oxygen with the ordinary resources of a laboratory and the help of liquid carbonic anhydride only, a result which the authors hope to obtain. The crystals of carbonic anhydride are without action on polarized light.

CHEMICAL PURIFICATION OF DRINKING WATER. The employment of potassium permanganate for purifying water intended for drinking is attended with difficulties, as, for instance, in the case of the presence of potassium carbonate in the waters so treated. F. Bordas and C. Girard, (Comptes. rend. Jr. Soc. Chem. Ind.) state that calcium permanganate is a more powerful oxidizing agent than the potassium salt, and has the further advantage of not contaminating the water with mineral matter. The carbonic acid produced during the oxidation liberates permanganic acid from the salt, and so quickens the destruction of the rest of the organic matter. In practice it is necessary to employ an excess of permanganate, which is removed by the action of lower oxides of manganese, by which it is transformed into manganese dioxide. The following reactions take place: (1) Decomposition of calcium permanganate in presence of organic matter, with formation of calcium carbonate and manganese oxides; (2) Oxidation in the mixture of lower manganese oxides and carbon (added to agglomerate them) at the expense of the excess of permanganate; and (3) Slow reduction of the manganese peroxide thus formed by organic matter, or by the carbon. Waters which were colored after the above treatment, became colorless when exposed to air for 24 hours, depositing a brown gelatinous substance—a manganous manganic oxide, which appears to be soluble when first formed; the water is then free from organic matter, and contains only very little calcium carbonate and traces of hydrogen peroxide.

SOME NEW CHARACTERISTIC ALKALOIDAL AND GLUCOSIDAL REACTIONS.

E. Formanek, in the Chemiker Zeitung, gives the following contributions (translated by Nat. Dr.) to the characteristic reactions of the alkaloids and glucosides:

ALOIN.—Treated by nitric acid, the residue after evaporation gives a brown reaction with ammoniacal vapors. With potassium hydrate, cold, a yellow, and with the same hot, a deep violet reaction. Dissolved in water, the solution is a wine red.

AMYGDALIN.—The residue after evaporation with nitric acid is colorless or feebly yellow. It takes on a rose color on exposure to ammoniacal vapors and with aqua ammoniæ; a progressive rose-brown follows treatment with liquor potassæ, and with alcoholic solution of potassa it develops a violet-red, passing to yellowish-brown.

BRUCINE.—The same residue (i. e., with nitric acid) is yellow, becoming meadow green on exposure to ammoniacal fumes. With hydrogen sulphide it is first brown, then violet. Potassium hydrate gives no characteristic reaction.

COCAINE.—Dissolved in nitric acid the solution varies from a dirty green to black, when heated it takes on a rose color. Evaporated to dryness, the residue is first a reddish brown, becoming brown, and passing to a dirty green on the addition of aqueous potassa. Ammoniacal vapors give first a dirty green, passing to brown.

PARACOTOINE.—Sulphuric acid gives a red reaction, passing to yellow. The residue of evaporation is yellow, which passes to brown on exposure to ammoniacal vapor, or ammonia.

EMODINE.—The nitric acid solution is yellow. Residue of evaporation varies from brownish to cinnabar-red. Ammoniacal vapor changes it to violet, which changes to dirty red. Aqueous potassa gives first a violet, which passes to brown.

NARCOTINE.—Nitric acid solution is a dirty greenish yellow. Residue of evaporation is yellow, becoming first dirty green with ammoniacal vapor, then brown. With potassa the color passes from greenish-brown to orange-brown. Heated (with potassa) a brownish-yellow tinged with red. Application of a strong heat to the product of evaporation, it takes a bluish brick-red.

ESERINE.—Nitric acid solution is yellow, leaving a cinnabar-red on evaporation, which, under prolonged heating, passes to lively green, and gives a green aqueous solution. Potassa, after long contact, colors it brown, and ammonia acts similarly, but takes a longer time.

SALICINE.—Residue of evaporation from nitric acid solution is a clear yellow, which is deepened by ammonia and by potassa. Heated with potassium cyanide it becomes blood-red.

STRYCHNINE.—Residue of evaporation with nitric acid is yellow, changed to orange with ammonia, and violet-red, which afterwards becomes brown by potassa. This reaction succeeds even in the presence of a large proportion of brucine.

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(W. T. H.) Soak the seeds in hot water until the skin can be easily removed by the fingers.

Aqua Mairafilis(?).

(C. H. B.) We know of no preparation by this name. Dunglison gives "aqua mirabilis" as a synonym for spiritus pimentae, which may be prepared from oil pimenta, 2 drams; dilute alcohol, 1 gallon. It is probable this is the preparation wanted.

Bronchiline.

(A. M. L.) Two preparations may be found in the market under this title, one is manufactured by the Neat-Richardson Drug Company, Louisville, Ky., and the other by D. H. Fonda Drug Co., Albany, N. Y. Both are claimed to be expectorants.

Apothecaries in the U. S. Navy.

(Apothecary, U. S. Navy.) takes exception to the statement made in reply to query under this title in the Aug. 1, 1895, Era, page 143. He writes that apothecaries in the navy rank as 'chief petty officers," receive $60 per month, and outrank boilermakers, blacksmiths, and sailmakers' mates. There is also quite a distinction in the uniform worn.

Oil. Pinot.

(C. H. B.) Power, in his catalogue of essential oils, "Organic Chemical Preparations," states that oil of pinus pumilio, or mountain pine, is known by the fanciful name of Pinol, a designation which should not be confused with "pinol," a definite chemical body, $C_{10}H_{16}O$, and an isomer of camphor. The latter compound is obtained as a by-product in the preparation of pinine nitroso chloride.

Elixir Terpin Hydrate and Codeine Sulphate.

(C. H. W.) See May 9, 1895, Era, page 591. The following have also been published:

1.) Codeine ..... 1 part
Terpin hydrate ..... 8 parts
Alcohol .....600 parts
Distilled water .....600 parts
Peppermint syrup ....600 parts
Dose: Tablespoonful.

2.) Codeine ..... 1 part
Terpin hydrate ..... 80 parts
Alcohol .....1200 parts
Distilled water ..... 800 parts
Dose: Tablespoonful.

Roach Exterminator.

(C. H. C.)

1.) Plaster of paris..... 8 ounces
Oatmeal .....16 ounces
Sugar ..... 4 ounces

2.) Angelica root in fine powder .....100 parts
Essence of eucalyptus.. 20 parts
Scatter at night plentifully around the haunts of the pests.

3.) Wheat flour .....2 ounces
Powdered borax .....1 ounce
Powdered sugar .....4 ounces
Unslacked lime .....1 ounce
Mix thoroughly, keep dry, and place on papers about infested localities, keeping it away from food.

Decolorized Tincture of Iodine.

(C. H. B.) It is well understood that decolorized tincture of iodine contains no iodine, the color of that substance disappearing with the chemical changes which take place in making the preparation. The reaction when the decolorizing process is effected by means of sodium hypophosphite may be thus expressed:

$$I + Na_2S_2O_3 = NaI + NaS_2O_3$$

Solutions of sulphites and sulphurous acid convert iodine into colorless hydriodic acid, as represented in the following equation:

$$2I + H_2O + Na_2SO_3 = 2HI + Na_2SO_4.$$

For a more exhaustive discussion of this subject see query 6016, March 1, 1894, Era, page 211.

Cold or Anticatarrhal Pills.

(C. H. C.) Here are three formulas from different sources:

1.) Quinine sulphate .....18 grains
Fowler's solution .....12 minims
Solution atropine sulphate (B. P.)..... 1 minim
Extract gentian .....20 grain
Acacia, q. s.
Mix and divide the mass into 12 pills. One every three, four or six hours, according to circumstances.

2.) Quinine salicylate ... 1 grain
Arsenous acid .....1-125 grain
Extract belladonna .. 1-33 grain
For 1 pill.

3.) Cinchonine sulphate ...30 grains
Ammonium carbonate..15 grains
Camphor ..... 8 grains
Morphine sulphate .....½ grain
Divide into 4 pills (capsules). One to be taken at bedtime.

Blocks and Crystals of Alum.

(S. & D.) Within certain rather narrow limits, crystallization may be governed so as to form modified or abortive crystals. But if you desire to crystallize alum from solution in any certain form, you probably will be unable to do so. The best you can do is to take a very large crystallized mass of the alum and saw it into the desired shape. We presume alum, especially if it is burnt alum, deprived of its water of crystallization could be compressed into blocks, provided sufficient pressure power is available. In order to make the pressed block coherent and firm, great pressure would be necessary. Some of the large chemical manufacturing houses have special facilities for making large crystallized masses, and if you thoroughly describe what you want to them they may be able to help you out.

Gout Pills.

(G. E. D.) We cannot give you the formula for the proprietary article. We do quote, however, a few formulas for gout pills, which may be of service. All of them are quite well known, and of considerable popular acceptance.

1. Becquerel's Gout Pills. Mix together 100 grains of sulphate of quinine, 15½ grains extract of digitalis and 38½ grains of colchicum seed. Make into 50 pills. Dose, 1 to 3 pills daily for several days.

2. Lartigue's Gout Pills. Compound extract of colocynth 20 grains, extract of colchicum 60 grains, extract of opium 1 grain. Make into 18 pills. Dose, one or more according to their purgative effect.

3. White's Gout Pills. Take 1 dram each of calomel, powdered socotrine aloes, powdered ipecac and acetic extract of colchicum. Make a mass with syrup and form into 60 pills.

Cement in Sticks.

(W.) One of the following may answer your purpose.

1. Boil 1 pound best glue, strain it very clear; boil also 4 grains of isinglass; put it into a double glue pot, with ½ pound of fine brown sugar and boil it pretty thick, then pour it into plates or moulds. When cold, cut and dry them for the pocket. It immediately dilutes in warm water and fastens the paper without the process of dampening, or it may be used by softening it in the mouth and applying it to the paper.

2. Isinglass and parchment glue, each 1 ounce; sugar candy and gum tragacanth, each 2 drams; add to them 1 ounce of water; boil the whole till the mixture appears, when cold, of the consistency of glue. Then form into small rolls for use.

3. Dissolve gum arabic in hot water to form a syrupy liquid, add a little oil of cloves, and thicken with powdered gum dextrine; mould and dry slowly.

Ferrous Carbonate, Arsenous Acid, and Quinine Sulphate in Pills.

(N. O.) wants to know the best way to make up the following combination into pills. Acacia was used as the excipient, and instead of drying, the pills became soft and larger:

Strychnine sulphate.... 1 grain
Arsenous acid .....$\frac{2}{3}$ grain
Mass of ferrous carbonate ....50 grains
Quinine sulphate .....20 grains
Mix and divide into 20 pills.

When the ingredients of this prescription are mixed, a reaction takes place, the ferrous carbonate being decomposed by the other substances, and carbonic acid gas liberated. To compound it, triturate the dry ingredients together in a mortar until thoroughly mixed, then add the mass of ferrous carbonate; beat together and allow to stand a little time until the reaction has ceased.

and then form into pills, with powdered tragacanth and althea. The liberation of the gas formed in the reaction may be hastened by gently warming or heating the mixture. Arsenous acid is incompatible with ferrous carbonate, insoluble arsenate of iron being formed.

Milky Mixture of Magnesia.

(T. B.) Dissolve 30 parts of magnesium carbonate in 200 parts of boiling water and, while still boiling, gradually add to the solution sufficient caustic soda to produce a slight alkaline reaction. Carefully free the magma from the sodium sulphate by washing, and finally add enough cold water to make 100 parts by weight.

Another method is to triturate 10 parts of light calcined magnesia with 70 parts of hot water, and then digest in a closed vessel on a steam-bath for half an hour. Finally add 70 parts of water. These milky mixtures of magnesia are apt to assume a gelatinous consistency after standing for some time.

A "glycerinated" mixture may be prepared as follows:

Calcined magnesia ... 10 grams
Triturate and mix with
hot distilled water..100 grams
Then add
Best glycerine ..... 40 grams

Dyspepsia Tablets.

(C. C. A.) We cannot give you the formula for the proprietary article. The following formulas furnish typical preparations:

1.) Pepsin .... 1 grain
Pancreatin .... 1 grain
Calcium lactophosphate 2 grains
For one tablet.

2.) Sugar ....600 parts
Subnitrate bismuth....120 parts
Saccharated pepsin .... 90 parts
Pancreatin .... 90 parts
Mucilage .... 70 parts
Essence aromatic spices 30 parts

3.) Pepsin ....100 grains
Charcoal ....300 grains
Sodium bicarbonate ..300 grains
Mix and make into 100 compressed tablets.

4.) Calcium lactophosphate ....100 grains
Magnesium lactophosphate ....100 grains
Iron lactophosphate...100 grains
Pepsin ....100 grains
Bismuth subcarbonate.200 grains
Oil peppermint ..... 5 drops
As above.

Solids and Liquids in Capsules.

(F. M. A.) Commenting on the method of compounding the prescription under the title "Guaiacol carbonate, Thymol, Menthol and Eucalyptol in Capsules," noticed on page 620 of our last issue, says that he has obtained satisfactory results by introducing the dry ingredients into the capsules first, and afterward the liquids. A prescription which he often dispenses is this one:

Codeine .... 3 grains
Oil of sandalwood....60 drops
Creosote.. .. ..20 drops
Mix and make into 20 capsules.

To compound it he triturates the codeine with about 10 grains sugar of milk and enough excipient to mass, and divides the resulting mass into the required number of parts. The required number of empty capsules (No. 2) are taken, and each filled about one-third full of heavy magnesia, the codeine mass dropped in, followed by the required amount of mixed liquids. The capsules are then filled to the top with magnesia and the covers put on. In case the total number of drops of the oils required is not a multiple of the number of capsules desired, he adds some bland oil like oil of sweet almonds to make a quantity that can be evenly divided, and proceeds as before.

Compound Syrup of Hypophosphites.

(F. M. A.) We cannot give you the formula for the proprietary preparation. A very satisfactory formula under the above title is given in the National Formulary, and some others may be found in the March 28, 1895, Era, page 399. Here are two more:

1.) Strychnine ..... 1 grain
Quinine ..... 40 grains
Manganese hypophosphite ..... 40 grains
Hypophosphorous acid.110 grains
Dissolve in 1 ounce distilled water and filter.
Sodium hypophosphite.160 grains
Calcium hypophosphite.160 grains
Solution hypophosphite of iron ..... 3 ounces
Dissolve and filter, mix the two filtrates, add 4 ounces glycerine and sufficient simple syrup to bring the whole up to 1 pint.

2.) Hypophosphite of calcium .....740 grains
Hypophosphite of sodium .....256 grains
Hypophosphite of potassium .....192 grains
Hypophosphite of manganese .....192 grains
Sulphate of iron (crystals) .....370 grains
Strychnine ..... 4 grains
Sulphate of quinine .....128 grains
Sugar ..... 24 tr. ounces
Orange flower water ..... 1 fl. ounce
Diluted sulphuric acid .....
Diluted hypophosphorous acid.....
Water of ammonia .....
Distilled water, of each, q. s.....

Dissolve 228 grains hypophosphite calcium in 4 fluid ounces distilled water, and the sulphate of iron in 2 fluid ounces water; mix and filter. Dissolve the remainder of hypophosphite calcium with the other hypophosphites in 4 fluid ounces hot water, using about 1 to 2 fluid drams diluted hypophosphorous acid to aid solution, mix the two solutions and set aside. Dissolve the strychnine in 2 drams water, by aid of a few drops of hypophosphorous acid, and again mix with the other solutions. Now dissolve the quinine sulphate in about 8 ounces water, using a little diluted sulphuric acid, precipitated with sufficient diluted ammonia (1 part ammonia to 6 of water) until the ammonia is in slight excess. Wash the precipitate and transfer to a mortar, rub to a paste, gradually add diluted hypophosphorous acid to perfect solution and add to the other solution, making the whole measure about 16 fluid ounces. To this add the orange flower water and sugar and dissolve cold by shaking. Lastly, filter, and water to make the whole mixture measure 32 fluid ounces. Each fluid dram contains hypophosphite calcium, 2 grains; sodium, 1 grain; potassium, ¾ grain; manganese, ¾ grain; iron, ¾ grain; quinine, ½ grain; strychnine, 1-64 grain.

Converting Rocks into Wool.

Of all the wonders of modern industry that of the manufacture of a soft and downy "wool" from sandstone and from the waste slag of blast furnaces is one of the most striking. The product, called "mineral wool," is already widely used for packing, fireproofing, etc., and the process of manufacture is described (Cassier's Magazine, Lit. Dig.) as follows:

"The wool itself, serving a variety of useful purposes, as a non-conducting covering against heat and cold alike, for steam pipes and cold storage room walls, as a sound 'deadener' in floors of buildings and as a means of fireproofing, among many others, is, as its name implies, a soft and wooly substance, consisting of a mass of very fine mineral fibers, interlacing one another in every direction, and thus forming an endless number of minute air cells. The wool appears on the market in a variety of colors, principally white, but often yellow or gray, and occasionally quite dark, and is made by converting scorise and certain rocks, while in a molten state, into a fibrous condition by a steam blast directed against the liquid material. Blast furnace slag forms the raw material for one variety of the wool and sandstone for another, yielding, respectively, slag wool and rock wool, the latter being preferable for pipe covering because of the absence from it of sulphur, which, with moisture present, becomes an active corroding agent. The furnace slag or the rock, as the case may be, is melted in a large cupola, and as it trickles out at the tap hole in a somewhat sluggish stream, it meets a high-pressure steam jet which atomizes the woolen mineral, if this term may be used, blowing it in fleecy clouds into the storage room provided for it. Soft and downy, the stuff settles wherever a resting place affords itself, the heavier and coarser wool coming down first, while the lighter portions are blown further along by the force of the steam, and settle in the more distant parts of the room. The material thus naturally grades itself into varieties of different quality. A thousand pounds of wool per hour are turned out by one of the cupolas, and after the storage room has been blown full, the flocculent mass is packed into bags, ready for the market. The whole process affords an admirable and interesting illustration of the utilization of an utterly waste product."

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ALL NEW YORK FIRMS IN IT.

RETURN TO BOX AND CARTAGE CHARGES ALMOST CERTAIN—WHAT SOME THINK OF THE SCHEME.

The situation in regard to the box and cartage matter can be summed up in a very few words. The Western druggists have succeeded in New York City as they did in Baltimore, Philadelphia and Boston; they have yet to get the signatures of several druggists in New Jersey, Connecticut and New York State; without these they cannot call their trip a success. It is probable that all will sign.

The committee went on to Boston again last Friday morning. Upon their return they hope to secure the signature of Charles Smith, of Newark, and those of two Albany and Troy druggists. Without Smith, of Newark, in, the signatures of some New York druggists who have signed are not worth much, for, as a matter of fact, these signatures are not affixed to any binding agreement.

In case the Western druggists go home with all the signatures they desire, the next step so far as the New York people are concerned, is the meeting of the Drug Trade Section of the Board of Trade, which takes place in December. Then the matter of rates on box and cartage will in all probability be turned over to the jobbing druggists' committee. Uniform charges will be necessary, and the report of that committee will be awaited with great interest.

This box and cartage matter has for two weeks now been the subject of most talk among the druggists down town, and many and varied were the views expressed by the gentlemen who were seen by the Era in reference to their signing the agreement. Here is what one man said: "When we dropped box and cartage charges some years ago, we were forced to do so by the action of some of our competitors. We kept hearing of firms offering our customers, as inducements to give them their trade, either free box or free cartage. That had to be put a stop to, so we stuck the knife right in and cut out box and cartage charges entirely. Our present agreement contains no regulation as to what shall or shall not be charged. That will have to be a subject for local adjustment. We went in on the basis that all must be in; if one house stays out, we will stay out, and the scheme will not work if one firm stays out. The scheme is a good one, and will enable the wholesale druggists to make a little money, or rather to cut down expenses, which are quite considerable."

Another gentleman who did not know that every New York wholesaler had signed the agreement, expressed much surprise when told that all had gone in. He said: "I signed the agreement, and that shows what I think of the matter. Box and cartage is a legitimate charge, and amounts to about 1½ per cent. of our total business. I know that others have tried to get these charges restored here in New York, but failed completely. It needed a delegation of just the kind of men who came on this time to bring about the change. I am glad all have gone in."

The following views of one druggist may prove interesting, although the Era has heard exceptions taken to the statement about lack of faith in some dealers' pledged word. The informant said: "Besides Smith, of Newark, there is yet to be secured the signatures of Robinson, of Troy, and Walker & Gibson, of Albany. Then we will have to agree on the charges. There are one or two points on box and cartage that ought to be well considered. They are, that the charges shall be unvariable, and that after the charges are agreed upon the trade shall send out a circular signed by all the wholesalers in the agreement. That is, no firm should have to send out a notice to its customers, over its own signature, but over the signatures of all the druggists.

"One of my reasons for this is the present state of the agreement not to give 5 off on less than $15 worth of a certain manufacturer's goods, and that of the rule that goods cannot be taken back after thirty days. These agreements are being broken all the time. No mutual circular was sent out on these agreements, and some retailers probably do not know that all agreed. I believe that one house did not send any circular out at all relating to these matters."

A reply to this was made by another wholesaler, who said: "I don't believe those agreements are being broken all the time. There may be an instance now and then, but there is no general breaking of the rule."

"Well," said still another jobber, "I see the box and cartage question is up again, but that it is now in a fair way toward settlement. I am glad of that, for I am tired of hearing about the matter. It was not so very long ago that we were all making these charges here, although each suspected the other of allowing them to the customer, when McKesson & Robbins came out with their circular, which did the business. All of us then openly abolished a custom which some, perhaps, had already secretly laid on the shelf. A curious state of affairs then developed; customers who formerly bought their supplies monthly commenced to order semi-monthly, or weekly, and weekly buyers bought twice a week; not that they bought more goods, but the boxing and cartage being free, they bought less and oftener. They got free boxes, and more of them. We never had very much complaint about the boxing charge, for we were always conservative in making it; but I'll admit that we were stumped when shrewd old buyers would kick on the cartage charge. They used to say to me that as long as I would deliver a box way up in Harlem, free, there was no reason why I should charge 50 cents to carry another box to a freight depot several miles nearer, and I couldn't show them that there was. I believe that where goods are packed in a new box, it is right to charge the purchaser for the cost of the box, but that complaint originally arose over charges for obviously second-hand boxes at new box prices. After all, the buyer pays for the box, any way, whether the charge is shown on the bill or not. But all of these people who have been talking about this matter, seem to have overlooked one point: Our action in doing away with this charge was followed by similar action on the part of allied lines which supply us; thus, where we used to pay for boxing on our crude drugs, and cartage on our oils and other heavy goods, we now get them on our sidewalks free. So this in a measure helps us out—but I hope the charge will be restored, and I should like to go still further and abolish free delivery of goods in the city. There is a great deal of work for a little money in the wholesale drug business, any way, and only those who control specialties make any money to speak of; the rest of us are in business for health, and we don't get that, either."

Applied for a Receiver.

St. Louis, Nov. 22.—George Buhl, of Eureka Springs, Ark., filed in the Circuit court of this city Thursday, a petition for the appointment of a receiver for the Buhl Remedy Company, of St. Louis, which was organized on April 20, with a capital stock of $50,000. Mr. Buhl is sixty-six years old, and admits that he has only the most limited acquaintance with the forms and methods of corporate management. Owing to his lack of knowledge on these points, he claims, he is about to be deprived of his rights and interests in his remedies and in the company formed to manufacture and sell them. The plaintiff states that he made a contract with Augustus Berthold, president of the Buhl Remedy Company, but that in some way the name of the Jourdan Chemical and Manufacturing Company, which was organized on the same day with the Buhl Remedy Company, was injected into the contract greatly to the prejudice of his rights.

—Druggist J. F. Noel, of Macksburg, Ia., has gone out of business.

HOLIDAY GOODS.

RETAIL DRUGGISTS CAN SEE WHAT NEW YORK HOUSES HAVE TO OFFER

Never before, say the gentlemen who have charge of the sundries in the big New York jobbing drug houses, was there such a display of holiday goods as ornament their shelves at present. But there is a fact even more significant than that. Never were there such costly articles, and they are selling as if the people did not know what "hard times" meant. Manicure sets at $150 apiece, and cologne bottles at $240 a dozen sell readily, and as for brushes at $50 a set they go off the shelves as fast as they can be put on. "We have had no trouble at all this season in disposing of our costliest goods," said one manager. "In fact, we cannot get goods that are high-priced enough. We only worry about the cheaper goods, for if they are left over they are no good for next season. Everybody who comes in to buy tells us trade is good."

At McKesson & Robbins', Manager Sherwood, of the sundries department, kindly turned the questioner about holiday goods over to Mr. Cornell, who thereupon adjusted his glasses, turned on the electric lights and proceeded to bring out some of the many novelties. One of the best sellers with the retail druggists cut of town has been the "Evil spirit" lemonade set, a dragon ornamenting the beaker and all the eight glasses. A new line that catches everybody is a cologne bottle for the dressing case, the stopper being in the form of a tray for the keeping of jewels. Among the handsomest of new lines is the silver mounted loving cup of genuine Dalton ware. Mr. Cornell says the first invoice of these cups had no sooner been unboxed than a New York retail druggist who had come in bought the entire lot. An oddity about some of these cups is the motto, which reads from bottom to top. Other loving cups are of Dalton ware in imitation of leather, very attractive with their monutings of sterling silver.

Since "my lady" of the period enjoys a "nip" as well as her brother, something had to be invented that would enable her to carry the liquid. A common flask would never do. The very latest consequently is ladies' drinking flasks in the shape of vinaigrettes, made of beautifully cut glass, silver mounted, and with the silver cup on the bottom. Unless one knew, he would say these were simply rather large smelling bottles, and their price is something to wonder at. But it can be whispered that they are having a great sale.

Passing by $35 apiece inkstands, four inches square with immense tops in silver, and gum pots, puff and jewel boxes that no woman can see without coveting; the newest lines of atomizers were next shown. There was one mounted in silver with a tube and two bulbs fully eighteen inches long, the bulbs covered with blue net and ending in a great blue tassel. This and other atomizers in the show case ranged in price from $24 to $35 apiece. A fine seller is the combination scent and smelling salts bottle, mounted in silver, the perfume filling one end and the salts the other. These are $12 apiece. A novelty is the silver ash tray stamped with club, heart, spade and diamond, and just the thing for a gentleman's Christmas gift. Of more than passing interest are the trays for letters or for manicure sets, of decorat- porcelain mounted in silver, scent bottles in Broche or Delf ware with silver tops, but when the manicure sets are brought out one forgets about the other things. Many of these are rightly termed "extravagant." One in lizard cost $50, another in chamois $125, and another in plush, seal brown color, $150. The cases are handsome indeed, are made at McKesson & Robbins', and cannot be excelled anywhere, while the imolements are simply exquisite. One set shown consisted of three sections. On opening the case a large French plate glass mirror is seen, next comes the tray with ivory handles on some of the implements, silver mounted bottles of the finest make, and by pressing a concealed spring the jewel draw is shown. Not one of these costly sets will be left on the shelves after the holidays.

Buckhorn and deer's foot bases for inkstands, dinner gongs and a hundred other things for everyday use in the house, seem to be all the rage this season, and are very attractive. Office or servants' bells have long buckhorn handles, and reading glasses are mounted the same way. One brush holder had a deer's foot in the center, with the brushes hanging beside it from the silver hooks extended from the top of the foot. In paper weights there were bronze dogs, colored from life, and costing $15 apiece. One paper clip was a head in imitation of Bismarck's favorite Great Dane. French gilt scrap baskets ranged from $35 to $55.

In closing a summary of the very finest articles to be seen at McKesson & Robbins one cannot omit a mention of a brush set with bogwood handles and back. This wood is a very rough one, filled with knots, and takes a high polish. A druggist who was told about these sets before they had arrived at the store ordered one sent to him if the cost was not over $75. He secured the first set of six brushes at $55, and was well pleased. They are the finest things in their line seen in New York this season.

Emil Utard, manager of the New York importation office of Ed. Pinaud, has the finest display in the lines for which his house is famous that he has ever had at the holiday season. Many New York City druggists carry all the year around a show case display of Pinaud's goods only, and besides being attractive because of the value of their contents the articles make a handsome show in the finest stores.

Among the newest things straight from Paris is what the French lady calls her "necessaire." It is a box in Empire style, the design, by the way, being the product of a French artist of note, and contains a bottle of toilet water, one of an extract, a box of Marie Louise powder (the very latest and finest in that line), a package of toilet soap and other "necessities" for the dressing table. All the articles bear the Marie Louise head, the lettering is in blue and gilt, and the ornamentation and embossed work is in gilt.

In extracts M. Utard says the best value is in the Roman line. The boxes are handsome ones and contain three bottles, the glass work being of the finest kind. Each bottle has its distinctive perfume, the labels bearing the flower corresponding to the extract. There are violet, rose, heliotrope, orris, lily and lilac Roman extracts, and their popularity is well shown by the fact that although they were only introduced here six weeks ago, M. Utard has already sold 1,000 dozen. The Marie Louise extract is also a new line, coming in richly decorated boxes containing either three bottles or one. Bouquet Marie Louise Reine Blanche comes three or one in a box, and a novelty that is very Frenchy is the Europia in silk-covered boxes shaped like a trunk, and these can also be bought in boxes of three and one. A novelty in the line of dentrifrices is the Europia in what is known as the "opera" bottles, containing two to three ounces. One line of extracts that has just been put up for the holiday trade includes some of the finest Pinaud perfumes, one in a box, selling at a very slight advance over the former charge. These include jasmin de France, aurora tulip, French pansy, green pink, violettes de France, paquita lily, anemone de France, myosotis Russe and French myosotis.

The best seller M. Utard has on the market is the "Violette Reine" extract, considered by connoisseurs the sweetest in the country. There is a large demand for this extract in bulk, and scarcely a day passes but druggists order ten to twenty pounds. At this holiday season many prefer to buy this extract by the bottle in neat boxes, as it is a quick seller. The Roman salts, which are finding such favor with the ladies, come in lavender, violet, heliotrope, muguet, jasmine, royal peach, pink, verveine, peau d'espagne, menthe, rose, lilac and new mown hay. When the liquid has evaporated the bottles may be refilled with liquid supplied in smaller bottles at a very small price. These salts are very strong and lasting.

At Schieffelin & Co.'s all the lines of holiday goods are very full, and the demand shows that the retailers expect a handsome business within the next few weeks. Of triplicate mirrors there is an assortment running from small prices to the most expensive, the latter being among the finest in stock in the city. In novelties there are smokers' sets in odd and attractive styles, cigar and match boxes, ash trays of new design, shaving sets and manicure sets in all prices, and Superintendent Montague, of the sundries department, says the holiday trade in these lines shows a great advance over previous years.

Schieffelin & Co. have recently made an effort to make a sachet powder which would be the best on the market, and as a result now display that article in three odors—violet, heliotrope and white rose. These are put up in quarter-pound bot-

tles and also in small jars, and are having a great sale. In perfumes the firm carries a large line of all the best makes put up in holiday and regular styles. A particularly good line of sponges is also shown, about the best in value that has ever been placed in the hands of the trade. There are sheep's wool sponges, both bleached and unbleached, bleached grass and Turkey cup sponges, and they are selling very rapidly. The firm has hair brushes made specially for it from the finest selected stock, and many are very handsome. Druggists are ordering the R. S. W. tooth brushes in five and ten gross lots, in which case the firm stamps the name of the druggist on each without charge. Retail druggists who come to town for holiday goods will see at Schieffelin & Co.'s a display that will pay them to inspect.

Lazell, Dalley & Co. have sent out this season some of the very finest cut glass bottles of perfume that the trade has ever seen. They show sets ranging from the two-ounce bottles to those containing thirty ounces, all the bottles alike save for size. When these are ranged on a show case they prove very attractive to the patrons of drug stores. There is one style of bottle standing ten inches high, of hob-nail cut, with gilt top, that is as handsome as a bottle can be made. Another style, holding thirty ounces of perfume, is fluted and diamond cut in panels and is decorated in flowers and gold. Some of these styles, at $240 a dozen, have had an immense sale. In the lower priced lines there are porcelain vases and jugs, Dresden vases, and Bohemian ware bottles, all in great and pleasing variety.

Theodore Ricksecker has this year provided retail druggists with 124 different kinds of fancy bottles of his perfumes, and not one of them, he says, is like anything else of the sort that has ever been placed on the market. One style has proved very attractive to seekers after holiday goods. It is a bottle of greenish cast, almost egg shaped, standing on six tiny glass legs, and around the neck of the bottle hang icicles of frosted glass. The stopper, or at least all of it that shows, is of the same kind of glass as the icicles, and looks as if it had been out in the snow. The whole effect is very pretty and novel.

Some of the jug-shaped bottles are very tasty. One style, in which pink and white colors predominate, has a large flaring mouth and from the neck hang wild roses in delicate tints of glass. Then the Delft bottles, two in a box, are very much sought for as souvenirs at card parties and find a quick sale. In the heavier bottles the decanters deserve special mention for their handsome ornamentation, while the fleur-de-lis solitaire vases find favor because they serve so well as flower vases after their contents have been used.

On some of the fancy lines Mr. Ricksecker shows boxes decorated in colonial style, with the perfume bottles inside also bearing pictures that are suggestive of ante-revolutionary days. These pictures are fired on the glass. A new effect in boxes is the green leather imitation, a gold medallion being set in one corner. The bottles inside are of crackled glass and in various styles. Besides his perfumes, Mr. Ricksecker has sold this season a fine line of smelling salts in several odors.

Tarrant & Co. show a number of exceedingly handsome bottles of perfumery, very large and very ornate. One large showcase contains only the most costly goods and are worth a visit. The firm has just placed on the market a new violet perfume of great merit, and the package containing the extract is equal to anything that comes across the Atlantic. At Ladd & Coffin's also a fine line of goods is displayed.

THE DENVER PLAN'S FATE.

IT LOOKS AS IF THE PROPRIETORS WILL NOT CHANGE THEIR WAYS OF DOING BUSINESS.

In regard to the action taken during the past ten days by both the proprietors and the committee on proprietary goods of the N. W. D. A. on the new rebate plan, it can only be said that the expected has happened. It has for a long time been believed that the manufacturers would not agree to the proposed plan, and their recent action leaves little doubt that the Denver plan is dead.

On Wednesday last the proprietary medicine manufacturers held their meeting at the Board of Trade rooms. There were present S. W. Bowne, of Scott & Bowne, who called the meeting to order; E. A. Bigelow, of the J. C. Ayer Co.; Dr. R. V. Pierce, of the World's Dispensary Medical Association; H. B. Harding, of the Humphrey's Medicine Co.; Horace M. Sharp, of Dr. D. Jayne & Son; Dr. F. E. Greene, I. S. Coffin, of the California Fig Syrup Co.; W. T. Hanson, David Hiscox, G. H. Taylor, of C. I. Hood & Co.; Charles H. Pinkham, E. T. Hazeltine, Dr. J. H. Schenk, I. O. Woodruff, of the Maltine Mfg. Co.; E. O. Stanley, of Pond's Extract Co.; C. C. Ely and several others.

Dr. R. V. Pierce presided, and H. B. Harding was chosen secretary. This letter, signed "C. P. Flynn, secretary," was read:

"Dear Sirs: It has been intimated to us that some proprietors are hesitating about adopting the Detroit plan for the distribution of proprietary medicines, for fear the retail druggists, particularly those who have not been buying direct from manufacturers, are not in favor of the plan. We beg to assure you that the retail trade of New England is almost unanimously in favor of the Detroit plan. Those who now buy direct from proprietors see by the adoption of the plan that they will be able to obtain more profit on their sales than they now make by purchasing direct. We would state as a result of the canvass recently made of the retail trade of New England in which this question was presented and a written reply requested, 85 per cent. of the replies were favorable to the Detroit plan. Hoping and expecting you will put this plan into force, we are, very truly yours,

"THE EXECUTIVE COMMITTEE.
New England Retail Druggists' Union.

A discussion of the new plan followed and many features met with objections. The result was that it was decided to leave the adoption of the plan to individual action. The chief objection seems to be the necessity under the plan of refusing to give a discount to many customers who are large retailers, and who buy enough goods to secure the largest discount.

The following day, Thursday, the Proprietary Goods Committee of the N. W. D. A. met at the Fifth Avenue Hotel to discuss the new rebate plan with a view to securing its adoption. All the members were present except three, George H. Kalteyer, M. A. Fall and D. D. Phillips, who had been excused. J. C. Fox, of Atchison, and E. C. Frisbie, of Hartford, were also in attendance. Chairman Kline presided and informed the meeting of the action taken by the manufacturers the day previous. This resolution was adopted:

"Resolved, That several features of the new plan having been objected to by a number of proprietors, it is the sense of this meeting that we suspend action upon the plan for the present, and confine our efforts to that part of the Denver plan known as the Detroit plan, which covers the essential features of the Denver plan, and if carried into execution will insure uniformity of cost to retailers."

A sub-committee of three was appointed by Chairman Kline, consisting of Frank A. Faxon, J. C. Eliel and James R. Owen, to visit the prominent proprietors and secure a positive answer as to their adoption or rejection of the Detroit plan for distributing proprietary goods. The result will be communicated to the General Committee, and by it submitted to the jobbers throughout the country for their action.

The report of this sub-committee will be awaited with interest.

Work of the Drug Trade Section.

SOME IMPORTANT MATTERS ACTED UPON AT THE LAST MEETING.

Several matters of more than ordinary interest came up at the meeting of the drug trade section of the New York Board of Trade last Thursday. Albert Plaut, of Lehn & Fink, introduced a resolution directing the committee on legislation to take such steps as would lead to more uniformity in the granting of licenses to practice pharmacy in this State, which can probably be brought about by consolidating the four Boards of Pharmacy now in existence and having co-ordinate jurisdiction. It appeared to be the sense of the meeting that this consolidation is something much to be desired, and would aid the profession in general. The whole resolution as adopted is as follows:

Resolved, That the committee on legislation of the Drug Trade Section be requested to look into the new Illinois State law on pharmacy, and submit its views to this Section at its next meeting; also to take such steps as shall bring about consolidation under one head of the various Boards now authorized to issue licenses for practicing pharmacy in this State.

Mr. Plaut also introduced this resolution, which was adopted:

Whereas, It appears to us that the present rates of insurance on drug stocks are higher than seems to be warranted by the liability to fire loss of this class of property; and

Whereas, A conference between representatives of the drug trade and the rate-making body of the insurance companies should lead to a better understanding of the requirements of each, be it

Resolved, That a committee of five be appointed to enter into such conferences and to attempt to secure a more equitable system of rating than that now in use.

This resolution explains itself. It is based on the well known fact that insurance men overestimate the liability of fire breaking out and the amount of damage which would ensue in drug stocks. The druggists say that the way business is now conducted and goods stored makes fire less frequent and limits the loss both by flames and water, and they think the insurance company should make an allowance for the change. Since the Bleeker street fire, a few weeks ago, the companies have been talking of stiffening rates. The druggists consider the present rates too high anyhow.

Chicago Druggists and the Liquor Tax.

Chicago, Nov. 23.—The following ordinance was drawn up to-day by City Collector Maas and will be presented to the City Council next Monday night. A considerable opposition from druggists and others is expected, although it is thought that the ordinance will probably pass.

Be it ordained by the City Council of the city of Chicago:

Section 1. Every person, firm or corporation engaged in the selling of drugs and medicines, or who keeps a pharmacy or drug store, and who sells any vinous, malt, fermented or spirituous liquors for medicinal purposes, except upon the prescription of a regularly licensed or practicing physician, shall procure a license therefor from the city of Chicago, for which he shall pay the annual license fee of two hundred and fifty ($250) dollars.

Sec. 2. Every person, firm or corporation engaged in the selling of drugs and medicines, or who keeps a pharmacy or drug store, and who sells any vinous, malt, fermented or spirituous liquors for medicinal purposes only upon the prescription of a regularly licensed and practicing physician, shall procure from the city of Chicago a permit therefor, for which he or they shall pay the annual fee of two dollars ($2); Provided, that no prescription of such physician shall be valid to cover more than one sale of liquor, under the provisions of this section, and every person, firm or corporation who shall make more than one sale under any such prescription shall pay the license fee provided for in Section 1 of this ordinance.

Sec. 3. It shall be and is hereby made unlawful for any person, firm or corporation engaged in selling drugs and medicines, or in keeping a pharmacy or drug store, to sell any vinous, malt, fermented or spirituous liquors for any other than medicinal purposes; sales for mechanical, chemical, sacramental, and all other except medicinal purposes by said persons, is hereby prohibited and declared unlawful.

Sec. 4. The permit provided for in Section 2 hereof, shall be good for one year. The annual licenses provided for in Section 1 of this ordinance shall begin with and date from the first day of January in each year, and any person, firm or corporation may, between the first day of April and the first day of July, receive a license for the balance of the year upon payment of three-fourths (¾) of said license fee, and between July and October, upon payment of one-half (½) of said fee, and between October 1st and December 30th, upon payment of one-fourth of said fee; all such licenses to expire the 31st day of December next succeeding.

Sec. 5. Any person, firm or corporation who shall violate the provisions of Section 1 of this ordinance shall be subject to a penalty of not less than twenty-five ($25) dollars, nor more than two hundred ($200) dollars for each offense.

Sec. 6. This ordinance shall be in force and effect from and after its passage and due publication.

With the above ordinance was presented a communication from City Collector Maas, setting forth his reasons for its presentation. The communication was as follows:

"To the Honorable the City Council of the City of Chicago:

"Gentlemen—I would respectfully invite your attention to some defects now existing in the so-called Dram Shop ordinance, which also applies to bottlers, druggists and other dealers in bottled beer, wines and liquors, which are sold by them, but not drank on the premises.

"As the ordinance now stands, all such bottlers, druggists and dealers in bottled goods should be required to take out a dram shop license at the rate of $500 per year, to legalize their business. To enforce this requirement would cause quite a hardship to some bottlers and dealers and compel others to quit that business altogether, or sell their goods on the sly, as is now done by many grocers and druggists.

"It is not my desire that druggists should be deprived of the right to handle wines and liquors for medicinal purposes, if the same are prescribed by a duly qualified physician; but I do think they should cease to run a dram shop almost as openly as a barroom, without paying a license fee for the privilege."

The rest of the communication is in reference to bottlers and other dealers.

I inquired of Collector Maas whether there were many druggists who sold liquor on the sly. He replied that there were very many.

"I heard the statement, Mr. Maas, that there are not more than 20 per cent of the druggists of Chicago who keep within the letter of the law in regard to the sale of liquor. Is that true?"

Mr. Maas replied, "I do not believe there are even that many who obey the law in this regard."

"Would this ordinance permit druggists who do pay the $250 license fee to sell liquor indiscriminately,"

"No. They could only sell for medicinal purposes, as under the old ordinance. Those who only sell under a physician's prescription will have to pay a fee of but two dollars."

I showed the ordinance to Mr. Ebert, and after reading the same, he pointed out a serious weakness in it, by which the clause relating to the sale of liquor upon the prescription of a physician could be abused. This clause should prescribe that no physician not regularly licensed and practicing should be competent to give such a prescription, and that no physician clerking in, owning or otherwise connected with or interested in a drug store, should be competent for the purpose; and if any physician were found guilty of violating this provision or lending himself in any way intentionally to its violation, a penalty should be imposed upon him commensurate with the gravity of the offence. [See also report of Chicago Retail Druggists' Association in this issue.]

Chicago, Nov. 26. (Telegram.) Liquor license not yet introduced in council.

—The main factory of the Randolph Box & Label Co. at Richmond, Va., was burned week before last. The loss was $150,000; insurance, $97,000. About 300 girls were thrown out of employment temporarily. A new building will be at once begun and will be ready for occupancy some time during the first of the year.

The Food Commission.

Cincinnati, Nov. 24.—State Food Commissioner F. B. McNeal came to this city on official business last week. He said: "I see that some producers want a National Pure Food Law enacted to replace the State law. In order to secure convicting evidence against a manufacturer under such a law, it would be necessary to adopt the same system of espionage as is used by the internal revenue service. This would be practically impossible. The Ohio laws, however, need a little strengthening. There is less adulterated food sold in Ohio to-day than in any other State in the Union, and the condition of food has improved fifty per cent within the last eighteen months."

Illegal Liquor Selling in Maryland.

Baltimore, Nov. 23.—The grand jury of the Easton District on the Eastern shore of Maryland, before adjourning to-day to meet again next week, sprung a surprise amounting to a sensation by indicting Dr. Fred Dunning and Dr. James B. Merritt on charges of giving illegal prescriptions for whisky, and druggists A. N. Cole, W. J. Biery and L. K. Edgell on charges of violating the local option law by selling whisky without prescriptions. Hitherto grand juries have contented themselves with examining in a perfunctory manner a few witnesses, as they were unwilling to involve the county in heavy expense for cases tried. The present body, however, means to do all in its power to compel a strict observance of the law. For months past members of the Woman's Christian Temperance Union and kindred organizations have been keeping a close watch on the drug stores of Easton, in an effort to detect violations of the statute. The names of scores of persons have been handed to the grand jury as purchasers of whisky. Among them are some of the leading business and professional men of the town. It seems that the number of cases in which spiritus frumenti was prescribed as the proper remedy increased so alarmingly as to attract the attention of temperance workers, and led to an exercise of strict vigilance.

By way of getting even with active prohibition workers, the grand jury has been requested to summon some of them and make them tell all they know about violations of the law. It is openly charged that one or two had had liquor sent to them from the Chapel District, the only "wet" district in Talbot County. Politics seems to be at the bottom of the prosecutions. The grand jury is composed of Democrats, and the two physicians and three druggists indicted are Republicans. Dr. Merritt is a candidate for physician to the county almshouse and Dr. Dunning wants to be physician to the jail.

—L. C. Smith, a druggist at Macomb, Ill., was sued by the authorities of that city for $5,000 damages for illegally selling liquor. The suit was dropped. Smith agreeing to quit business and pay the costs. He is now located at Blandinsville, Ill.

NEW YORK AND VICINITY.

——J. R. Owen, of Lord, Owen & Co., Chicago, was in the city last week.

——George N. Brinckerhoff has sold his pharmacy at Hempstead, L. I., to T. H. Botham.

——M. F. Benjamin, of Riverhead, L. I., was in town last week calling on friends in the trade.

——Charles Stern, of Charles Stern & Sons, Vesey street, left for California on Monday.

——Clay W. Holmes, secretary of the New York State Pharmaceutical Association, was in town last Monday.

——W. J. McConville, of Thompson's Spa, in Boston, was in town last week looking for "new ideas" for the soda fountain.

——R. A. Bacon of "Emollient" fame, and some years ago a druggist in Patchogue, is now with Dr. Perry at the Sun Pharmacy.

——Frank Tran, who has been employed by McKesson & Robbins for the past ten years, is to take a position soon with the Behrens Drug Company, at Waco, Tex.

——John C. Whitely, a graduate of the Philadelphia College of Pharmacy, class of '95, has accepted a position at F. Koehler's pharmacy, at 308 Court street, Brooklyn.

——Louis Schnaer, formerly in charge of Fraser & Co.'s Lexington avenue store, is now connected with the Metropolitan Merchants' Association, at 132 Nassau street, in this city.

——Samuel W. Fairchild, of Fairchild Bros. & Foster, went to Atlanta last week to attend the Cotton States Exposition as one of the Manhattan Day Committee.

——John M. Peters was called to Philadelphia by business on Thursday of last week, and was to his regret unable to extend hospitalities to the visiting delegation from the West.

——Frederick Gunton has sold his pharmacy at 195 Reid avenue, Brooklyn, to George H. Lawlor. Mr. Lawlor was formerly a clerk at Davidson & Bulkley's store at 84 Montague street.

——A pamphlet relating to the various antitoxines and other biological preparations which are being used more and more every day by leading physicians, has just been issued by Lehn & Fink.

——Henry Utard is in St. Louis in the interests of the manufacturers of Figaro licorice. He will spend a few days in Chicago before his return to New York, and expects to be here about Christmas time.

——One of the two men killed at the Brooklyn Bridge accident last week was George Grannit, who had been studying pharmacy at the Brooklyn College of Pharmacy. He was on his way to the college when killed.

——E. Moore has recently purchased the drug store at the corner of Thirty-second street and Ave. D, Bayonne, N. J. Abraham Schleionner, who was formerly employed as a clerk at the hospital on Ellis Island, is now manager of the pharmacy.

——The Aseptikon Manufacturing Co., of New York City, has been incorporated at Albany to manufacture and sell proprietary medicines and druggists' supplies. The capital is $5,000, and the directors are Frank Abbott, Frank Abbott, Jr., and W. C. Ely, all of New York City.

——R. W. Meese goes out on the road for W. R. Warner & Co., the first of January. He will divide the New York State work with S. D. Wadham. Mr. Meese has been connected with the Warner & Co. office in this city for some time and is well known by the druggists.

——Henry O. Nichlars, a druggist of 218 Court street, Brooklyn, was assaulted on Whitehall street one day last week by a man on whose umbrella he had accidentally stepped. Nichlars was saved from serious injury by a policeman and the assailant paid a fine in court the next day.

——All the druggists report the demand for "hot soda" to be much greater than in any previous season. One Harlem druggist makes a specialty of hot tea made at the counter from the leaves in less than two minutes, and he finds his fair customers prefer that to all other drinks.

——The interesting feature of last Saturday's bowling games in the drug trade tournament was the twelve frame game between the Schieffelin & Co. and Tarrant & Co. teams, something unheard of before. Schieffelin & Co. won. The other winners were Lazell, Dalley & Co. (two games); Dodge & Olcott (two games), and Max Zeller.

——Charles Fick, a drug clerk, was remanded in a Brooklyn police court last week for threatening to shoot a saloon keeper. It is alleged that Fick was ejected from the saloon on election night, and that in revenge he went there subsequently, smashed a plate glass window worth $50, and then threatened to kill the proprietor of the place.

——At last a man has thought of the druggist of whom he bought poison with which to kill himself. Thomas Brady took oxalic acid with suicidal intent, and when he was found this note lay beside him: "I have destroyed the label with the name of the druggist who sold me the poison, as he is in no way to blame. I gave him a wrong explanation." Brady will recover.

——In connection with the Hattenhorst murder and suicide case in Brooklyn this week, it was stated that the chloroform used by the murderer was purchased the Saturday previous at the drug store of R. Burckhardt, 1256 Broadway, Brooklyn. The druggist says Hattenhorst had been buying chloroform from him for a long time, and that he used it in his business.

——When James H. Taft, the drug broker, moved into the office he now occupies, no hat rack had been nailed up. In looking about for a place to hang his hat Mr. Taft saw the gas fixture just above his desk, and on that placed his head-covering. This was handy and he soon fell into the habit of putting the hat there whenever he entered his office. It happens that passers-by can see the hat when they can't see Mr. Taft, and his friends can always tell whether he is in or out by looking through the windows, as they pass by on the street. Mr. Taft asked a friend the other day why he hadn't called in recently. The friend replied that he had several times looked to see if the hat was on the gas fixture and not seeing it had passed on.

Entertained by C. G. Bacon, Jr.

C. G. Bacon, Jr., of C. G. Bacon & Co., gave a very pleasant dinner party last Thursday evening to J. C. Eliel, of the Lyman-Eliel Drug Co. of Minneapolis; Frank A. Faxon, of Woodward, Faxon & Co., Kansas City; Charles F. Weller, of the Richardson Drug Co., Omaha, and J. C. Fox, of McPike & Fox, of Atchison, all of the committee of jobbers who are here on matters connected with the box and cartage question. Besides Mr. Bacon and these gentlemen, there was present Dr. J. E. Brown. Dr. William Jay Schieffelin was unable to be present on account of the recent death of his father, and two others who had been invited, Samuel W. Fairchild and John M. Peters, had to leave town on business.

The dinner was given at Mr. Bacon, Jr.'s, house, No. 83 Park avenue, at seven o'clock. While the menu was being discussed various subjects of interest to the trade were touched upon, especially the matter that had called the committee to the East. After dinner the guests were entertained by a costumed vaudeville quartette, Ballantyne, the humorist, and the Doré brothers, banjoists. At midnight Messrs. Eliel, Faxon, Weller and Fox took a train for Boston, after expressing thanks for their enjoyable evening's entertainment to their host.

Gopher Gossip.

St. Paul, Minn., Nov. 23.—All branches of trade in the Northwest are steadily improving, and this may be said especially of the drug business. The largest wholesale house here reports that its orders number 400 or 500 more now than they did a year ago at this time, being an increase of over 10 per cent. Furthermore, collections are particularly good, and drug stocks in this part of the country are heavier than ever before. This is not in anticipation of anything like a "boom," but is a result—a feature—of the general confident expectation of permanently increasing business.

E. W. Fish is now running Foos' drug store at Fessenden, N. D.

P. M. Sorensen and Dr. T. L. Kerr are in town buying new stock to add to their present one in the new store at Cooperstown, N. D.

P. C. Jensen, a leading druggist at the city of Albert Lea, Minn., was arrested yesterday on a charge of selling liquor to a man on the blacklist. He pleaded guilty and was fined $50 and costs.

Noyes Bros. & Cutler, the wholesale druggists of this city, have brought a suit against Merrill Ryder to recover $296.10, the price paid for 126 pounds of ginseng bought of the defendant at $2.35 a pound. Plaintiffs say that they bought the ginseng on the warranty of the defendant that it was the common ginseng of commerce, and that it proved Japanese ginseng, which is entirely worthless.

HERE AND THERE.

—John A. Barr will shortly open a handsome new store corner James st., N., and Merrick street, Hamilton, Ont.

—Burglars entered the pharmacy of Hall & Lyons, Broadway, Providence, R. I., on the night of Nov. 22, and stole $50 from the safe.

—A druggist in the West End of Boston, on the way to Harvard College, announces that he is going to keep open his store all night.

—Walden Park has retired from the firm of Archdale, Wilson & Co., Hamilton, Ont., and will go into business with his brother, George Park.

—Burglars entered F. Squair's drug store, Cottage Grove avenue and Fortieth street, Chicago, Nov. 17, and carried off $500 worth of property.

—Druggist E. H. Vedder, of West Bay City, Mich., and Miss Mary A Taylor, of Essexville, were married at the home of the bride's parents Nov. 20.

—F. J. Brainerd, of Eaton Rapids, Mich., has retired from business. His stock was bought by John J. Milbourne, formerly clerk for Wilcox & Golden, of the same place.

—The Bell-Boyer Drug Co. of Higginsville, Mo., was incorporated Nov 18. The capital stock is $2,000 and the incorporators are Henry Boyer, Robert L. Boyer and L. T. Bell.

—P. Schambers has bought an entirely new drug stock and will open a store at Wayne, Mich. George VonNostitz, formerly city salesman for Theodore Hinchman & Sons, Detroit, will be manager.

—A fire in Danbury, Conn., on Nov. 22, caused a loss of $35,000 or more, to be borne by Mrs. Victoria Hawley, proprietor of a drug store and owner of the large brick block in which it was situated.

—Dr. C. C. Williams, of the C. C. Williams Drug Co., Clinton, Mo., died Nov. 17. He was born in Wheeling, W. Va., in 1822, and had been in business in Clinton for twenty-nine years continuously.

—The stockholders of the Phenique Chemical Co. of St. Louis will hold a meeting on Dec. 24, for the purpose of voting on a proposition to increase the capital stock of the company from $50,000 to $100,000.

—James Hammond has purchased from F. J. Lamb, the drug store, corner of Pearl and Front streets, Grand Rapids, Mich. This makes the sixth time that this store has changed hands within three months.

—A. P. Lincoln, late druggist at South Lyon, Mich., has resumed his old position with T. H. Hinchman & Sons, Detroit, and will represent the firm in northern Michigan in place of George S. Davis, who is on the sick list.

—Andrew H. Ward, ex-inspector of drugs at the port of Boston, was a heavy sufferer by fire recently, his house at Allston being burned, and only a small part of the contents saved. His loss is estimated to be $5,000.

—A. Blacknall & Son, druggists at Durham, N. C., will open a branch store at West Durham, a suburb of Durham, at an early day. They also expect to soon move into their old stand recently partially destroyed by fire.

—A barrel of gasoline exploded Nov. 17 upon the premises of G. A. Kelly Co., wholesale druggists, Pittsburg, Pa. The flames were extinguished without much damage, by the fire department. The cause of the explosion is unknown.

—A judge at Creston, Ia., recently refused liquor permits to two pharmacists, claiming that ten saloons and one drug store already holding a permit was enough to supply the 10,000 inhabitants with liquor, even during an unhealthy period.

—The police at Pawtucket, R. I., raided two drug stores in that city owned by Gagnon & Sullivan and J. A. Sunard on Nov. 14. They secured three wagon loads of liquors of various kinds, and claimed that no druggist's license existed for either place.

—What promised to be a spicy trial in the divorce court at Portland, Me.—an action in which Theorus B. Pollard, a druggist, figured—was avoided by a compromise, Mr. Pollard obtaining a divorce, but on milder charges than those originally brought.

—Charles W. Hawkes, a druggist of Binghamton, N. Y., was shot on Nov. 18 by H. C. Boyd, a dry goods clerk, who has succeeded in eluding capture. The cause of the shooting is a mystery, the victim being under the impression that robbery was intended.

—As a consequence of raids by the Enforcement League at Biddeford, Me., a large number of alleged liquor dealers were taken into court on Nov. 21, several druggists being included in the party. All waived examination, were fined and took appeals.

—Thomas G. Coyne has purchased an interest in and will manage the City Pharmacy at Middletown, N. Y., formerly conducted under the firm name of George H. Hill & Co. W. H. Perlee retains his interest, and the new firm will be W. H. Perlee & Co.

—Druggist W. H. Burke, of Grand River avenue, Detroit, caught his clerk, Joseph Hill, stealing cigars and other articles. The young man, who is only eighteen years old, was turned over to the police. In court he pleaded guilty and was fined $8 or thirty days.

—Charles R. Goetze, a druggist of Wheeling, W. Va., was recently fined $10 for selling cigarettes without a State license. This is one of the first cases under a new State law and will be appealed to the Supreme Court, the American Tobacco Co. defending the case.

—William T. Moxon, of Mt. Clemens, Mich., has bought out his partner's, Ed Conner's interest in the trade mark and right of the Moxon Liniment Co., and now has the business entirely in his own hands. Mr. Conner has become proprietor of "The Fair," a bazaar of the same town.

—Poore, Towne & Co., wholesale dealers in paints and drugs, Boston, have assigned to George A. Perkins, an attorney. The liabilities are estimated to be from $15,000 to $20,000. This house was established many years ago, but of late has been carried on by Walter A. Towne.

—The drug stock of E. M. Lacey, at Mt. Clemens, Mich., will probably pass into the hands of Mr. Taylor, formerly a druggist at Detroit. Since Mr. Lacey's death, his son has been running the business, but he will give it up and return with his mother to Sault Ste. Marie, their old home.

—Almeron E. Whitehead and George W. Mitchell, of the drug firm of Whitehead & Mitchell, Birmingham, Mich., have both gone to the Atlanta Exposition. They went on the editors' excursion, by virtue of their publishing the village paper. James H. Hodges, the Utica, Mich., druggist, is also at Atlanta seeing the sights.

—The sale of the George W. Charles Estate drug stock of St. Louis, Mich., to Frank W. Blair, of Birmingham, fell through at the last moment, just as the papers were to be signed. Some difference of opinion regarding the financial condition of the sale caused it. Mr. Blair will locate some place soon. He has his eye on one or two good stands.

—A. M. Church is going to open a new drug store in Holly, Mich., in the stand next to the post-office. Mr. Church was in the drug business in Holly for many years, but about five years ago quit it to go into the lumber business. He is very popular, both as a citizen and as a druggist, and his fellow townsmen are glad to welcome him back to his old work among them.

—For giving away "objectionable pictures" of actresses some dealers in cigarettes in Boston were fined $30 each. The complaint was brought under a law relating to gift enterprises; but, although a society for the suppression of vice was the nominal complainant, the charge was openly made in court that the American Tobacco Co. was really behind the prosecution.

—J. A. Small, a druggist at 654 West Van Buren street, Chicago, asks the courts of that city to grant him a divorce and appoint a receiver for his business. He claims that his wife has driven him from his house, and has also taken possession of the drug store, where she is violating the pharmacy law by selling medicines and filling prescriptions. He also avers that his wife has been an inmate of an insane asylum.

—Harold R. Butman, a young druggist at Wareham Narrows, Mass., was convicted last week on a complaint for assault, and is now in trouble again. His fine, $40, was so large for the offense as to attract attention to himself and his business, and the result was that he was arrested on the charge of maintaining a liquor nuisance. In the town it is expected that he will plead guilty and look to the court for mercy.

—The evidence in favor of Schlatter, the wonderful Denver healer, has been strengthened by the testimony of L. P. Currin, a druggist of St. Joseph, Mo., who went to Denver, shook hands with Schlatter and was cured of chronic ap-

pendicitis. The Schlatter method is undoubtedly popular with patients, as he charges nothing for his treatment, but it is one which will hardly benefit the drug business as now conducted.

——The city physician of Kansas City, Mo., reports 5,266 cases treated and 5,403 prescriptions issued for the months of July, August, September and October this year. Last year the figures for the same months were 3,509 cases and 2,931 prescriptions. These figures have been brought out through a newspaper attack charging the present incumbent with extravagance in expending $300 more for drugs than his predecessor.

——Lee Williamson, who has for some time held the position of Washington representative of the Winkelmann & Brown Drug Co., has become the lessee of the store on the northeast corner of Baltimore and Eutaw streets, Baltimore, and will open it about Dec. 1 as a first-class pharmacy. This is the stand long occupied by E. Walton Russell, under whom it proved very remunerative and afterward by Hoke & Swartz, who failed several months ago.

——From statements made by druggists and other persons in position to know Washington, D. C., has suffered much from misrepresentation concerning its state of health. Reports have been extensively circulated of typhoid fever being prevalent in epidemic form. This, it is asserted, is untrue. The malady taken for typhoid fever is said to be a malarial disorder, due mainly to climatic conditions, and the number of cases, according to information from the best sources, is greatly exaggerated.

——On Nov. 15 five judgments aggregating $35,000 were confessed in the District Court, Omaha, by H. T. Clarke, of the H. T. Clarke Drug Co., Lincoln, Neb. The holders of these judgments are Boston banks, and it was agreed that no executions should be issued upon them for at least three years, and that the amounts should bear 6 per cent interest. This action, it is claimed, secures all the creditors of the firm, and it is understood that all will be paid in full.

——A dog belonging to Dr. W. A. Engle, a prominent druggist at Hartford, Mich., amuses himself by jumping at and biting people in a way freezing to the blood of the timid. One of his exploits was to take a piece out of Edward Kennett's leg. Kennett sued the doctor and got a judgment for $200 and costs. The doctor appealed the case, but the second trial, just concluded, resulted in a judgment against him for $158 damages and costs of all the courts, which are very heavy.

——John G. Longdon, capitalist and speculator, died Nov. 15, at Kansas City, Kan. Mr. Longdon became famous some years ago through his speculation in quinine. When the drug went down to $1 per ounce he purchased 100,000 ounces, and had held it up to the time of his death, awaiting a rise above his purchase price. He was more successful in his real estate speculations, and left a fortune estimated at a quarter of a million dollars.

——A correspondent in Virginia tells us that a good old farmer of his acquaintance directs this humane cure for ring bone in a horse. Drive a lot of brass tacks through a leather strap and cover their heads with another strap. Then buckle it tight over the bone after dipping the points of the tacks in nitric acid. The tacks are to be one-half inch apart, and should be long enough to reach to the bone. This seems to be on a par with the average knowledge of the farmer and the average kindness of his heart to dumb animals.

——Salt Inspector George W. Hill, of Michigan, inspected 401,776 barrels during October. Wayne County appears—for the first time in her history—with 2,302 barrels. This quantity is the result of a plant which is only partially in operation, but which will itself eventually produce 25,000 barrels a month. Sanguine believers in the future of Wayne County as a salt-producer predict that the output of the combined plants that are just about to burst into life will be 250,000 barrels per month by the 1st of next August.

——Stevens & Todd, of Detroit, have found a location for their Central Drug Store, which was rendered homeless by the tearing down of the buildings to make room for the new fourteen-story Mabley building. Their new quarters will be the five-story block at 153 Woodward avenue, within two or three doors of their old stand, in the store now occupied by John MacFarlane, bookseller, who is going out of business. Stevens & Todd will occupy all five floors, and are talking of putting in a department of surgical instruments and physicians' supplies. New fittings and elaborate decorations will make the store as attractive as any in the State. Possession will be given Jan. 1, but it will probably be Feb. 1 before there will be any formal opening. Many of the old clerks will be seen in the new store.

——The Mayor of Raleigh, N. C., believes the druggists of that city have been charging too much for "charity" prescriptions. The average price charged was 36 cents, while in New York he finds the average cost to be 15 cents, in Wilmington, 10½ cents, and in Cincinnati, 8 cents. To lessen this expense he suggests that a city physician be appointed. The druggists of Raleigh claim they do not charge too high for this class of work and that if physicians would cease their extravagant prescribing unnecessary cost would not be entailed upon the city. Last month's prescriptions cost the city $115, of which, it is stated, the average cost of the proprietary prescriptions was 66 cents. The Mayor has requested members of the Academy of Medicine to discontinue prescribing proprietary medicines.

——It looks as if cutting had come to stay in Michigan. The cities were attacked long ago, and still remain in a state of siege. Of late the enemy has advanced into the towns. Wayne is perhaps the latest victim. It seems that a short time ago a new drug store was established there. In some way the impression got out that the new druggist was a cutter of the deepest dye. The two other druggists of the place didn't propose to lose trade in that way, and immediately advertised cut rates. All three are now selling dollar goods for sixty-seven cents, fifty-cent goods for thirty-four cents, and twenty-five-cent goods for seventeen cents. There is considerable bitter feeling over the matter, each one threatening to drive the two others out of business. In Battle Creek, the cut-rate fight is kept up. Most of the trouble there is laid at the doors of C. J. Austin, who runs a department store in connection with his grocery store. Where he gets his drugs is something of a mystery, but it is the general impression that they come from some Chicago house. It is known that the three wholesale houses of Detroit have refused to sell him. In Kalamazoo and Grand Rapids things are much as they have been for some time, brisk cutting and a generally unsatisfactory condition existing.

Cincinnati Trade.

Cincinnati, Nov. 24.—The last few weeks have been busy ones for the wholesale drug houses of this city. C. G. Merrell reports business rushing. "Ordinarily," said he, "the business varies very little. Just now, however, the trade seems to have taken a sudden forward impetus." At Stein-Vogeler's one of the company said: "We have hardly time to fill all the orders that are pouring in on us. Not much is doing locally, but the outside trade is booming." The other large houses of Lloyd Bros. and Hale & Justis also add their testimony to the improvement of the times.

Retail druggists, however, are not so well satisfied. All of them say that business is good, but might be better. An improvement is looked for in December. Since the election, country business has picked up. The druggists who handle small lines of candies find a competitor in the market in the person of the itinerant vender who bobs up about Christmas time and ruins the stomachs of children with his adulterated sweets. This year, State Food Inspector Rentrop is on the warpath for these peddlers, who will be arrested if the common adulterations of glucose and tar are found in their candies.

Cincinnati Notes.

——The wife of Dr. John C. Otis, one of the large retail druggists of Cincinnati, died last week.

——William Salt and Grant Hemphill, unregistered druggists, were fined $20 and costs for failing to comply with the law.

——Joseph Baron, a Japanese living at Yokohama, called at the Mayor's office to get a charity ticket to Louisville, but was refused.

——Druggist Robert J. Effinger has been cited by Judge Wilson to appear and show cause why he has not paid the $50 attorney fee incurred by his wife in her suit for divorce.

Chicago.

——Druggist H. Kenney has succeeded R. M. Carr, 4059 Indiana avenue.

——Druggist John G. Saxe will open a new store on the corner of Chicago and Hamlin avenues about Dec. 1.

——George H. Schafer, a wholesale and retail druggist of Fort Madison, Iowa, was here last week on business.

——The drug store formerly owned by Mr. Torsten Lind on the corner of Western and Fullerton avenues has been sold to Mr. Adolph Abert.

——Axel Heiberg will open a new drug store in the recently completed Stensland block on the corner of Milwaukee avenue and Carpenter street.

——Mr. John T. Plummer and wife have returned from their trip to Atlanta. Mr. Plummer reports an exceedingly pleasant time and regards the time consumed as well spent.

——"Al." Lamb, a prominent druggist of Aspen, Col., was in Chicago last week. He had been visiting friends in the east and stopped here to purchase his holiday stock.

——Dr. Wetzel has opened a new drug store on the corner of Clark and Polk streets, in the place formerly occupied by the International Pharmacy, which has moved to Western Springs, Ill.

——Druggist Henry Schaller, on the corner of Lincoln avenue and Larrabee street, has disappeared. Mr. Schaller has been in poor health for some time, and grave concern is felt for his safety.

——Mr. H. A. Antram, of the Randolph Box and Label Company, has moved his office to the factory of the company at 27 and 29 Clinton street. Mr. Antram says that though the office will be fixed up in fine shape, he will still continue to recognize his friends.

——The senior classes of the Chicago College of Pharmacy and of the Northwestern University School of Pharmacy inspected the laboratory of the Searle & Hereth Co. on Tuesday and Wednesday afternoons respectively of last week. About fifty members of each class witnessed the operations of manufacturing pharmacy upon a large scale, and the visit was given a social turn with some of Kinsley's best refreshments and cigars.

Philadelphia.

——There was a Masonic lodge instituted here Nov. 22, composed exclusively of the faculty, students and graduates of the University of Pennsylvania.

——J. T. White, of Franklin street and Columbia avenue, has just finished making extensive repairs and his place is now one of the most attractive in the city.

——Charles Leedom, the well-known retailer at 1403 Filbert street, has purchased the store formerly owned by H. B. Lippincott, at Twentieth and Cherry streets.

——R. C. Cadmus, of Twenty-first and Mt. Vernon streets, and R. H. Lackey, of Fifth street and Lehigh avenue, both well-known retailers, have just returned from their wedding trips.

Baltimore.

——Edmund J. McGraw, who with Samuel Robinson some weeks ago bought the pharmacy on the southwest corner of Franklin and Greene streets, conducted for many years by C. S. Tilyard, has transferred his interest to Mr. Robinson.

——J. T. Houchens, manufacturer of the "Family Physician," has removed from the corner of Chase street and Central avenue to Harford and Greenmount avenues.

——Wm. F. Edwards succeeds Leonard P. Chaney in the ownership of the pharmacy at the corner of Fairmount avenue and Burke street.

——At the Philadelphia College of Pharmacy on last Tuesday, the 26th, the first year students were to attend the second course examination of the present year. This examination was for the purpose of finding how far the students have advanced in their studies since the beginning of the present term, but more particularly to show what knowledge they have gained during the past month. Some 300 students were to take part, a fair sprinkling of whom are women. The college will be closed on Thanksgiving Day.

——The Merrimac Valley Druggists' Association, formed a short time ago, embracing members of the profession residing in Lowell, Haverhill and Lawrence, Mass., gave a banquet at the Central Hotel, Lawrence, on Nov. 14.

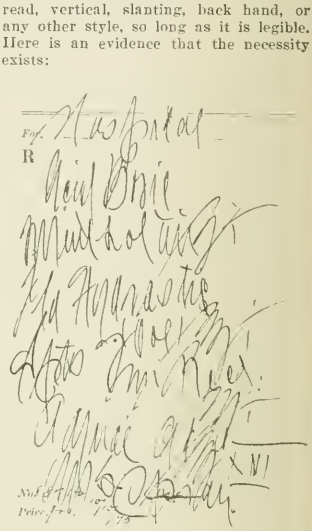
——The Androscoggin Pharmaceutical Society met at Lewiston, Me., Nov. 11, and revised their price list of proprietary goods.

A Pill Story.

Another exasperating evidence of the incompetency of newsgatherers in the far East is shown by an item which we find in the Chicago Record. The story is that the Emperor of China having obtained relief from some ailment by the use of patent pills that were sent him from Europe, ordered 400 pounds of the remedy through a Tientsin druggist and sent them to Corea to be distributed among the Chinese troops. But they never reached their destination. Some skeptical or superstitious mandarin had them dumped into the sea. The story is said to be true, but we distinctly remember that when it was first manufactured it was the Empress, not the Emperor, who had been cured, and the dumping into the sea had been edited out. But the same fault attaches to this later version that was detected in the first—the name of the pills is omitted. This is something we cannot understand. We have read many remarkable pill stories in our time, but the name of the pill has always been mentioned, and when so great a personage as an emperor, senator or judge has been cured, the disease was always named, so that there was no doubt about the propriety of taking the same kind of pill. As it is the story is of absolutely no value in drug circles, and as a news item it is getting old and decrepit. Our only hope for a solution of this problem lies in the probable difficulties which the great powers will soon experience in settling the Chinese question. This pill matter may then come up, and diplomacy may succeed where news correspondents have failed.

An Argument for Better Chirography.

Simply a plea for writing that can be read, vertical, slanting, back hand, or any other style, so long as it is legible. Here is an evidence that the necessity exists:



Now, this prescription, sent in by a druggist correspondent out in South Dakota, is in no way peculiar or unusual. It is an average sample, no worse than many others which every druggist receives, and which the average druggist will have no trouble in reading. Druggists are expected to experience no difficulty in deciphering such scrawls as this, but we submit that the ordinary chirographic expert (not a pharmacist) would find it a sticker.

But the point is right here. Can all druggists read all prescriptions of such character? Are there not instances of misinterpretation causing deplorable results? There is no class of written documents which should be so carefully, conscientiously and legibly prepared as the physicians' prescriptions. But how often are they not only unscientific, unpharmaceutical, unmedical and unethical, but so carelessly and hurriedly transcribed as to make it a question whether they are intended for treatment of heart failure or for instillation into the eye for ophthalmia. Text and sermon are both included in the above graphic presentation. Doctors should learn to write.

W. Dawson, Afton, Ind. Ter.—I think the Era is the very thing for a druggist or retail store, and don't see how any druggist can afford to be without it. I am highly pleased with it.

Druehl & Franken, Salt Lake City, Utah.—We heartily endorse your plan of putting in advertisements for the retail druggists, and will make use of the same whenever we can. Your journal is appreciated, is up to date, and is just what the retailer wants.

ASSOCIATIONS, CLUBS, SOCIETIES.

Research Work of the A.Ph. A.

Baltimore, Nov. 25.—Acting upon the suggestion made in his annual report as chairman of the scientific section, which was indorsed by the American Pharmaceutical Association at the Denver meeting, Mr. Alfred Dohme has begun a correspondence with men eminent in pharmacy and pharmaceutical chemistry for the purpose of inducing them to join in the work of making exhaustive investigations of drugs. These researches are to be under the direction of a committee, on which are Messrs. Chas. Rice and Samuel P. Sadtler, of Philadelphia, the latter the present chairman of the scientific section, and there is to be enlisted the co-operation of some twenty persons of the highest standing in their line. The investigation will be conducted methodically and in the most thorough manner, and the results will represent everything that is to be known about the chemical properties, the solubility, the pharmacology, the structure and the pharmacognosy of drugs.

These researches are expected to be not only of great benefit to druggists generally, but will obviate the uncertainty which now attends the compilation of formulas for the Pharmacopœia. When this undertaking is once completed it will not be necessary to revise formulas periodically as now. Not more than two and perhaps only one drug will be taken during any one year, as the work is intended to cover every detail.

St. Louis Paint, Oil and Drug Club.

St. Louis, Nov. 23.—The monthly meeting and dinner of the St. Louis Paint, Oil and Drug Club was held Thursday evening, Nov. 21, at the Mercantile Club. At seven o'clock sharp forty members of the club sat down to the table, and after doing justice to the fine things set before them, provided by the chairman of the Entertainment Committee, Mr. Walter Baker, the meeting was called to order, President Meyer in the chair. Among unfinished business laid over from the previous meeting, owing to the absence of the delegates, was the report from the delegates sent to the meeting of the National Paint, Oil and Varnish Association, held in Chicago last month. The report of Mr. Everson was very elaborate and unique and sparkled with wit and humor. It was listened to with a great deal of attention and elicited rounds of laughter. The report of Mr. Oscar Whitelaw received a great deal of attention from the members present, as it reviewed in a concise manner what had been accomplished at the meeting. Mr. Whitelaw's report was also loud in its praise of the elegant manner in which the entire meeting had been conducted, and the splendid execution of all the little details which went very far to make the visit of the delegates very pleasant.

The following is a list of committees appointed by President Meyer:

Membership—George S. Mepham, chairman; Samuel Moffit and D. P. Daugherty.

Entertainment—Walter Baker, chairman; Thomas Larkin and Arthur B. Gemp.

Credit—R. A. Parker, chairman; M. H. Stearns and Henry Buchler, Jr.

Grievance—Walker Evans, chairman; P. G. Hammar and William Graham.

Turpentine—H. H. Clark.

Linseed Oil—C. W. Blow, chairman; A. R. Strain and W. H. Gregg, Jr.

White Lead—C. M. Shirley and Rupert L. Calvert.

Vermilion and Gold Leaf—Herman Pockles.

Freight Rates—Robert H. Whitelaw, chairman; H. V. Kent, Norris Gregg, J. M. Allen and N. C. Robbins.

Legislative Committee—One Year.—C. W. Barstow and H. Huning.

German Apothecaries Society.

A special meeting of this society was held on Thursday evening, Nov. 21, Mr. Carl E. Schleussner being in the chair. The meeting had been called for the purpose of considering the draft of the proposed new pharmacy law, presented by the Business Committee some months ago, and also for the purpose of taking some action in the case of the Monatsblatt, the Committee of Publication having declared their intention of not issuing any further number at the last regular meeting of the society. The proposed new pharmacy law was accepted and indorsed, after considerable debate, with some few slight modifications.

The most salient features of the proposed enactment are:

1. The creation of a Board of Pharmacy, having jurisdiction over the entire State, to be composed of five registered pharmacists, all of whom shall be actually engaged in business as retail pharmacists. (No counties excepted, as at present.)

2. The board to be appointed by the Governor for a term of three years, and the board to hold its sessions in rotation in the cities of New York, Albany, Syracuse and Buffalo; due notice to be given in the press as to time and places of meeting.

3. Two grades of pharmacists created—registered pharmacist and registered assistant pharmacist.

4. No person, unless a registered pharmacist, to have the right to open, own or conduct a drug store. Widows and legal heirs (children) of a deceased pharmacist may continue the business of such deceased pharmacist under certain restrictions.

As will be observed, this enactment does away with the recognition of graduates of medical colleges as pharmacists, as is the case under the present law.

The draft was read and discussed, section by section, and after adoption a vote of thanks for the Business Committee was passed.

The committee was instructed to bring the proposed enactment to the notice of all pharmaceutical societies and also to secure the co-operation of the press.

The pharmacy law being disposed of, the Committee of Publication again presented its resignation and requested it be accepted. After an animated discussion pro and con, the matter being brought to a vote, the majority again decided not to accept the proferred resignations, but to leave matters in statu quo.

The meeting then adjourned.

Telephones, Liquor Tax and Co-operative Manufacture.

Chicago, Nov. 23.—The Chicago Retail Druggists Association held its regular meeting on last Tuesday, President T. V. Wooten presiding. Owing to the absence of the secretary, the reading of the minutes of the previous meeting was dispensed with.

Emil Thiele, chairman of the committee on revision of the constitution and by-laws of the Association, presented a report embodying several changes of minor nature. The report of the committee was unanimously adopted. Perhaps the most important alteration made by the above committee was in the duties of the Executive Board. Instead of giving the Board power at all times to act for the Association, the provision was so amended as to give the power only in matters of a comparatively unimportant nature, and in matters of urgent necessity, where a meeting of the Association would not be possible.

A proposition was made to raise the dues from one dollar a year to one dollar per quarter. This occasioned some discussion, the result being that the dues were increased to two dollars per year.

The president, on behalf of the chairman of the Phenacetine Committee, who was unable to be present, stated that the obligations of the Association in the matter of defending the suits brought against certain druggists for the handling of phenacetine from other than the prescribed sources, had been discharged. The Association had appropriated $200 for the purpose of assisting these druggists in their defense, some of whom are members of the Association. That amount had already been expended in counsel fees, and the case has now reached a point where the prosecutors are willing to arrange a compromise to this effect, that the cases of all those who did not import the goods will be dropped on the payment of a very slight fee and the giving of information as to how much of the phenacetine was purchased by each party. The cases against those who imported the goods will, however, be continued.

Mr. Ebert desired to be assured that the Association will be responsible for no more attorney's fees.

Mr. Von Hermann thought it was hardly fair for the Association to give up the matter at this point, as it might leave certain gentlemen not members of the Association in the lurch, while, in his opinion, all should be protected.

To this Mr. Ebert replied that the Association had never agreed to furnish money to try the legality of the patent or trade mark law involved, but simply to defend those members who had purchased the goods in good faith. The

American Pharmaceutical Association had appointed a committee on national legislation to devise means of modifying those laws inimical to the best interests of pharmacy, and the committee had already conferred with other local and State committees with this end in view. The patent and trademark laws are subjects of grave concern,, and their revision is among the things now before the committee. The Chicago Retail Druggists' Association had no money wherewith to test the validity of those laws now in force, and never agreed to go beyond the limit prescribed nor for any other than the purpose prescribed. There is now an opportunity to do that which the Association contemplated when the money was set aside, and the opportunity should be taken advantage of.

The telephone next came up for discussion, a good deal of which was indulged in and no very definite action taken. Mr. Bodemann stated that all the druggists in his locality, from Forty-third to Fifty-third streets, east of Cottage Grove avenue to the lake, had made an arrangement with the telephone company open to anyone whereby the company puts in the slot telephone and retains $200 of the receipts; to all received above this amount the druggist is entitled. Furthermore, he pays nothing for the 'phone save an occasional ten cents from time to time as he needs to use it.

The report of the telephone committee was brief. It was merely that the proposition of the druggists to pay $150 per year for this 'phone, the druggist to receive all taken in over $150, had been rejected by the company. No steps were taken as to the counter proposition made recently by the company, and the whole matter was allowed to remain in statu quo. Mr. Waldron stated that the Apothecaries Society were looking into the matter and hoped to be able to report a more favorable arrangement than any yet suggested.

Mr. John F. Coleman then presented the following resolutions:

"Chicago, Nov. 19.

"Whereas, The collector of the city of Chicago has recommended that the license fee for retail druggists shall be increased to $250 annually, and

"Whereas, It is beyond all reason that the drug business should in this way be discriminated against, therefore be it

"Resolved, That a committee of five members be appointed by the president to confer with the collector and present such facts as may be necessary to convince him of the unreasonableness of his recommendation, said committee to report to the association at a called meeting to be held as soon as possible.

"Resolved, That this association is unalterably opposed to having drug stores classed with dram shops; that the policy of the association has been at all times to defend only those persons it believed to be the victims of persecution; that it regards druggists who sell liquor as a beverage (by the drink or otherwise) as a disgrace to the profession of pharmacy; and that the association is not less willing now than it has been in the past to prosecute willful and persistent violators of the liquor laws, to the extent even of asking for a revocation of their license."

On motion these resolutions were so amended as to direct the committee to the Mayor instead of the City Collector, and to include Mr. Errant, the Association's attorney, among the committee. The resolutions as amended were adopted.

Mr. Thiele, chairman of the committee of the Illinois Pharmaceutical Association appointed for the purpose of organizing a co-operative drug manufacturing company, was asked to tell of the progress of the work. He said that prospectuses of the new company would be issued next week. Two thousand shares are to be issued at ten dollars per share, making a capital of $20,000. The preparations will be manufactured after formulas of well known efficiency, and will include sarsaparillas, salves, powders, pills, ointments—in fact, nearly everything that druggists usually purchase of the patent medicine manufacturers. By this plan those holding stock will be enabled to procure the medicines put up at the laboratories of the company at a very slight figure above cost. Concerning the price list to be agreed upon, Mr. Thiele would express no opinion, saying that the committee was appointed only to form the company, but that matters touching prices will have to be discussed by the company when formed.

It was moved and seconded that the Chicago Retail Druggists' Association do approve of the action of the Illinois Pharmaceutical Association to the formation of a co-operative drug manufacturing company. Carried.

On motion, a committee from the Chicago Retail Druggists' Association was appointed to work with the committee of the Illinois Association to get subscribers for stock, and otherwise to assist the committee in its labors. The following gentlemen were appointed: Messrs. Fercksen, Borcherdt, Bodemann, Hanke and Killett.

It was moved by Mr. Bodemann and seconded by Mr. Ebert, that the Executive Committee be instructed to notify the wholesale drug houses again as to the provisions of the law, prohibiting the sale of drugs and medicines at retail by wholesale houses. Carried.

Mr. Coleman announced that a meeting of the druggists in that portion of the city, bounded by the lake, the river and Chicago avenue, had been held to discuss price cutting, at which it was resolved to defer action in the matter until Dec. 2, thus giving assurance of no cutting in that vicinity until after that time.

On motion, the meeting adjourned.

Considerable feeling was manifested at the proposition of the City Collector concerning an increase of druggists' licenses to $250 per year. The statement was made that not more than twenty per cent of the druggists of Chicago complied strictly with the law in regard to liquor sales, and that there were but five stores on West Madison street that did not in some way expose themselves to criticism in this particular. Some of the druggists seemed to think that the imposition of such a license tax would not be an unmixed evil, for then the druggists would cease selling liquor altogether, except upon a physician's prescription. The general opinion seemed to be that such a tax would necessitate that step, for druggists quite generally agreed that they did not buy $250 worth of alcoholic liquors in a year, to say nothing of selling that amount. Some expressed the view that if such a tax was charged, let those druggists who desired to sell liquor sell it, and be put down by the public and by their colleagues for exactly what they are.

Another druggist prominent in downtown circles gave as his opinion that the remark of the City Collector which has occasioned so much discussion, should not be given more weight than that of a casual remark passed in conversation; that the imposition of such a license fee would be beyond all reason, and would be an imposition indeed.

Collective Reports.

The following is a translation of a circular now being distributed by the Pharmaceutical Society in Berlin:

Berlin, November, 1895.

Dear Sir: The German Pharmaceutische Gesellschaft intends to establish a central office for continuous reports, embracing the botanical, chemical and pharmacological researches as to the curative and poisonous plants of all countries. The results of these investigations are to be published in periodical reports by this society, by which all scientists in this field will be furnished with as complete a repertory as possible. The need of such reports makes itself especially felt, inasmuch the individual is nowadays hardly able to keep himself posted on the character of all work accomplished in this direction. Besides we may hope to stimulate further researches in this particular line, which especially at the present time attracts the increased attention of pharmacognosists and pharmacologists.

The society hopes to promote scientific progress by making the reports as complete as possible. This will require the kind assistance of all scientists concerned, as otherwise the central office might be deprived of valuable original treatises.

We therefore ask respectfully for your kind assistance in promoting this new scientific enterprise, by sending reprints of your own and, if possible of other work coming to your notice, to "The Bibliothek der Pharmaceutischen Gesellschaft," Berlin S. W., Hollmannstrasse 25; also to assist in making the contents of this notice known as widely as possible. In return the society would send you the collected reports immediately after their publication.

The society trusts to be favored with your kind assistance. Yours very respectfully,

The President and Committee of the "Pharmaceutische Gesellschaft."

—The Essex County Druggists' Association has been organized at Lynn, Mass., with the following named officers: President, Thomas B. Nichols, of Salem; vice-president, Chas. W. Brown, of Lynn; secretary, W. G. Curtis, of Peabody. A committee has been appointed to consider plans for a revision of the price list of patent medicines.

BOARDS OF PHARMACY.

—Gaines & Nordquist, druggists of Cashton, Wis., are in trouble with the District Attorney over a matter of selling poisons by an unregistered pharmacist.

—Upon complaint from the Mayor of Woonsocket, R. I., the Rhode Island State Board of Pharmacy has promised to revoke the licenses of all druggists who are found to be violating the liquor law.

—Weinstein & Co., of Helena, Mont., have been selling patent medicines, quinine, Rochelle salts, etc., without having the sales made by a registered pharmacist, and the State Board of Pharmacy have brought them to court with the intention of showing that such actions are violations of the pharmacy laws of the State. The outcome of this test case is awaited with great interest.

—The Michigan State Board of Pharmacy is not wearying in well doing, but is prosecuting druggists right and left who are violating the pharmacy law. Nov. 15, Charles Hampton, of Sunfield, was fined $10 for being an unregistered proprietor of a pharmacy. On Nov. 20, Charles Gundry, of Newaygo, was fined $12.50 on the same charge. There are more to follow.

—The Arkansas Board of Pharmacy, at its meeting at Little Rock, Nov. 14, issued licenses to the following: F. S. Schachleiter, T. W. McClerkie, W. M. Wright, M. T. Smith, Julius J. Jungkind, Little Rock; James T. Crow, Arkadelphia; Arthur Levy, J. S. Smith, J. D. Lockhart, Camden; S. H. Stith, Van Buren; A. N. Riggin, Clarkesville; W. C. Caldwell, Benton; Dewitt Prickney, Fort Smith; E. T. Embry, Huntington; J. P. Cruce, Fort Smith; C. F. Stardwait, Gurdon; O. O. Lumpkin, Des Arc.

—At a special meeting held Nov. 13, the Connecticut Board examined nine candidates. The following passed successfully: George A. Chandler, Hartford; H. Christian Jörgensen, Southport; Frank M. Osborne, Ansonia; William F. Schlag, Shelton, and Clarence G. Smith, Seymour. Michael Grossman, of New York, was registered on a certificate of New York City and County Board, and Le Grand B. Cannon, of Westport, and Alexander C. E. Wrensch, of Bridgport, were granted licenses on diplomas of New York College of Pharmacy.

Pamphlets, Price Lists etc., Received.

Price lists: Armour Laboratory, Chicago; National Cash Register Co., Dayton, O.; A. J. Wells Mfg. Co., Syracuse, N. Y.; Hance Bros. & White, Philadelphia.

Pamphlets: The Periodides, by A. B. Prescott; The Periodides of Pyridine, by A. B. Prescott and P. F. Trowbridge, reprinted from Jour. Am. Chem. Society.

You should not forget the importance of placing neat signs with your display of holiday goods. They interest people. Richard Foy offers as a premium with his book, a sign-marking outfit at less than the wholesale price. See the illustration in another column.

COLLEGES AND SCHOOLS OF PHARMACY.

No Successor to J. N. Hegeman.

The trustees of the New York College of Pharmacy will hold their next meeting on the evening of Dec. 3, and some very interesting questions will probably occupy their attention. Nothing has been done as yet in the matter of a successor to the late secretary, J. N. Hegeman. It appears that section 19, article III., of the by-laws of the college says the President may fill a vacancy caused by death, while section 3 of the college charter says vacancies "may be filled at a special election." It would appear from this that as the charter provision is not mandatory, the President has the power to fill the office. An early selection of a secretary by either President Fairchild or the members of the college is looked for.

"How Pharmacy Aids the Physician."

St. Louis, Nov. 22.—Dr. C. H. Hughes, specialist on nervous diseases, delivered an interesting lecture last Tuesday evening before the Alumni Association of the St. Louis College of Pharmacy, on the subject "How Pharmacy Aids and May Further Aid the Physician in Practice." The doctor's remarks were extemporaneous, but teemed with logic, wit and eloquence. He paid a high compliment to the druggists of to-day and stated that they were indispensable factors in the successful practice of a physician. They might, he said, be called the housewife of the physician, and the success of the latter depended upon the correctness of the druggist's work. The most friendly relations, he said, should exist between physician and druggist, and he was glad to say that in most cases this was so. The large and select audience that was in attendance showed its appreciation of the lecture by applauding generously.

St. Louis and "Scab" Drug Clerks.

St. Louis, Nov. 22.—The article in last week's issue of the Era, relating to "scab" drug clerks, has attracted a good deal of attention in St. Louis, and the drug clerks of this city propose to take up the agitation. Secretary Rudolph S. Vitt, of the St. Louis Drug Clerks' Society, has also received a communication from the Chicago Drug Clerks' Society, in which the article is again cited, and the suggestion made that the St. Louis Society take up the question. This question, says the communication, certainly deserves as much consideration from St. Louis as it does from Chicago and other large cities. Secretary Vitt says he will lay the matter before the local society at the December meeting, when the question will probably be fully discussed. Prof. Francis Hemm, a member of the faculty of the St. Louis College of Pharmacy, says very little cheap drug labor is secured from that college. "It is very true, however, as the Era says," continued Professor Hemm, "that the clerks who are making the loudest complaints against cheap student labor, are the very ones who were probably the most anxious to secure employment when they were going to college themselves. In our college, however, I usually size up a student pretty accurately. When I find that he is short of funds and desires to work while going to college, I usually tell him to go home and work a while longer, and when he has saved up enough money to come and take the course as it should be taken."

Pharmaceutical Meeting—Philadelphia College

At the second regular pharmaceutical meeting of the Philadelphia College of Pharmacy, on Nov. 19, Professor Trimble exhibited a sample of Acetum Opii, made thirty years ago by the U. S. P., 1850. It showed considerable sediment which was thought to be composed principally of the aromatics used in preparing it, and an analysis will be made to determine the percentage of opium separated. A sample of genuine Turkey rhubarb purchased in London in 1856 was shown, also one of aloin, consisting of a combination of the official aloins. Mr. J. W. England exhibited two kola plants which had been grown in the conservatory of the Philadelphia Hospital, from seeds which he had procured from F. Stearns & Co., and Professor Bastin gave a description of the genus to which these plants belong. Mr. L. F. Kebler read a paper upon "Tubular Crystals of Monobromated Camphor," in which many interesting points upon crystallization in general were brought out. Prof. F. G. Ryan read a paper on "Agar-Agar as a Base for Glycerin Suppositories." Samples were shown containing 50 and 75 per cent. of glycerin, also one of agar-agar. In the discussion which followed Mr. Procter referred to difficulties in the official process and recommended using twice the quantity of glycerin directed. Mr. England advised the use of anhydrous glycerin when the quantity is increased. Mr. Beringer stated that the heat of the water bath is not sufficient in this operation, and advised a low flame. He also advised the use of sodium bicarbonate instead of the carbonate which contains water of crystallization. In regard to dispensing a container with paraffined cork was shown to be necessary, and small vials, with a string running underneath the suppository to facilitate its removal, were also suggested.

Baltimore and Scab Clerks.

Baltimore, Nov. 25.—The drug clerks in some other cities where organizations exist are inclined to assume a hostile attitude toward the practice followed by druggists of employing young men who attend lectures in colleges of pharmacy at such hours as they can spare from their studies. This is regarded as detrimental to the interests of those who have gone through a regular course, passed their examination and depend upon the practice of their chosen profession for a livelihood. The injury is perhaps not as great as may be supposed at first glance. It is safe to say that many pharmacists would not engage help at all, if they could not get the services of students at a modest compensation. Bus-

iness has been so dull and competition is so sharp that they cannot afford a considerable outlay. Even as it is numerous pharmacists in this city have had to dispense with assistants during a large part of the past year, owing to the depressed state of trade. By taking on students they render a valuable service to these young men, as many of these would be compelled to choose other occupations except for the ability to sustain themselves during their period of preparation. It can be said that the Maryland College of Pharmacy has been greatly benefited by the co-operation of local druggists in this particular. Most of its students are drawn from the South, from localities in which money is by no means plentiful. A considerable percentage of the applicants are actually dependent upon the money which they can earn by clerking to make their course through the college. Occasionally, however, expectations of applicants are of such a character that the officers of the institution are obliged to advise against matriculation. Some of the would-be druggists are entirely without resources, and write deluded with the hope that they can get work and make enough to pay matriculation fees, purchase the necessary text-books and pay for board and lodging. It sometimes happens that a young man will arrive here with not enough money to buy a return ticket home in case of failure. One instance is known in which an applicant asked to be informed if there were not three or four other students who would be willing to share lodging and club together and do their own cooking. One dollar and a half per week was all he could afford to spend and in this he included laundry work.

Such conditions do not always imply straightened circumstances due to natural causes. Every now and then such poverty results from improvidence. Imagine men who had been in business for years on their own account and who could not raise $300, which amount about covers a year's expenses. Still, it will not do to discourage all such. Among them are youths who, if given a chance, will make their mark in the world, and toward this end druggists who employ students contribute a laudable share. Situations have been secured by the officers of the Maryland College for a considerable number of this year's classes, but all positions that could be created have now been filled, leaving a fair percentage still unprovided for.

Chicago College.

On Thursday evening, Nov. 21, Mr. Hiss gave a talk to the students of the Chicago College of Pharmacy, assembled at Attfield Hall. The subject for the evening's discussion was "Some Aspects of Pharmacy." After a few general reflections on the use and object of scientific, or so-called, theoretical education to the student of pharmacy, Mr. Hiss proceeded: "When a student receives a prize at the time of his graduation, some of his less fortunate fellow students will say, 'Oh, well, he is a good student, but then, of course, he will be of no use in a store. He is a theoretical fellow.' Just what the expression 'theoretical fellow' implies I do not know, but it is, no doubt, something like this—that he knows how pharmaceutical preparations should be made, and can discourse learnedly upon the theories involved in their manufacture, their properties, etc., but he is at a loss when it comes to the actual making; he believes waiting upon customers to be beneath his dignity; and instead of being sociable with others, whenever possible he takes a book and studies in some secluded corner. It is supposed that such 'theoretical fellows' wander through life first as unsatisfactory clerks, and subsequently eke out a miserable existence in some fourth-class drug store of their own. It is true that our present methods of examination examine students only in so far as relates to their memory, and hardly at all inquire into their powers of reason and judgment, which are the more important functions of the mind. Nevertheless, this statement must be true, that he who applies himself with success during college life will probably apply himself with equal success in after life. I do not say that this rule always holds good, nor does the reverse. But as a general proposition, it is true. Once while operating a drug store it occurred to me that I would like to know of what the daily transactions of a drug store consisted. To obtain this data my clerks and myself kept memoranda of all the transactions of the store for one week during the month of September. The results of those observations for one day are summed up in the following table:

Pay customers, 130; stamps and postal cards (32 people), $1.50; information, 18 persons; telephone, 7 persons, one-half paid. The average purchase of the pay customers amounted to 12½ cents. Five-cent sales, 65; Ten-cent sales, 38; Over ten cents, 27. Of the pay customers, twelve purchased soda or mineral water, forty-two cigars, cigarettes or tobacco, and seventy-three, drugs."

In the course of his remarks, Mr. Hiss made the statement that perhaps it were well if druggists were not to put their names on preparations of their own manufacture. To this Prof. Hereth objected, thinking that if a druggist had a preparation of his own make on the market, his name should appear upon it, that he might receive whatever meed of praise or censure its merits or demerits called forth.

Professor Hallberg observed that, in his opinion, some means should be devised by druggists to make profitable sales to those people who come into the store for postage stamps or information He would not, he said, be in favor of using a club to detain them, but thought that it would be perfectly legitimate for the druggist to employ those means usually made use of by wide awake salesmen for the purpose of selling their goods.

Mr. Ehert was called upon and made a few remarks pertinent to the topic under discussion. He advised the students to look to the cash end of their store as diligently as to any other department, for science minus prosperity is too often impotent.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ARKANSAS.

Carlisle.—J. C. Heffner, sold to Alexander & Turner.
Little Rock.—J. B. Lightfoot, 4th and Main, sold to R. A. Martin.

CALIFORNIA.

Healdsburg.—Ewing & Burr, dissolved
Martinez.—W. K. Cole & Co., dissolved.
Oakland.—R. H. Hawkes, removed to 14th and Peralta.
Henderson & Graham, discontinued.
San Francisco.—Patterson & Co., now F. Patterson.
Winters.—Day & Watson, now Day & Warren.

COLORADO.

Elkton.—A. C. Hoag, new store.

DISTRICT OF COLUMBIA.

Washington.—W. C. Kimpton, of Dobyns & Kimpton, sold his interest to Mr. Dobyns.
R. W. Scholl, discontinued.

FLORIDA.

Jacksonville.—German Drug Store, now A. P. Fries Drug Co.
Ocala.—Postoffice Drug Store, sold to F. C. Alnorth & Co.

GEORGIA.

Augusta.—J. H. Carmichael, removed to 15th and May ave.
Lyons.—McLeod & Morris, discontinued.
Mableton.—W. B. Hamby, discontinued.
Rome.—Robert Battey, of Battey & Co., deceased.

ILLINOIS.

Bunker Hill.—H. Budd, sold to L. A. Cummings.
Chicago.—Jansen & Kerkeby, 946 Armitage, discontinued.
A. K. Lowey, 47th and Wabash, discontinued.
F. O. Peck & Co., 63d and Sherman, discontinued.
Thomas Drug Co., 49 Wells, discontinued.
U. S. Pharmacal Co., incorporated; capital, $20,000.
M. Wenzel, 396 Linden, new store.
East Alton.—Clark & Owens, sold to Clark & Smitley.
Flora.—C. J. Myers, burned out; partially insured.
Galva.—Mrs. M. P. Hendricks, sold to Leonard & Co.
Gilson.—J. H. Baird, discontinued.
Glidden.—J. C. Scott, new store.
Hunts City.—M. A. Moore, discontinued.
Ipava.—B. E. Fisk, new store.
Lanark.—H. S. Puterbaugh, sold out.
Peoria.—E. M. Hammond, sold to Theo Herman.
Sadorus.—D. E. Davis, sold to A. Craw.
South Evanston.—M. Powell, slightly damaged by fire.
Springfield.—C. S. Bales, removed to 223 S. 5th st.
Waverly.—W. A. Hutchison, sold to Wyle & Son.

INDIANA.

Lewis.—M. L. Boston, sold to Porter Cummins.
Logansport.—Homer Closson & Co., 506 Broadway, will open new store.
New Albany.—W. L. Connell & Co., 263 Beeler st., sold to E. V. McKinney & Co.
Newcastle.—James J. Johnson, out of business.
St. Paul.—H. E. Bailey, sold to J. C. Convery.
Whitestown.—Peters & Shoemaker, sold to J. W. Donaldson.

INDIAN TERRITORY.

Davis.—J. H. McCrary & Co., discontinued.
Duncan.—Dr. W. T. Howell, new store.
Shadypoint.—S. E. Lippard, new store.
South Canadian.—B. F. Highbower, sold to C. G. Moore.

IOWA.

Albia.—Miller & Edwards, now George D. Miller.
Birmingham.—Poe Underwood, will open new store.
Mallard.—John Gremmels, removed to Whittemore.
Waverly.—A. Kaufmann, now Kaufmann Pharmacy; W. A. Schwarz, manager.
Zearing.—Ingledue & Co., now E. C. Ingledue.

KANSAS.

Baileyville.—Winter & Co., now E. & S. Winter & Co.
Bigelow.—Wilson & Co., new store.
Baxter Springs.—McFaddeu & Price, now W. E. Price.
Eudora.—John Kennedy, now J. H. Kennedy & Co.
Fort Scott.—Moore & Baldwin, dissolved; R. R. Baldwin will continue.
Holton.—Beauchamp & Jarvis, now Beauchamp's pharmacy.
Kansas City.—A. J. Abraham, now A. J. Abraham & Co.
Liberty.—R. I. Kelly, new store; W. P. Livingston, manager.
Mayfield.—Dr. D. H. Hahn, new store.
Newton.—Newton Drug Co., sold to O. W. Roff, M. D.
Parsons.—S. B. Carey, sold to Patterson & Co.
St. Paul.—McGrew & Co., new store.
Salina.—J. C. Stevens & Co., now J. C. Stevens.

KENTUCKY.

Ashland.—F. W. Keyes & Co., succeeded by H. H. Martin.
Hartford.—Williams & Bell, damaged by fire.
Louisville.—W. V. Hambleton, 11th and Chestnut, deceased.

LOUISIANA.

New Orleans.—William Carson, removed to 1200 Carondelet.

MAINE.

Biddeford.—A. H. Poirier & Co., insolvent.
Gardiner.—Charles Ward, will open new store.

MASSACHUSETTS.

Cliftondale.—J. B. Jewett & Co., succeed F. C. Kinsman.
Lawrence.—O. Muller, removed to E. Haverhill and Prospect.
Lynn.—F. A. Caldwell, 118 S. Common, sold to Fred. Thomas.
Maynard.—D. W. Adams, discontinued.

MICHIGAN.

Benton Harbor.—T. E. Slattery, out of business.
Davison.—Thomas Dugan, sold to Ed. Haines.
Detroit.—Knapp & Knapp, sold to D. R. Finlayson.
Paul Lenschner, 184 Randolph, sold to William G. Witthaner.
Flowerfield.—C. H. Kepler, new store.
Holton.—John Rundel, discontinued.
Leonard.—S. B. Robb & Co., dissolved.
Sangatuck.—John C. Miller, deceased.
Waldron.—A. M. Nutten, sold to Southard & Gamble, who will add a full line of drugs.

MINNESOTA.

Crookston.—S. A. Wallace, sold out.
A. H. Hillard, has opened store.
Kensington.—Olson & Sheldrup, now L. T. Olson.
Nicollet.—J. Wicke, sold to Dr. C. M. Skinner.
St. Paul.—L. D. Humphrey, 235 Rondo, new store.
Sandborn.—Mrs. E. W. Rebstock, now E. W. Rebstock, Jr.
South St. Paul.—J. F. Munn, discontinued.
West Duluth.—C. F. Thorpe, sold to S. J. Nygren.

MISSISSIPPI.

Vicksburg.—R. M. Baum, assigned.

MISSOURI.

Amity.—Mitchell & Reed, now Jas. Mitchell & Son.
Bosworth.—A. W. Stewart, new store.
Brookfield.—G. P. Evans, in possession of creditors.
Canton.—Canton Drug Co., incorporated.
Carthage.—C. A. Boyer, burned out.
Chillicothe.—J. E. Callaway, new store.
Clinton.—C. C. Williams, of C. C. Williams Drug Co., deceased.
Collins.—Dr. E. D. Follin, new store.
Dearborn.—Thomas Brooks, new store.
Eldorado Springs.—Jones Bros., sold to Walt Bros.
Fredericktown.—E. Goff & Co., now E. B. Goff.
Galt.—O. Orr, assigned.
Hallard.—John Bales, burned out.
Jackson.—L. U. Torrence, new store.
Kansas City.—W. U. Zahner & Co., now W. U. Zahner.
Liberal.—G. L. Blatchley & Co., new store.

NEBRASKA.

Creighton.—Gardner & Jasmer, dissolved; D. Gradsmer continues.
Kearney.—W. E. Jakway, sold to N. P. Hanson.

NEW HAMPSHIRE.

Lancaster.—G. A. Carpenter, attached.
Lebanon.—B. K. Wright & Co., sold to Edgar Woodward.
Manchester.—Roy & Boire Drug Co., removed to 21 Pearl st.

NEW YORK.

Amsterdam.—Jos. Donnelly, damaged by fire.
Buffalo.—Faxon, Williams & Faxon, have opened drug department at 339 Main.
Middletown.—G. H. Hill, deceased.
N. Y. City.—A. W. Stewart & Co., incorporated; capital, $15,000.
Ogdensburg.—Williams & Stillwell, discontinued.
Port Chester.—Dr. Josiah Field Bowron, deceased.

OHIO.

Canal Dover.—C. A. Andreas, sold out.
Cleveland.—Gaylord's pharmacy, 291 Erie, sold to Dr. Walter.
Columbus.—People's Drug Store, Milo suburb, new store.
Thomas Ryan, W. Broad st., sold to Southard Bros., who removed to Parsons and Livingston ave.
J. L. Sheperd, 140 N. High, new store.
Genoa.—W. R. Harpster, damaged by fire.
Ironton.—E. Arnold, 108 Center, new store.
Lima.—Melville Bros., dissolved.
Mansfield.—J. M. Barton, 38 North Main, should be Will. M. Barton.
Courtney Drug Store, sold to Dr. W. S. Mecklem.
Ridgeway.—Orr & Temple, discontinued.
West Mansfield.—Windhurst & Co., new store.
West Milton.—L. M. Mote, sold to C. V. Terrell.

OREGON.

Amity.—R. L. Simpson, deceased.
Portland.—S. M. Wall, 340 1st, discontinued.

PENNSYLVANIA.

Catawissa.—C. C. Willits, sold to J. E. Martin.
Chambersburg.—Greenawalt Bros., dissolved; W. G. Greenawalt continues.
Mt. Union.—J. J. Oatman, succeeded by Mt. Union Pharmacy.
Norristown.—J. B. Hall, sold to Gano & Costen.

SOUTH DAKOTA.

Pierre.—N. G. St. Marie, removes to Wessington; reported recently as new store by error.
Spring Valley.—Guinter & Dow, discontinued.

TEXAS.

Ammansville.—A. J. Kallus & Co., sold to T. J. Parma.
Austin.—Austin Drug and Stationery Co., incorporated, capital, $25,000.
Chappell Hill.—D. P. Perkins, sold out.
Houston.—R. C. Stuart & Wapes Drug Co., changed name to R. C. Stuart Drug Co.
Sherman.—J. A. Skillern, burned out.
Whitewright.—V. Bronaugh, assigned.

UTAH.

Ogden.—J. A. Beltzer, assigned.

VIRGINIA.

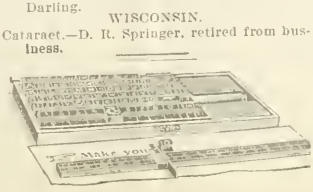
Norfolk.—W. E. Halstead, assigned.

WASHINGTON.

Everett.—W. A. Hardy, sold to D. K. Darling.

WISCONSIN.

Cataract.—D. R. Springer, retired from business.



This $5 sign marker and Foy's Guide for Soda Dispensers, complete $3. Richard Foy, 150 West Forty-sixth street, New York.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS

Issued Nov. 19, 1895.

549,896—Oscar P. Bushnell, Mt. Gilead, O.—Filter press.
550,020—Samuel Hughes, assignor of one-half to W. H. Richardson, Charleston, S. C.—Toilet paper case.
550,073—Mone R. Isaacs, Philadelphia, Pa.—Purifying liquids and apparatus therefor.
550,093—Charles F. Bennett, assignor to J. P. Sharp, Chicago, Ill.—Knit fabric for abdominal supporters.
550,142—Peter G. Smith, Roslyn, N. Y.—Bottle.

TRADE-MARKS

Registered Nov. 19, 1895.

27,247.—Remedy for Lung and Blood Troubles. Charles B. Sims, Reed, Ky. A representation of a druggist's mortar and pestle and an eagle perched on the mortar with a streamer grasped in its bill, and the words "Health" and "Roberine" printed respectively on the streamer at opposite sides of the eagle.

27,248.—Pills and Tablets. William M. Reynolds, New York, N. Y. The words "Little Liverette Pills," produced in a horizontal line upon an ornamental panel, the initial letters of the words being connected by scroll-like terminals of the first two letters.

27,249.—Medical Preparations for Diseases of the Skin. William J. Watson, Fulton, N. Y. The words "Liquid Franconia."

27,250.—Remedies for Asthma, Catarrh, and Similar Affections. Himrod Mfg. Co., New York, N. Y. A fac-simile signature of Peter Himrod, used in connection with the words "Himrod's Cure."

27,251.—Lotions for the Cure of Sore Nipples, Chapped Hands and Lips, Burns, Bruises and the like. John Oehler, New York, N. Y. The words "Geo. C. Leys."

27,252.—Remedies for Rheumatism, Gout, Neuralgia and kindred ailments. Swanson Rheumatic Cure Co., Chicago, Ill. An enlarged and reversed figure "5" crossed horizontally by the letters "Spord," which form the word "Drops" reversed.

27,253.—Remedies for Rheumatism, Gout, Neuralgia, and kindred ailments. Swanson Rheumatic Cure Co., Chicago, Ill. The words "Million Dollar Cure."

27,254.—Remedy for Dyspepsia and Indigestion. Emile Koos, Oil City, Pa. The word "Kara," printed invariably in white letters upon a blue rectangular ground or label.

27,255.—Certain Named Medicines. Chas. Spiehr, Chicago, Ill. The word "Capuchin."

27,256.—Liquid Preparation for Diseases of the Blood. The Louis Dandelin Co., Worcester, Mass. The words "Blood Wine."

27,257.—Chemical and Pharmaceutical Products, consisting of Ammonia Preparation. Chemische Fabrik auf Actien. (vormals E. Schering), Berlin, Germany. The word "Protropin."

27,258.—Cough Drops. C. F. Marsh & Co., Worcester, Mass. The words "A Joy."

27,259.—Remedy for Hog Cholera. Samuel E. Moore and James H. Moore, Annapolis, Ind. The word "Swinine."

27,260.—Salves and Liniments. The Yucca Co., Wichita, Kan. The word "Mentholatum" and Japanese characters.

27,266.—Aperient Mineral Water. Edward Steinkopff, London, England. An oval or egg-shaped figure in solid color.

27,274.—Malt Extract. Tarrant & Co., New York, N. Y. The words "Hoff's Malt Extract (Tarrant's)."

27,278.—Flour and Articles made therefrom and Food for Infants and Invalids. Samuel Rest, London, and Jacob K. Marshall, Grimsby, England. The word "Cytos."

27,282.—Medicated Soap and Detergent Solutions. Hiram A. S. Park, Indianapolis, Ind. The words "Dr. Park Sulpho-Carbol Soap" in white letters upon a red ground.

—The list of manufacturing properties owned by the American Cotton Oil Co. includes 70 crude oil mills, 16 refineries, 4 lard and cottolene plants, 9 soap factories, 14 cotton ginneries, 3 cotton compressors, 2 fertilizer mixing plants, and 1,112 seedhouses.

TRADE NOTES.

(From information furnished by manufacturers and dealers in regard to their products.)

In some lots of corks you have to hunt to find a good one; with Truslow's Prescription Brand you have to hunt to find a poor one. Truslow's is the kind to specify when ordering corks.

Williamson & Watts, the well-known Baltimore druggists, have ordered a soda fountain of the Low Art Tile Co., which is now being built and will shortly adorn the most prominent corner in that city.

The Department of Pharmacy of the Ohio Normal University, Ada, O., begins a regular course on Dec. 31, 1895. This affords an opportunity for those who did not, or could not, begin with the regular fall terms. Send for catalogue to School of Pharmacy, Ada, Ohio.

If you keep soda water, let people know it all you possibly can. Your signs should be elegant, same as your soda water. James W. Tufts, Boston, makes a lot of such signs. He has issued a little booklet showing the designs. He will send this booklet to you if you ask for it.

The best thermometer for the druggist to have in stock is the one most likely to be chosen by customers. This is the dial instrument made by the Standard Thermometer Co., Peabody, Mass. It is the choice because the dial enables it to be read at a distance, and it is reliable. Send for circular fully describing it.

The laboratory of E. C. Powers, Boston, was damaged by fire Nov. 16 to the extent of $1,500. Mr. Powers assures the trade, however, that the fire will not cause a delay of more than a few days in filling orders, although it came at a bad time, as he was working to his fullest capacity, and was considerably behind in orders.

The Columbia Chemical Co., Washington, D. C., manufacture a line of animal extracts which are already well known to the medical profession, and their list also includes several other remedies which are popular with the general public. They have a special advertising proposition to make in connection with the sale of these remedies, and invite correspondence regarding it.

If you keep Dr. Williams' Pink Pills it is a good idea to let people know it. A means for doing this is furnished in the "Welcome Harp," which can be attached to the drug store door. Opening and shutting the door announces in a musical manner that Pink Pills are in stock. Address W. T. Hanson Co., Schenectady, N. Y., for particulars regarding the harp and how to obtain it.

Listerine is one of the proprietaries which has become a staple. Everybody knows of it, and its use is extending as a knowledge of the value of antiseptic treatment of many diseases becomes popularized. It has many uses, and perhaps some that you haven't thought of are mentioned in the literature which the Lambert Pharmacal Co., St. Louis, will send upon application.

The Searle & Hereth Co., Chicago, have just gotten out a new line of cachous, which they call the "Q. T. Cachons." They are very handsomely put up, so that they will not fail to induce customers to try them, and quality has been put into them so that continuous purchases will follow the first trial. Your next order should include "Q. T."

The Armstrong Cork Co. are within easy reach of all points East and West. They have agencies in Boston, New York, Pittsburg, Chicago and St. Louis, besides all the wholesale druggists carry a full stock of their corks. Their whole attention is given to the cork business, and all orders large or small are executed with care and promptness.

Colds and catarrh will naturally turn people's thoughts to nasal douches. There were certain objections and inconveniences attached to this class of apparatus until the new form, the No. 10, made by Whitall, Tatum & Co., was introduced. This is easy to use, and the force can be regulated to suit. Most physicians now advise its use in preference to the old style. It costs $1.80 per dozen, net.

A quarter pint flask of whisky is just the size most convenient for the traveler's pocket, and furnishes an amount which most families desire to keep in the house. Clarke's Pure Rye Whisky is put up in that way in cartons, and aside from its convenience, the original package gives the purchaser confidence. It costs $18 per gross, one-half gross in a case, and is sold by Colburn, Birks & Co., Peoria, Ill.

McKey & Co., Boston, are making a specialty of a Birch Beer Extract for making a drink which is already popular, but which will become more so when people get a taste of "Blue Seal Genuine Birch Beer." It is made as good as good material and careful manufacture can make it, but the proof of the drink is in the drinking. McKey & Co. will send a sample of it to any druggist who wants such proof, and will write for it.

McAllister's bird-food specialties are handsomely put up and are just the kind that people who keep birds as pets will prefer to buy. The list includes mocking bird, parrot and canary bird feeds, mixed bird seed, song restorer, bird lice destroyer, gravel and gold fish food. A complete stock of these specialties forms a very attractive and profitable side line for the druggist. Address F. E. McAllister, 22 Dey street, New York, or order through jobbers.

As a means for preventing weariness, and allaying hunger and thirst, Kola is exceedingly popular, and in great demand by wheelmen, football players, pedestrians and athletes. They will choose the kind which is advertised and which is handiest to carry. This is Johnson's Extract of Kolafra, put up in convenient pocket flasks and retailing for 25 cents. It is the one which the druggist should know all about. Send to Johnson & Johnson, 92 William street, New York, for Kola monograph and price list.

Billings, Clapp & Co., Boston, have made preparations for a big trade on their slippery elm lozenges this winter. They have a large stock of best quality bark, and by manufacturing in large quantities, can name exceedingly low prices. See their quotations in their advertisement in this issue.

The vaccine virus sold by Dr. Francis C. Martin, Roxbury Station, Boston, Mass., traces its origin back to the first introduction of animal vaccination in America by the late Dr. Henry A. Martin. It can be depended upon as a pure vaccine lymph, and every package bears the fac-simile signature of Henry A. Martin.

The grape crop of the last season around Vineland, N. J., was something extra, both as regards size and quality. Over 250 tons went through the presses of the Welch Grape Juice Co., and their cellars were completely filled. The merit of Dr. Welch's Concord Grape Juice is spreading wider and wider. Its value as a tonic is becoming more appreciated, and in the hands of physicians it is doing wonders. Hundreds of druggists are handling it with satisfaction, finding a great demand for it as a medicinal agent, for sacramental purposes and as a soda fountain requisite.

E. J. Hussey & Co., 80 John street, New York, have recently gotten out a very attractive booklet entitled "Sense," intended to advertise to the public their very sensible "Pri-mo Ladies' Syringe." In selling an article of this kind the dealer will undoubtedly appreciate advertising matter which will be effective and unobjectionable, and this little booklet apparently leaves nothing to be desired upon that score. It is the intention to supply druggists who are handling or desire to handle this syringe with a liberal supply of these booklets, and in addition an attractive show card is furnished.

John G. Woodward & Co., manufacturing confectioners, succeeded Duquette & Co., at Council Bluffs, Iowa, on Sept. 1 last, and retained the old plant, trade marks, labels, etc., thus carrying on the old business without a break. Since then Mr. M. Duquette has gone into the fruit and commission business in the same city under the style of the old firm, Duquette & Co. This has made some confusion in each firm's mail, and Messrs. Woodward & Co. are out with a circular requesting their friends to be particular and address future mail to John G. Woodward & Co., Council Bluffs, Iowa.

So many lines of trade handle cigars, that it requires a little extra effort on the part of the druggist to build up and retain a good cigar business. The Bay State Mfg. Co., South Framingham, Mass., offer one means for attracting trade to the cigar department. They manufacture a line of cigar cases at prices which will enable the dealer to give them away as an advertisement, and at other prices, so that he can sell them at a good profit. One of the latter, a solid leather telescope, is especially desirable, and a sample will be sent for 25 cents.

Drug Store Furniture Wood.

I am asked a hundred times a year: "What wood do you prefer in fitting up a drug store?" I answer, my preference is for the one that will give my customer the greatest possible value for his money, be of greatest service, most beautiful and durable, and at the end of a long period of years shall command the best price—should he desire to sell. This wood is mahogany—practically indestructible so far as the ordinary ravages of time affects woods, always beautiful in figure and color, improving rather than deteriorating with age. Warm, rich effects are obtained with it hardly possible in any other that would be free from other serious defects which unfit it for furniture purposes. There are few woods obtainable that will not fade or turn yellow with age under almost any treatment that may be given, although it is quite common to make statements to the concontrary. A somewhat erroneous idea exists regarding the cost of mahogany, or, more strictly speaking, an erroneous idea prevails regarding the cost of stores fitted with this wood. In the majority of stores fitted by me the labor represents 50 or 60 per cent. of the price charged, while in such cases the cost of mahogany rarely exceeds 20 per cent., and in case of extra fine stores involving a great deal of carving, the expense of mahogany is reduced to as low as 10 per cent. of the total cost. This explains two things not commonly understood—that the wood has very little bearing on the cost of a store, and also why the product of one factory should disagree radically with the product of another, the woods used being practically the same. Since being engaged in the business of making drug fixtures I have cut about three-quarters of a million feet of mahogany. The chief market of the world for this wood is London. New York probably ranks next, while Boston is a large center—having some of the largest dealers in the world who own their own timber lands in Central America, and have their own ships for transporting it. Mahogany is cut extensively in all Central and South American States, Mexico and Cuba, Spain, Africa and Australia. Cuba produces the hardest, and, accordingly, the heaviest wood, an inch board a foot square often weighing as much as seven pounds—those from other countries running from three and a half to six pounds. Nice, figury logs come from all producing countries. San Domingo, once so highly esteemed, is now nearly out of the market, mostly small, undesirable logs being found. Mahogany varies in price from $150 to $700 or $800 per M for logs with special figure and size, so it may be seen that a druggist desiring a store made of mahogany need not allow the price, which for good stock runs from 15 cents to 20 cents per foot, to stand in his way. Quartered oak I consider the next most desirable wood for store fixtures. It has character, durability, and in good hands is susceptible of a nice and permanent finish, but will ordinarily become somewhat grimed by age. This is often forestalled by treating it with what is termed antique finish, although not nearly so much in vogue as a few years ago, the preference being now for the natural finish. Cherry takes a very nice finish, but in the natural color is prone to turn yellow with time, and probably its greatest effectiveness is produced when a shade of color is given to imitate as nearly as possible the color of light mahogany. After all that may be said, however, regarding woods, their true value for store furniture is made apparent through the deftness and skill of the designer and artist. Like marble, that in the hands of one becomes a thing of beauty and grace, seeming hardly to lack the functions of life, and yet lacking them, seems only a little less than a thing divine, in the hands of another is simply impassive stone that tells only the story of its own ugliness. The treatment of the wood chosen to decorate the interior of your store therefore has undoubtedly ten times greater significance to you, if you but realize it, than the wood itself. It is, of all, the greater importance to you from the fact that yours is a public place of business, instead of a private residence; a place where you must draw the public in order to make your venture a remunerative one. The more attractive the more remunerative. Think twice before you decide to have your store fitted other than in an artistic, trade-attracting manner. The best talent often comes no higher than an inferior grade.

C. H. BANGS.

Bread and meat are so closely associated with the idea of the necessities of life, that the druggist does not have to do much explaining in the matter of Somatose Biscuits. He simply has to let people know what Somatose is, and that he has the biscuits. Somatose is a dry powder consisting of the albumoses and nutrient salts of meat, and these have been presented in a biscuit, made by the largest manufacturers in the world, the American Biscuit and Mfg. Co., of New York. The new product is especially valuable for invalids and for those who wish to carry food upon outdoor excursions, railway journeys, etc. Somatose Biscuits are put up in half-pound boxes, and cost $5 per dozen. Orders may be sent to the manufacturers, the jobbing trade or Schieffelin & Co., wholesale agents, New York.

Three hundred pills at one dip is pretty fast work in gelatine coating, and Arthur Colton, of Detroit, Mich., has a machine which will do it, and perform the work almost automatically. Pill manufacturers who wish to make their goods with the lowest possible expense for purely manufacturing operations, should investigate Colton's Rapid Gelatine Coating Pill Machine.

Thos. E. Ogram, one of the leading druggists of Washington, D. C., has one of Low's Art Tile soda fountains in the new store recently opened by him. Mr. Ogram has had a long and varied experience with soda fountains. Three years ago he put in a Low fountain and his selection of this make for his new store shows his preference.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Carbolic Acid, Caffeine, Glycerin, Gum Tragacanth, Beeswax, Oils: Anise, Cassia, Citronella, Mirbane and Rose, Valencia Saffron.

Declined: Damiana Leaves, Gum Chicle, Hemp Seed, Oils Bergamot and Lemon, Saccharin.

New York, Nov. 26, 1895.

Nothing of consequence has occurred during the week under review, to retard trade in the drug department of commercial affairs, and the general business situation is replete with evidence of continued confidence in the stability of the improved conditions which have been gradually but steadily developing for several months. Testimony is not wanting to show that other industrial departments have also improved, and that almost everything seems to point to better times in the near future; but while most of the other industries have had their "setbacks" and radical fluctuations, the drug section has been moving steadily in one direction. The general trend of values continues toward a higher basis, and since our last report quite an advance has taken place in Valencia saffron, and some of the leading essential oils, while other articles show additional gains of more or less consequence. A few unimportant reductions have also been made, but they are chiefly of the character of revisions, to conform to certain conditions, and can hardly be classed as actual declines, due to depressing influences. Buyers continue cautious, and their operations are conducted with a view to avoiding the necessity of carrying a large surplus through the approaching stock-taking period. Large transactions are therefore exceptional, but enough is being done in a jobbing way to bring the aggregate up to fairly liberal proportions, and dealers appear to be well satisfied. The weather has not been favorable to a material increase in the movement of seasonable goods, but the holiday trade has been steadily improving, and the marketing in a general sense can be called fairly active. There are no new features regarding financial affairs; collections continue fairly good, and there is an entire absence of any uneasy feeling.

OPIUM.—While the nominal asking price for case lots and smaller quantities has not changed during the week, actual business has been reported on a lower basis, and the tone of the market is not so firm as on the date of our last review. The available spot stock has been increased by the arrival of 55 cases, and additional supplies are believed to be on the way. The demand has continued light and wholly in accordance with current requirements of consumers, who are evidently still looking for a decline in values, while the larger holders show no inclination to meet buyers' views and remain out of the market. It is only fair to state that the recent sales in case lots at 5 cents per lb under the ruling quota-

tion, were made for account of a Philadelphia firm, and not by local dealers. Foreign markets were easier during the earlier part of the week, but subsequently recovered. The news from Smyrna and Constantinople, however, is very meager and indefinite, and dealers are not inclined to operate in a large way.

MORPHINE.—Manufacturers' prices are unchanged and fairly steady, but the market continues sensitive in sympathy with opium, and buyers are operating cautiously.

CODEINE.—There has been no further change in quotations, but the market continues unsettled and irregular owing to competition between domestic and foreign manufacturers, and values show a wide range.

QUININE.—A continued steady movement into legitimate channels of consumption is noted, with prices unchanged and firm. All the recent strong features are reflected by existing conditions, and indications continue favorable to holders, but it is intimated in some quarters that no advance is likely to be made by manufacturers for some time, and that the speculators who were recently operating for a rise will be disappointed. However true such a statement may be, there are evidently a number of operators yet willing to take round lots at full manufacturers' prices, but we hear of no sellers.

ALCOHOL—Is moving along steadily on consuming orders without quotable change in prices, and since the recent agreement between distillers and distributers the market has been devoid of disturbing influences.

ACID, CARBOLIC—Continues to improve abroad, and agents of some of the leading brands announce a further advance of ½ cent per lb for both bulk and pound bottles; the tendency is still upward.

BALSAMS.—The recent advances in tolu and Peru are firmly maintained, with the stock of both closely concentrated, and offerings are limited to actual current necessities of consumers. The outlook favors increasing scarcity, both here and in Europe, and holders anticipate extreme prices. Copaiba is active in a jobbing way, with values steady, and Canada fir is meeting with a good trade demand at unchanged figures.

BEANS.—Continued strong markets are reported for both Angostura tonka and Mexican vanilla, with a good demand for consumption, and the statistical position of both is decidedly favorable to higher prices.

CACAO BUTTER—Is very scarce on the spot and values are decidedly strong. Since the regular auction sales in London and Amsterdam on the 5th inst. the English product has been held at an advance of 3½@4 cents above the quotation for Dutch.

CAFFEINE—Is again firmer, with a further advance of 25 cents per lb.

COD LIVER OIL.—The market has developed indications of manipulation on the part of consumers, and some business is reported from second hands at about $1 per barrel under ruling quotations, but regular dealers show no disposition to meet the cut, and for well-known brands full prices are demanded. The unexpected competition, however, seems to have an unsettling influence, but there is no abatement of activity.

CUBEB BERRIES.—Former quotations are still current, but the market is easy in view of large stocks and lack of demand.

CUTTLE FISH BONE.—The situation continues to improve and holders offer sparingly at old prices, an early advance being generally expected.

ESSENTIAL OILS.—The general market is seasonably active under a good demand from perfumers and fancy soap makers. Anise and cassia are both 25@35c. higher, mainly in sympathy with a corresponding improvement in London, and the spot stock is closely concentrated in few hands. A revision of prices of Messina essences shows a reduction of 5c. per lb in the quotations of some of the leading brands of bergamot and lemon. Citronella has been further advanced 1c. per lb. in drums and 2@3c. in cans and bottles, the latter are quoted 40@43c. Mirbane is stronger in sympathy with a material advance abroad in nitro benzol, which would make the lay down cost fully 3 cents above present spot quotations. One of the leading brands of rose has been advanced 15c. per oz. Peppermint is in better demand for both consumption and export, and prices indicate a hardening tendency.

VALENCIA SAFFRON.—Cable advices announcing an advance of 4s. in the primary market, have been responded to by holders here, who have marked up their quotations $1.00 per lb. Those who received the information early, succeeded in buying up several hundred pounds previous to the advance.

GLYCERIN.—The crude article continues to advance abroad, and one of the Western manufacturers of refined has again advanced the price of refined, but others are yet willing to sell in a limited way at former values.

GUM CHICLE.—The market is weak under continued heavy arrivals and a slow demand, and values show a further decline of 1c. per lb.

CAMPHOR.—Values are unchanged but firmer, the recent decline abroad in crude having been fully recovered, according to cable advices received during the past few days.

GUM TRAGACANTH.—Aleppo varities are cabled 10 per cent. higher in primary markets, and prices here have been advanced about 7c. per lb.

DAMIANA LEAVES.—Show a further decline of ½c. per lb.

SENNA.—Tinnevelly are easier and Alexandria stronger, the latter owing to depleted stocks abroad and light receipts.

SACCHARIN.—There has been a reduction of $4.00 per lb in the quotation for 500.

HEMP SEED.—Large arrivals of new crop Russian have had a depressing effect on the market and prices have declined ½c. per lb.

BEESWAX.—Values are higher owing to an improved demand, together with reduced stocks, and quotations for both ordinary and selected have been advanced 3c. per lb.

London Market Report.

London, Nov. 16, 1895.

Another quiet week, although the drug sales passed off with fair spirit.

ACID CITRIC is lower from second hands @1s. 2¼d. to 1s. 2½d.

ALOES.—Cape is lower at 22s. for good hard bright. Curacao sold well at 45s. to 47s. per cwt. for dark liver, down to 14s. 6d. for dull capey. Socotrine was only offered in low quality, and very little sold.

AMBERGRIS in fair supply, but only a few ounces sold at 55s. for dark and soapy flavor.

ARECA NUTS sold at 12s. for fair quality.

ASAFETIDA.—Over 500 packages offered, but only 50 sold at 32s. 6d. for heavy part pinky block.

BALSAM TOLU.—3s. per lb. is asked by some holders, but a little can still be obtained of genuine quality at 2s. 8d. "Doubtful" can be had at 2s. 2d. per lb.

BENZOIN.—£8 2s. 6d. paid for good seconds Sumatra corners false packed, but good almondy centres. Siam quality sold at £10 for good brown small almondy in block.

BUCHU LEAVES.—Round are lower, a new parcel of extra fine dark green selling at 6d. per lb.

CAFFEINE quiet at 19s. per lb. for delivery this month.

CAMPHOR.—Crude is very firm, and from all appearances will remain so and go even higher for many months to come.

CINCHONA fully maintains its value at the London sales.

COLOCYNTH.—Turkey apple selling at 2s. 3d. per lb.; Spanish held for 1s. 2d. to 1s. 3d.

CREAM OF TARTAR lower at 96s. per cwt. for crystals and 98s. for powder.

CROTON SEED sold well at 50s. per cwt.

DRAGON'S BLOOD in heavy supply and easier. No sales were effected.

GAMBOGE sold freely at slightly dearer rates; £10 7s. 6d. was paid for good bright part blocky pipe, and £9 7s. 6d. for good pickings.

IPECACUANHA.—Good Rio sold at 4s. 6d. for thin, to 5s. 3d. for fair root. Carthagena sold well at 4s. 4d. per lb.

KOLA NUTS firmly held at 1s. 3d. for bold, and 1s. for small.

MENTHOL is firm at 14s. 3d. to 15s., according to holder, and higher prices are anticipated.

QUININE is very quiet and sales are disappointingly small. The new "Imperial" brand sold at 12¾d. to 1s. 1d., whilst German brands in second hands are held for 1s. 1¼d. per oz.

RHUBARB.—A large business has been done at slightly higher rates.

SENNA.—Alexandrian leaf of good color selling in a small way at 11½d. per lb. Tinnevelly continues in active demand at good prices. No fine quality coming in.

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A. PH. A. OFFICERS.

We have just issued, and now have ready for distribution, a handsome, high-grade, souvenir, half-tone group portrait of the officers of the American Pharmaceutical Association, from the time of its organization in 1852 to the present.

There are 57 individual portraits, including all the presidents, 43 in number, treasurers, recording and corresponding secretaries and reporters on the progress of pharmacy. Printed over a delicate tint, on extra fine quality lithographers' board 24x28 inches.

This is a valuable collection, the only one in existence, and should be in the possession of every member of the association and every educated pharmacist.

It is mailed, securely enclosed in mailing tube, postage paid, for $2 net. Address The Pharmaceutical Era, New York.

DRUG ADULTERATION.

A report on this subject is invariably made the basis for liberal comments and numerous unwarrantable conclusions by the popular press, and it is neither unusual nor surprising that the last report of the State inspectors in Massachusetts has been thus treated and dished up to the public in garbled form. The newspapers perhaps do not intend to misrepresent, but they do so from sheer ignorance. For example, they announce under "scare heads" that a third of our drug supply is adulterated, when the facts are that one-third of the samples examined were found adulterated, a very important difference when it is remembered that as a rule samples were taken of those goods only which there was reason to think were inferior or fraudulent. But that adulteration exists, and to an extent which makes the matter a very grave one, cannot be gainsaid. To be sure, the adulteration is often, yes, generally, of a mild form, but it is there. A few facts from and comments upon the report of the inspectors in Massachusetts are not out of place and may serve for enlightenment and value.

Last year in that State there were examined in round numbers 500 samples, and the exact percentage of adulteration was 33.5, which is also a fair average for the past dozen years, during which 7,300 samples have been examined, though in one year the percentage of adulteration to samples examined reached nearly 48.

The entire report is instructive, but specially striking is that section relating to the inspection of liquors, a line of work to which particular attention has been given the past year. Here the adulterations found are mainly of a harmless nature, but the occasion is seized to repeat and emphasize former statements of the State Board of Health, viz: "These examinations have also shown the falsity of a popular impression . . . that the harmful effects of the habitual use of alcoholic stimulants is due to the adulteration to which they are subjected rather than to the alcohol which they contain. It is sufficient to say that such statements have no foundation in fact. Not a single sample of adulterated spirits, in the popular understanding of that term, that is, one containing a more injudicious ingredient than alcohol itself, was met with, although very few were exactly what they purported to be."

Referring to wines the analyst says: "Fortunately, as in the case of the spirits examined, alcohol has been the most injurious ingredient found present in the samples. The great and serious harm to which a very large part of the population is constantly exposed by the consumption of intoxicating liquors is undoubtedly due almost entirely to the alcohol contained in them, and not to other ingredients, either natural, accidental or of a fraudulent nature."

The analyst has looked into the nature of soda water, too, and in consequence says: "It would seem a matter of some consequence that a fairly pure water should be universally used, and that it should not be contaminated by metallic poisons. It appears in some instances that a water is sold as 'soda' which, if not charged with carbonic acid and flavored, would be recognized at once as distinctly unpalatable and unwholesome." One sample contained a considerable trace of lead, another a solution of tartaric acid, a third was very hard water, and still another contained a very large amount of iron. As for the syrups, some of the strawberry was colored with cochineal and preserved with salicylic acid. The traces of lead found in the soda waters may have originated in the tap water used, but it seems more likely that some lead was dissolved by the charged water from pipes, joints or fixtures connected with the soda tanks or fountain.

Does it pay to do this kind of work? The expense of carrying it on is pretty heavy, as may be seen from the statement that the average cost of examination of each sample, when all expenses are considered, for the whole period was $1.74. This, however, includes the whole cost of collection and analysis, with such other expenses as were incurred under the provisions of the statutes, including the costs of complaint entered at court, and the employment of counsel in a few cases only. It also appears that the average cost per sample has been reduced from $2.26 in the first year to $1.52 last year. Since 1889 there has been a gradual and comparatively uniform decrease.

But that it pays cannot be questioned; it pays in the protection of the people's health and purse against fraud; it pays in the way of educating the merchant, especially the druggist, up to a sense of his heavy responsibility; and it pays by making possible the detection of willful wrongdoing and bringing about its punishment. Let us uphold the hands of Massachusetts in this work.

THE OBJECTS OF BOOKKEEPING.

"What is the object of keeping a set of books for a small drug business anyway," said a small, shriveled up, wizen-faced man to the writer the other day. "The game isn't worth the candle." "Yes it is," we rejoined, "and we think we can prove it to your satisfaction," and the incident forms the text for the following remarks:

The object of bookkeeping is to exhibit a correct statement of one's affairs, and in such a manner that at any time he may ascertain the nature and extent of his business, the money he receives and pays out, his profits or available income and, if necessary, the extent of his losses. These are factors which must receive attention, no matter how little or how great the business may be. Upon their proper consideration depend the stability and reputation of the man of business. Viewed as credentials, a merchant's books are invested with a character which the possibilities of the business itself cannot give.

The transactions of any one engaged in trade are regulated and determined by the extent of his capital and credit. These are some of the questions that are answered conclusively by an accurate and satisfactory system of bookkeeping; without such a system a person must, of necessity, be proceeding upon vague and possibly erroneous conclusions, the result of which may bring financial disaster and the terrors of bankruptcy. To-day's doings are governed in no uncertain degree by the successes or failures of the past. In our books we have recorded those transactions and experiences, and the record usually enables us to decide whether a contemplated investment shall or shall not be made. The data of every transaction cannot be carried in one's head. It is impossible. Besides, we believe if the individual before referred to were to introduce a system of bookkeeping into his business, no matter how simply, he would introduce with it some systematic methods of doing business, methods which he doesn't follow now, for, to be honest, his business is characterized principally by lack of system.

But he tells us "I do a cash business. I pay cash for everything I buy and I do not sell very much unless I get the cash for it. What is the use of recording all of these transactions? At the end of a given time will not the amount of my profits be the amount of cash I have in my till or in the bank?"

Yes, in a measure true, but you have failed to fully consider the possibilities of your business life. It is impossible to do a strictly cash business, no matter how much one may wish to. This being the case, how do you dispose of the little transactions you admit you sometimes make where the money is not forthcoming? Again, upon what articles of trade have you received the best profits and made the most money? Did you try to increase the sales of these particular lines because you were making more relatively out of them than you were making out of some others? No, you did not, because you had no record of your transactions and you could not begin to remember them all. Then, too, you don't know how many times you have been overcharged for goods, because you don't keep a cost book, and you don't file your invoices, hence you cannot compare prices you paid for goods in the past with those you must pay now. You say you don't keep a ledger, for such a book was never intended for a petty business like yours, but you do keep a "kind" of a want book. And after much probing the fact is brought to light that your want book is a "kind of want book, a kind whose possessor lacked the energy and methods necessary to make it in the greatest degree useful to him. The prescription file, if it may be so called, of such a man, partakes of the same discordant appearance. For our lives we can't tell how he manages a "refill" when one comes in, but he says he "manages them all right because he never has any." Further investigation brings to light a woeful lack of business shrewdness, and all resulting principally because he does not believe in adopting the tactics and methods of business men.

Yes, the druggist, no matter how small his business, must keep a set of books. And he must put as much energy and system into the work of keeping them as he does into his efforts in filling prescriptions accurately and scientifically. Bookkeeping, when conducted upon sound principles, will prove of greatest value to him. It will show him the general results of his business career, a career whose records, if he chooses to go back over them, will admit of analysis and bring to light his successes and failures, and the value or worthlessness of each factor in any transaction as contributing to a given result. The system he chooses to follow must not only be perfectly comprehensible to himself, but it should be one which will be perfectly intelligible to any one should ever circumstances arise in which an examination by others would be necessary. Good bookkeeping promotes order, regularity and honorable methods of business. It also defeats dishonesty and gives standing and credence to our transactions with our fellow men.

MICHIGAN FOOD LAW AND THE DRUGGISTS.

Space is given on another page of this issue to a reprint in full of a circular headed "Relation of the Food Law to the Retail Druggist," which the Michigan Board of Pharmacy is distributing to the druggists of that State. This circular and the law it sets forth are worthy the consideration of all those interested, both those who believe in pure food and drug legislation and those who see no good in it. The Michigan law is a strong one and is unique and unusual in a number of its provisions. It is very stringent in the matter of labeling, its requirements being so laid down that evasion thereof would seem to be a matter of much difficulty. It is not necessary to enter into detailed comment, the reader can do this for himself, but attention may be specially directed to the Commissioner's ruling on the law. Read, for instance, what construction he makes relative to flavoring extracts. If such requirements were enforced generally the pharmaceutical journals would not be pestered as now, by frequent and numerous requests for formulas for artificial flavors, and the manufacturers of this class of goods would be obliged to bend their energies in another and, we hope, better direction. The law doesn't recognize to any great extent the value and beauty of synthetic chemistry, for artificial vanillin and coumarin are especially prohibited. Makers and exploiters of this class of goods please take notice.

But, aside from the law itself, its character, purpose and extent, the principal phase of interest to us is its relation to the retail druggist, and this phase is very creditably presented by the Board of Pharmacy. The Michigan board for a few years past has occupied a high position with reference to the necessity for purity in food and drugs, and to its work is that State chiefly indebted for the enactment under notice. This sort of work is, or should be, peculiarly a function of the Board of Pharmacy, which is intrusted with the care of the health and life of the people to the extent that it must pass upon the qualifications of those who dispense drugs and medicines. The Michigan Board has not shirked this responsibility and its example should be followed by the sister boards of other States.

A SPOILED PATENT MEDICINE!

The rapid growth in number of special laws bearing upon pharmacy, to say nothing of the various and varying decisions upon them, leads us to anticipate the time when the profession will acquire the dignity of a distinct pharmaceutical jurisprudence with the usual concomitants of leather-covered volumes and plentiful supplies of drug attorneys. This exultation is not, however, without its harassing obligations, the greatest of which is perhaps the danger to the pharmacist in attempting to pursue his perilous legal way without frequent advices from his newly-specialized coadjutor of the green bag, who will mix, q. s., a knowledge of drugs with that of statutes. To help along the attainment of this dignity, which seems inevitable, we would suggest that a recent case in which Druggist Clark, of Uniontown, Pa., figured, be carefully considered and placed upon the books for future reference, as there seems to be good material in it for a precedent.

The case in question was as follows: A customer purchased a bottle of patent medicine of the druggist. Ten days later he brought the bottle back, claiming that the medicine was spoiled, and demanded the return of his money. This was quite properly refused, and suit was brought to recover the amount. Witnesses for the defense testified that a druggist could not possibly determine whether a patent medicine was spoiled or in good condition, as he could have no knowledge of its ingredients, the containers being sealed and sometimes enclosed in car-

tons. The justice in rendering his decision stated that there is no such thing as an implied guarantee and that where both parties to a transaction have an equal chance to know the condition of an article, no recovery can be made.

We believe this is good law, and there are enough precedents in the horse trading business to fortify this conclusion. While we have no desire to embroil any one in the drug trade in a legal squabble we cannot help wishing that this decision could be affirmed, as it undoubtedly would be, by some lofty tribunal, like the Supreme Court, so every druggist would know that it is the law and could use it in his business. Druggist Clark evidently got out of the difficulty in the best possible way, and was even willing to concede that the medicine was spoiled, resting his defense upon the fact that there was no guarantee or misrepresentation on his part, and that the purchaser had as good an opportunity for determining the character of the medicine before purchasing as he had himself. But in spite of this we cannot help longing for a similar case, in which the defendant might make the plaintiff prove that a patent medicine was spoiled.

Think of the strange things which such a case might develop; the expert testimony which it would undoubtedly bring forth, based, of course, upon a knowledge of the formula, and perchance involving such debatable questions as the possibility of spoiling a bad egg, or the utility of useless things. What an opportunity for the dear public to learn some things through the well-directed efforts of some legal iconoclast.

Another reason for desiring a more authoritative decision in this Pennsylvania case is the effect which it might have in Ohio. In the latter State we believe that a druggist is held responsible under certain circumstances for the character of a patent medicine. Pennsylvania has, we believe, a pure food and drug law which is nearly identical with that of Ohio. The question then arises, if an Ohio druggist can be fined for selling an article which is misrepresented (called a predigested food, for instance, when it isn't), or is perhaps spoiled, and which he cannot test without destroying his chances for selling it, how will the same law work in Pennsylvania, where it is practically decided that the druggist is not responsible when he says nothing, but simply hands over his counter a sealed package, which he could not sell if it were not sealed?

We are afraid that we cannot bring this pharmaceutico-legal excursion to a satisfactory termination. We shall have to follow the example of the judiciary, when puzzled with a knotty question, and leave the matter to the jury.

The antitoxin theory of the treatment of disease has not met the fate which has overtaken such a countless number of medical fads; on the contrary, it has won recognition and adoption, in the face of bitter opposition, in a manner and to a degree possible only where there is substantial merit. There is too much evidence of the value of diphtheria antitoxin alone to permit the discrediting of the theory save by the ignoramus or him blinded by prejudice.

PRACTICAL HINTS.

——Iodine should never be weighed directly upon metallic scale pans, and ordinary paper decomposes so quickly on contact with it that the pans are also attacked. In the absence of glass or horn pans, the best substitute is paraffin paper. For the same reasons a metal spatula should not be used in the weighing-out operation.

——Stationery is a side line often handled by druggists. If you go into it at all, put in a stock of the requisites which naturally go with it. Stamps you keep, of course, but people who write want ink, pen holders, pens, lead pencils, erasers, etc. A small assortment does not cost much and it may considerably enhance your business.

——Ammonia water in large containers may be satisfactorily stoppered with a common cork covered with a piece of cheese cloth and then with a piece of paraffin paper. An ordinary glass stopper is totally insufficient to prevent some of the vapor from escaping, while the dark coloration produced by contact of the ammonia with cork tissue renders the use of corks alone objectionable.

——Do not let customers remain in your store unattended longer than possible; find out what they want and ask them to be seated. They will then willingly wait a few moments if you are too busy to serve them immediately. At the same time you must not forget to wait upon customers in the order in which they enter the store. Give the child or poorly dressed person the same attention you would bestow upon the sage or millionaire. Each one is justly entitled to such attention, irrespective of the money he may leave with you. Honorable dealing of this character soon gets to be known in your neighborhood, and the knowledge of it gives you added dignity in the eyes of your friends.

——The contents of shelf bottles for inventory purposes may be quickly and approximately measured by comparison with a rule or gauge attached to a shelf in a perpendicular position and graduated with a scale of inches and parts of inches. The first step in the application of this plan is to find the exact amount of tincture or other liquid in each inch of height as contained in a pint shelf bottle, and then measure up all the pint bottles. The same process applies to the quarts, half-gallon and gallon bottles. Another time-saving expedient may be used in calculating, say, the number of pills in a bottle. For instance, a bottle contained 1,000 pills, how many does it now contain? Carefully weigh 1 dram, and count them, then ascertain how many drams of pills there are, and you have the number. Broken sacks of corks can be quickly counted in the same way.

THE JOURNAL FOR HIM.

J. O. Palmer, Fisher, Ill.—The Era is *the* drug journal for me.

R. J. Parker, Pulaski, Tenn.—The Era grows better every volume.

Clem Harris, Gulgong, N. S. W., Australia.—Your Era is a real good paper, and I am much pleased with it.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

The soda fountain drink has now become an article of trade which the druggist can exploit the year round. Some druggists who have paid due attention to a cold weather soda fountain business have found it just as profitable as the warm weather trade, and there seems to be no good reason why it should not be. The cold season naturally creates a demand for stimulating beverages, and those which the hot soda fountain furnishes will have the preference when their virtues become sufficiently known. The tonic and stimulating effect of a hot drink, and the medicinal agents which can be dispensed at the fountain in the most palatable and appetizing shape, are matters upon which the public should receive some instruction, and this calls for some advertising. There are dozens of ways of doing this—by having a nice fountain, by window displays, show cards and circulars—but lots of people whom the druggist doesn't know, and perhaps never sees will be quite likely to see the newspaper in which he advertises. Perhaps with our suggestion below he can say something about his hot soda, which will turn the scales in his favor.

(No. 42)

SOMETHING HOT, just at the right moment, will turn the scales in favor of staying well, when there is a good prospect right ahead of illness from exposure to cold winds, rains or snows. You will find what you need at our soda fountain—tonic, bracing and delicious hot drinks of chocolate, cocoa, coffee, tea, lemonade, orange phosphate, ginger, cider, fruit juices, beef extract, etc.

When the weather doesn't suit you, or you don't suit the weather; when you are feeling badly, or even pretty well and want to feel better, try some of our hot soda beverages.

KNIGHT & DAY, Druggists.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

THE STUDY OF PHARMACY

CONSISTING OF A SERIES OF ESSAYS, BY RECOGNIZED AUTHORITIES COVERING THE ESSENTIAL BRANCHES OF A PHARMACEUTICAL EDUCATION

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[Continued from page 678, November 28.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXV. PLANT ANATOMY.

(Continued.)

By SMITH E. JELLIFFE, M.D.

CHAPTER III.

THE CELL WALL.

The cell wall is the limiting membrane of the cell. When present, which is the rule, it generally consists of a mixed substance called Cellulose, which has been produced by the activity of the protoplasm of the cell. At first it is quite delicate, but as growth continues certain modifications take place which may be studied *as external* under the morphology of the cell wall, for they deal with the markings, thickenings, etc., and have nothing to do with the internal changes or chemical modifications.

Morphology.

In the young developing cells the cell wall appears like a thin veil, which grows both in thickness and in surface. How the growth in thickness takes place is not yet perfectly understood. (a)

Whether the cytoplasm which is found in the cell wall is transformed into cellulose, or whether its surface layers are added externally, is a subject of controversy. The truth probably is that both processes are at work at the same time.

This growth in the cell wall may take place centrifugally, from the inside outward, as in the walls of spores and pollen grains and epidermal cells; or centripetrally, from the outside inward, as in stone cells, and in spiral and annular ducts.

The growth in thickness gives rise to many irregularities which will be studied later under the subject of pores and markings. The growth on the surface also gives rise to other irregularities which are determined by the amount of pressure exerted upon the growing cell. Cells, when uninfluenced by outside forces, tend to grow in a spherical shape, but this condition is rarely found in the higher forms of vegetable life, and unequal pressures produce cells of almost all degrees of irregularity, hexagonal, cubical, pyramidal, star-shaped, brick-shaped, flattened, etc.

The degree of variety is enormous, and in many cases cell shapes are so peculiar that they afford an excellent means for the identification of certain drugs.

Chemistry.

The chemistry of the cell wall is an intricate problem. The student is referred to Zimmermann, l. c., for a clear exposition of what can here be hardly more than touched upon.

Cellulose, which is generally taken as the substance of the typical cell wall, is a carbohydrate, with the empirical formula, $C_6H_{10}O_5$. Its micro-chemical reactions will be considered in a special chapter.

Botanists have considered five modifications of the typical cell wall, which are the results of the incrustation or saturation of certain chemical substances upon or in the walls of cellulose. These are:

1. The mucilaginous modification.
2. Lignification.
3. Suberization.
4. Cutinization.
5. Mineralization.

(1) The mucilaginous modification is seen in Chondrus crispus, and in many seeds, as in Quince, Flax, Mustard, Cassia fistula, etc. Such walls have the property of swelling to a great extent upon the addition of water, and all degrees may be traced, from pure cellulose, which is insoluble in water, to pure gum or mucilage, which may be entirely soluble.

(2) Lignification is supposed to be due to an incrustation of Lignin or woody substance upon the cellulose of the cell wall. This lignin is a hypothetical substance which gives a number of certain micro-chemical reactions, but its nature is far from being understood. It gives to cell walls a toughness and elasticity that are characteristic of wood and bast fibres.

(3) Suberization is seen in cells of cork; it renders them elastic and impermeable to water. It has been taught that it is due to a deposit of fat-like substance upon the cellulose of the wall; but many investigators have claimed that there is no cellulose in cork cell walls, and that suberin is a separate chemical substance.

(4) Cutinization is the process that takes place in the epidermal tissues of the plant, generally in the leaves and the outside covering of fruits. The properties of Cutin are similar to those of Suberin. Micro-chemically they agree.

(5) Mineralization. Mineral salts, particularly carbonates and silicates, are sometimes deposited in the walls of certain plant cells, as in grasses, horse tails, etc. Their function seems to be purely mechanical.

CHAPTER V.

THE GROWTH OF CELLS TO FORM TISSUES.

If the evolutionary point of view be kept in mind, it becomes necessary to trace the growth of highly-complicated tissues, as found in the higher plants, by means of the simpler forms of the lower plants (Phylogeny), or through the individual stages of growth from the fertized ovule to the fully developed plant (Ontogeny). Owing to the gaps in Paleobotany the Phylogenetic relationships of plants are difficult to trace, and the study of plant embryology affords a simpler clue to the origin of complex structures.

CELL DIVISION. The two main types of cell division have been described, the direct and the indirect.

1. The Direct method consists of the splitting of a cell into two, without any nuclear mechanism. It is confined mainly to the lower forms of vegetable life.

2. The Indirect method (Mitosis, or Karyokinesis), affords an interesting and complicated study, which is mainly centered in the nucleus. It has been pointed out that the nucleus consists of several protoplasmic substances, the most important of which was the Chromatin. This is generally scattered about the nucleus in the form of minute granules, but when the process of karyokinesis is about to take place it is noticed that the chromatin commences to arrange itself in irregular lines or a "skein." At the

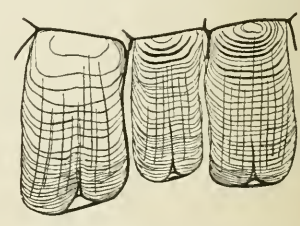

Fig. 24.—Epidermis cells of seed of Sinapis alba, showing mucilaginous modification after treatment with water. (Tschirch).

same time the Centrospheres, or "Attraction Spheres," two very minute bodies at one side of the nucleus, outside of the nuclear membrane, separate and wander to opposite sides of the nucleus. These spheres seem to exert some influence upon the chromatin threads (Chromosomes), for they are soon found arranged in the shape of a spindle reaching toward the centrospheres, and are apparently ar-

(a) Zimmermann, Pflanzenzelle, p. 154. Strassburger (Zell und Zelle-bildung).

ranged along radiating lines that stretch from one attraction sphere to another. (Achromatic Spindle.)

The second stage begins with the disappearance of the nuclear membrane and the longitudinal division of the chromosomes. The chromosomes then come closer together in the center and divide transversely. (Metakinesis.) After transverse division the two halves move to the poles or attraction spheres, and soon a transverse line is seen stretching across the protoplasm of the cell. This soon develops into a new cell wall. The two new cell walls thus formed, each containing its own nucleus, then round out and resemble the parent cell.

This process, hastily sketched, is constantly taking place in all growing animal and vegetable tissues. The details of the process are inexhaustible.(a)

It is by a continual cell division of this type that the tissues about to be studied have been formed. Originally simple and homogeneous in the embryo, they become complex and heterogeneous in the mature plant.

Classification.

A satisfactory classification of plant tissues is difficult, as anatomical structure and physiological functions vary so widely. The following classifications look at plant tissues from four separate standpoints.

1. Plant tissues may be composed of either

(a) Growing, or meristematic, tissue.

(b) Permanent tissue.

2. Plant tissues may be classified according to the shapes of the cells. This is unsatisfactory, but as the names of the variously-shaped cells are extensively used, they must be given.

(a) Equal diameter cells, generally thin-walled. Parenchyma.

(b) Unequal diameter, generally elongated cells, with thickened walls. Prosenchyma.

3. A third classification groups plant tissues into systems that are based upon their anatomical position.

(a) The external epidermal tissues.

(b) The internal fibro-vascular tissues.

(c) The ground, or filling, tissues.

4. A more comprehensive classification looks at plants from a point of view both anatomical and physiological.

This is the classification that will be here followed.

(A) Formative tissues. Meristem.

(B) Protective tissues.

1. Epidermal tissues. Epidermis, cork.
2. Skeleton, or Mechanical, tissues. Bast fibres, Libriform, Sclerotic, or Stone cells.

(C) Tissues of Nutrition.

1. Absorption. Root hairs, Haustoria.
2. Assimilation. Palisade cells and other leaf tissues.
3. Respiration and Transpiration Stomata, Lenticels.
4. Conduction. Ducts and Sieve tubes.
5. Secretion and Excretion.

(D) Reproductive tissues.

(a) Strassburger Zell und Zell theilung. Guignard, l. c.

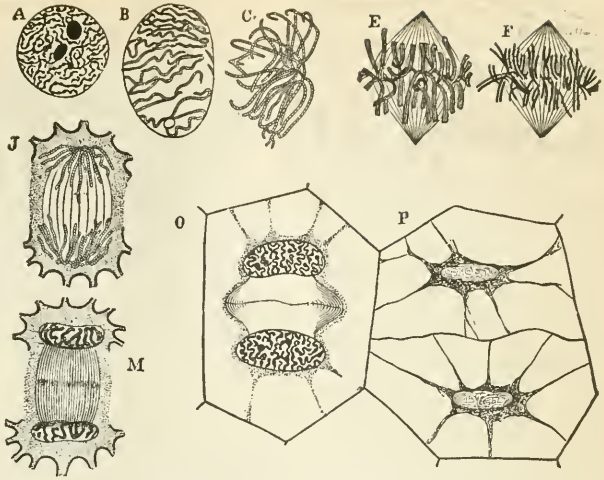

Fig. 25.—Process of Karyokinesis. *A.* resting stage. chromatin in dots, lines just forming. *B.* stage of "skein" chromatin in lines. centro spheres at opposite poles *C.* solution of nuclear membrane. *E.* formation of achromatic spindles, the threads becoming arranged along them. *F.* longitudinal and transverse division of chromosomes completed. *J.* formation of "daughter nuclei". *M.* daughter nuclei formed, beginning of separation of the protoplasm. *O. P.* completion of process by division of protoplasm and formation of middle of lamella.

CHAPTER V.

FORMATIVE TISSUES.

Meristematic tissues are tissues that have the power of forming new cells, hence the power of growth is said to be confined to them. In the higher plants the points of meristematic growth are to be found only at the apex of stems both apical and lateral, the ends of roots, the cambium layer, the phellogen layer and the tips of leaves and flower structures. Under special circumstances other parts may take on meristematic parts, as, for instance, when a plant is injured new tissues, mainly of a corky character, may be formed in large quantities.

Meristematic cells are generally thin-walled, square, angled, and filled with protoplasm and provided with nuclei. In some very rapidly growing meristems the cell walls may be absent in the early stages of growth.

Meristematic tissue may be primary or secondary. Primary meristem is found

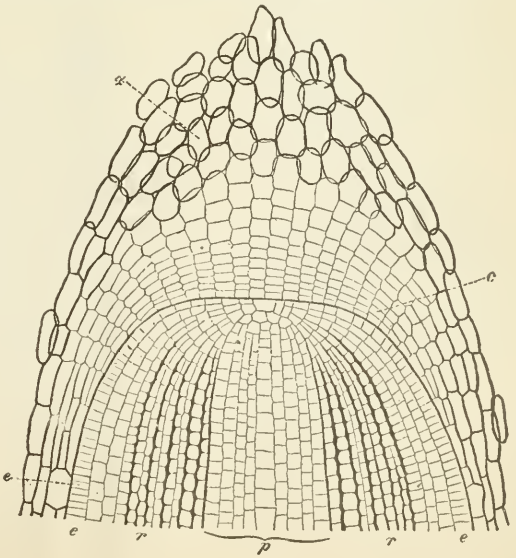

Fig. 26.—Apical growths *e.* dermatogen, *r.* plerome. *p.* periblem.

only in the young embryo and in the tips of growing plants, and all the rest is secondary in its formation.

It has been extensively taught that in the apical region the primary meristem gives rise to three layers of cells from which the more complicated tissues spring. The outer layer is called the Dermatogen and gives rise in general to the epidermal system of tissues. Beneath this lies the Plerome, which gives rise to the fibro-vascular system, and within is the Periblem from which the ground tissues arise. This grouping is adopted merely for the sake of convenience, as it is not universal in plants themselves.

Much of the tissues that are built up by the secondary meristem becomes permanent in form and makes the "Permanent tissue" of a former classification. Drugs consist in general of permanent tissues, but in the following meristematic tissues may be found: Cambium in Dulcamara stems, Radix Angelica and Althæa and Secondary Meristem in Jalap tubers. Apical cells may be found in many herbs after treatment with dilute ammonia or alcohol. Phellogen is to be found in oak bark, Inter fascicular Cambium in Ricinus stem, and Primary Cambium on the radicles and cotyledons of nearly all the seeds, such as Capsicum, Croton, Ricinus, Sinapis, etc.

CHAPTER VI.

PROTECTIVE TISSUES.

The protective tissues of the plant consist of the Epidermal and Mechanical Systems.

EPIDERMAL SYSTEM. The epidermal system is the outermost layer of the plant and completely covers every portion of it, protecting it from outside mechanical injury and from too rapid evaporation and loss of heat.

In young plants the epidermal system consists of the epidermis with its two modifications, the hairs, or Trichomes, and the Stomata. In many stems a year or so old secondary changes take place which lead to a new formation of tissues which form the secondary epidermis. The epidermis, or skin, is the superficial layer in roots, stems and leaves, and consists of very variable cells. In the

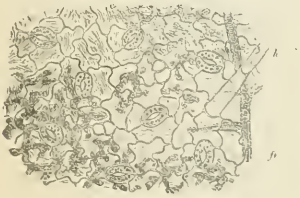

Fig. 27.—Belladonna leaves Under side showing epidermal cells, here slightly striped. *st*, *h*., and *fv*, stomata. hair, and vessels respectively. (Vogl).

official cryptogams Cetraria and Chondrus, the epidermis is not a true epidermis, but in Aspidium there is a well-marked superficial layer of epidermal cells.

The epidermal cells are generally flattened and united to one another without intercellular spaces. They are usually

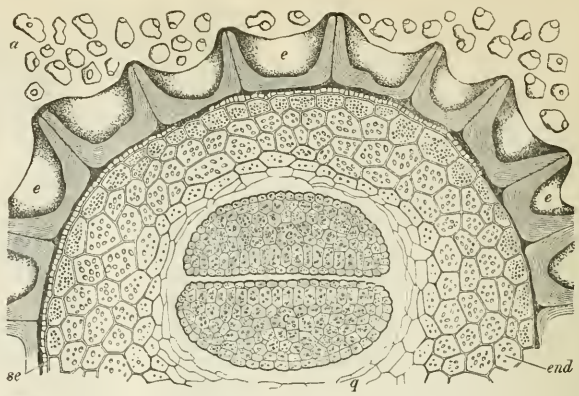

Fig. 28.—Hyoscyamus niger. Cross section of seed showing *e* enlarged and modified epidermal cells. *end*. Endodermis. *c*. Cotyledons. *a*. isolated aleurone grains. (Tschirch).

elongated in the direction of the axis in the monocotyledons and are irregular in Dicotyledons. Often in seeds they are thicker than wide, but this is not the rule.

The outer wall of most epidermal cells is thickened by a deposit of cutin which renders it impervious to moisture and also serves to protect it against insect and fungus pests. This layer of cutin varies greatly in thickness and bears a direct ratio to the amount of transpiration that serves the purpose of the individual plant. In plants with leaves more or less horizontal the side exposed to the sun's rays is generally thicker. In tropical countries where the heat is excessive and the loss of moisture would be great the epidermis is much thicker than in temperate climates.

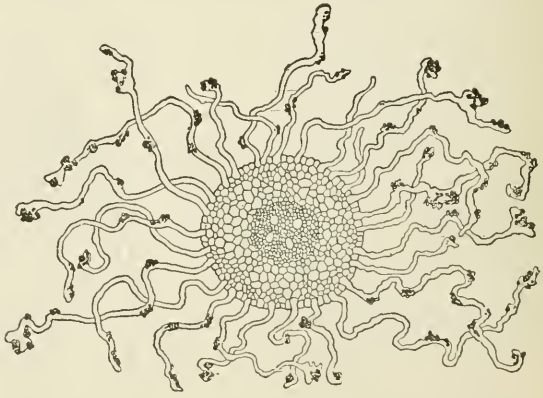

Fig 29.—Root Hairs.

The modifications of the epidermis are:

In roots—Trichomes.

In stems—Trichomes, glands, stomata, water pores.

Trichomes are modifications of the epidermis and consist of outgrowths of a single cell. They may be very simple, hardly more than a slight projection, or very complex, forming many-celled, jointed and branched hairs. Their contents may consist of protoplasm with a cell nucleus, and sometimes crystals of lime salts.

In roots they are generally simple and are called root hairs, are somewhat elongated and have very thin walls and are situated a little behind the root cap and limited to a small area. Their function is mainly that of absorption of moisture holding mineral salts in solution.

In stems and leaves and flowers the trichomes are of almost every conceivable variety. Some hold no secretion, and are called hairs in the narrow sense of the word, and others contain secretions and are called glands. These hairs, or papillæ, as they are called when in floral petals, serve as a means of identification in Viola flowers, where they occur as short unbranched or branched, conical hairs. In the leaf of Cheiranthes the trichomes are flattened, one-celled or many-celled, scale-like hairs. For pharmacognostical purposes plant hairs are of great importance, as they form the diagnostic features by which certain ground drugs, especially those

made from leaves, may be recognized.(a)

Glands are epidermal growths, generally various in shape, few to many-

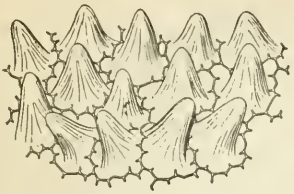

Fig. 30.—Simple papillae on petals of Viola tricolor. (Wiesner).

celled, and containing excretions. They will be discussed under the head of Secretory Tissues.

Water Pores and Stomata are modifications of the epidermis, but as they make such a large part of the leaf structure and have special physiological significance they will be discussed under the subject of Transpiration and Assimilation.

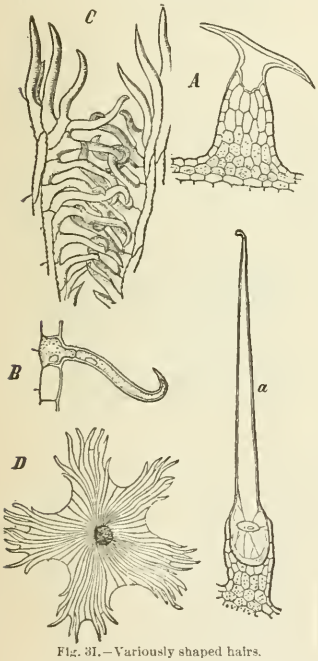

Fig. 31.—Variously shaped hairs.

Secondary growths of the Epidermis. In the stems of most plants the epidermis serves as a means of protection until about the end of the first year's growth; after this the increasing diameter of the stem causes it to crack off in varying degrees, thus leaving the tissues beneath unprotected. Hence a secondary growth, called the Periderm, takes the place of the primary epidermis. This

(a) Weiss. Die Pflanzen haare. Karstens Botanische Untersuchungen vol. I. DeBary, Comparative anatomy.

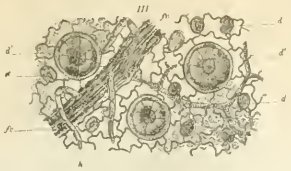

Fig. 32.—Leaf of Mentha piperita showing upper surface. *h*, simple hairs. *d*, glandular hairs. (Vogl).

cells that aid in the formation of new cells, and the product of the meristematic tissue, namely, the cork.

The meristematic layer is termed the Phellogen Layer, and has its origin in the parenchymatic cells that lie just beneath the epidermis. These cells divide by tangential cross walls, the inner prod-

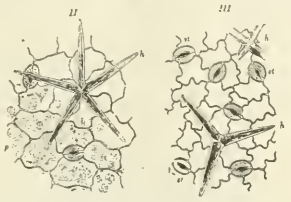

Fig. 33.—Upper II and under III, sides of leaf of Althæa showing star shaped hairs. (Vogl).

ucts of the division retaining the power to divide, while the outer products become cork cells.

Cork Cells are generally thin-walled and quite regular in shape, having the form of flattened tablets. They are brownish-red in color and give the characteristic reactions of suberin. The contents are mainly air, but often various coloring matters are found giving the cork its peculiar color. Although typically thin-walled, the cork cells may have thickened walls which may become hard and stony as seen in the plane tree. Cork cells vary in their number of layers from one cell deep, in the potato, to many feet in thickness in the oaks that give the cork of commerce.

Fig. 34.—Glandular hair from leaf of Hyoscyamus niger. (Tschirch)

In many plants the phellogen layer makes an inner periderm as well as the outer one of cork; this is the case in Althæa, Glycyrrhiza, Ipecacuanha, Levisticum, Rhatany, Angelica, Senega, etc. In the inner periderm, whether of phello-

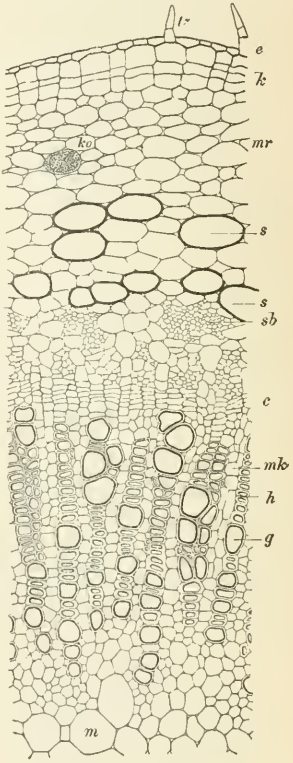

Fig. 35.—Cross section of young shoot of Cinchona Calisaya, showing the beginning of the Periderm. *k* phellogen layer forming cork, *e* epidermis with hairs still present, *mr* primary rind, *s* mucilage reservoirs: *sb* sieve tubes in the secondary cortex, *c* cambium, *mk* medullary rays, *m* pith. (Tschirch).

genic or pericambium origin, there may also be found collenchyma, sclerotic cells, bast fibres, crystals, resin passages and oil cells. When the entire periderm is made up of such diverse elements it has been termed bark.(a)

Pharmacognosists recognize three parts in barks. The Outer, Middle and Inner Barks. The Outer bark includes the corky epidermal layers on the outside of the stem; the Middle bark is what remains of a portion of the primary epidermis, it becomes quite complex and

(a) J. Moeller, Die Baum rinden, Berlin, 1882.

contains a variety of substances, crystals, chlorophyll, tannins, oil, etc. The Inner bark lies between the middle bark and the cambium and is traversed by the medullary rays of the phloem.

MECHANICAL TISSUES, OR THE PLANT SKELETON. These tissues are developed by the plant for the purpose of internal protection of the more delicate growing and conducting tissues,

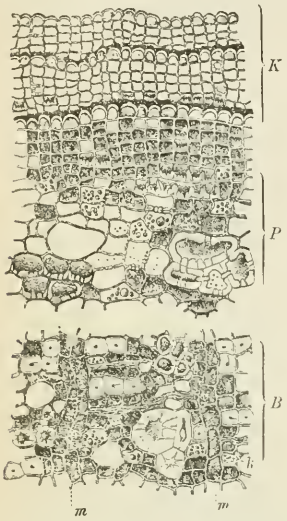

Fig. 36.—Cross section of false Cinnamon showing corky formations. (Moeller).

against internal and external pressures both above and below ground.

The most important mechanical tissues are Sclerotic Cells, Collenchyma, Wood Fibres and Bast Fibres. The word Stereom expresses these cells taken collectively.

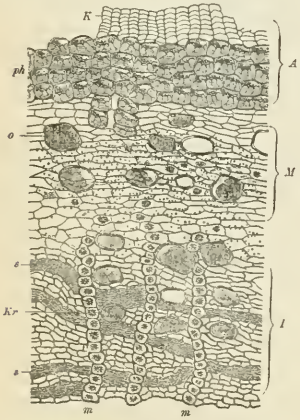

Fig. 37.—Cross section of bark of Canella alba. *A.* outer bark, with *k* cork, *ph* phelloderm, *M.* middle bark with suberized cell reservoirs and crystals, *I.* inner bark with medullary rays which contain crystals of calcium oxalate, *s.* obliterated sieve tube elements. (Tschirch).

Sclerotic Cells. Sclereids, Stone Cells. These are thick cells varying from isodiametric to oblong, round, oval or irregular in shape. They are strongly lig-

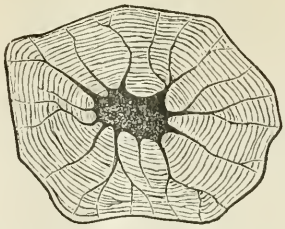

Fig. 38.—Stone cell from Pimenta, showing stratification and branched pore canals. (Tschirch).

nified and have pitted walls. They are often yellowish in color, but not always. They may be distinguished from bast fibres by being shorter and having round instead of oval pores. In the fruit of Pears, Pepper, Pimenta, and barks of

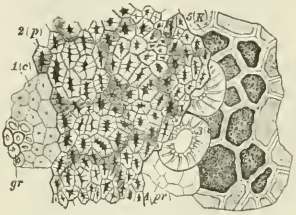

Fig. 39.—Surface section of Foenugreek seed, showing thickened walled stone cells. (Tschirch.)

Cinnamon and Oak the more regular types are to be found. In the seed coats of Physostigma, Abrus, Ricinus and Croton more elongated types may be found, while in tea leaves irregular types occur. Sclerotic cells are best isolated by means of Schultz's maceration fluid when they can be studied to better advantage.

Collenchymatic Tissues. These tissues consist of cells that are of an intermediary type. They often serve two functions, those of mechanical support and the transmission of fluids by osmosis. Hence their walls are thickened at the angles, leaving the remainder thin and capable of transmitting fluids. By the juxtaposition of several angles there is formed a strong band which serves as a mechanical support. This is the mechanical tissue of young, growing parts, and is generally the first kind that is developed. It is absent in most Monocotyledons, but is widely distributed in Dicotyledons, being found in the stems and leaves and petioles of most young herbs. In official plants it is found in stems of Conium, Levisticum, Malva, Mentha, in leaves and petioles of Laurel, Mentha, Senna, Conium, Tussilago and in the flower stems of Malva, Sambucus, etc.

Bast Fibers. (Schlerenchyma in a

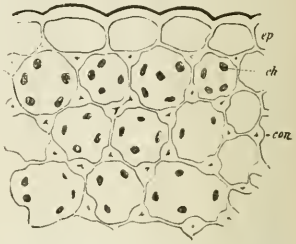

Fig. 40.—Collenchyma cells in stem of Umbelliferous plant. *ep.* epidermis, *ch.* chlorophyll grains, *con.* collenchymatic thickening.

narrow sense.) These are in general the longest and strongest cells of the plant They are usually much elongated and thick-walled, and have sharpened points and small, spirally arranged, slit-like pores. As a rule, the bast cells

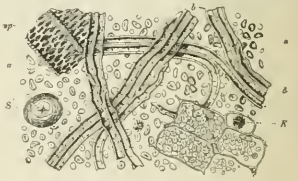

Fig. 42.—Powdered althaea root, showing, *b.* bast fibres, *sp.* Pitted vessel, starch etc. (Vogl).

have no contents; the wall is generally lignified and the lumen filled with air.

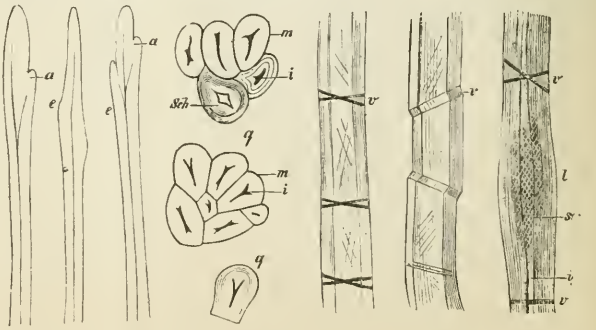

Fig. 41.—Bast fibres from Hemp, *q.* cross sections, *e.* ends, *v.* dislocations, *i.* lumen, *s.* fine striations. (Von Hoehnel.)

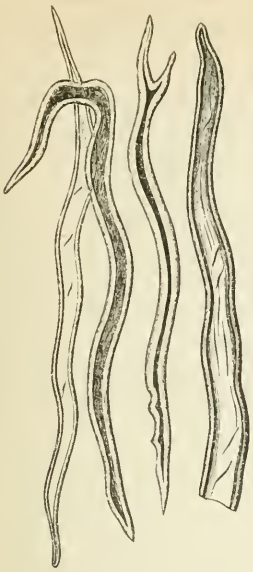

Fig 43.—Wood fibres or Libriform. (Tschirch.)

The length varies greatly from ½ mm. to an inch or more, the proportion of length to breadth being about 10 to 1; often however, bast fibers are from 2,000 to 4,000 times as long as wide. (Fig. 41.)

The thickening of the cell wall varies greatly, being generally very unequal. In some plants the bast fibers are but slightly thickened, and have a wide lumen resembling wood fibers; at other times the lumen is entirely gone.

On cross section the bast fibers when alone are more or less rounded; but when collected into bundles, mutual pressure tends to make them angular, polyhedronal, or even apparently isodiametric.

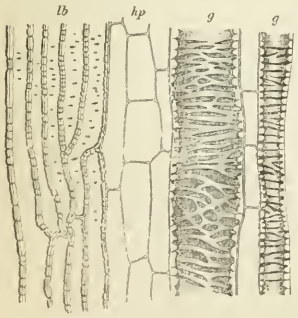

Fig. 44.—Longitudinal section of root of Inula Helenium, showing *lb*. libriform fibres with pores. *g*. vessels. (Tschirch).

The ends vary greatly; typically they are sharp and somewhat rounded; occasionally they are squarish, and sometimes branched, in which case, especially when short, they are hard to differentiate from some stone elements.

The slit-shaped pores are characteristic, especially in their left-handed spiral arrangement. (DeBary, l. c.)

The strength and toughness of the bast fibers are great. Experiments have shown that some of the stronger fibers will stand proportionately the same bending as steel without breaking, and that they can bear from one-quarter to one-half as great a pull as this metal, while they are from five to ten times as elastic, that is, they will allow of so much more proportional elongation.

Bast fibers are found mainly in the inner bark of most Dicotyledons, and are distributed throughout the stems of Monocotyledons, where they generally surround the fibro-vascular bundle as a protection. They, with wood fibers, are specially well adapted to support those plants which have to stand great strains and are few or absent in plants not similarly subjected, as in water plants and those leaves and stems that float or lie flat on the ground. (Fig. 42.)

A variety of bast, called soft bast, will be discussed under the conducting tissues.

Wood Fibers, Libriform, Woody Schlerenchyma, are different names given to the so-called woody parts of the plant, the greater proportion of which is made up of such fibers; they are in most respects similar to bast fibers, as the word libriform indicates. They are more slender and are neither as strong nor as elastic as bast fibers. In many forms the pores may be circular instead of slit-like. In stems of Dicotyledons they occur as elements of the Xylem inside the Cambium ring, while the bast fibers are found in the Phloem without. In many plants, however, it is impossible to distinguish them if isolated. (Fig. 43.) In some intermediate forms between wood fibers and tracheids border pores are to be found.

Woody fibers contain in general nothing but water or air, and in some cases some shrunken plotoplasm remains.

Fibrous Cells, or Intermediate Cells, agree in form and in structure of the walls with the woods cells, but they represent earlier stages, and therefore contain more living matter than do the woody fibers. Starch is nearly always present in them, and sometimes chlorophyll and tannin are found. (Fig. 44.)

(To be Continued.)

COATING FOR IRON.—The tar obtained in the manufacture of oil gas is, says a German contemporary, subjected to fractional distillation up to the temperature of 250° C., when about 11.35 per cent. will have distilled over. The remaining 88.65 per cent. forms a glossy black mass, having the consistency of honey, and a specific gravity greater than that of water. It is dissolved by the aid of heat in about half its weight of volatile hydrocarbons, such as benzine and the like, and a paint for coating ironwork is thus obtained which dries very rapidly, adheres well, and does not crack or fall off. It will penetrate through iron rust and prevent further oxidation of the iron. Manganese or lead driers may be added if desired.

THE THEORY OF DIPHTHERITIC SERUM.*

By Joseph McFarland, M. D.

The condition in which a person will take a disease is described as Susceptibility, that in which he will not is called Immunity. It sometimes happens that individuals are naturally immune to disease. Thus, for example, the Japanese are said to be immune to scarlatina (scarlet fever) so that this disease is unknown in Japan, except among the Caucasian inhabitants. We are nearly all susceptible to scarlet fever, and I suppose most of us have had it, and those of us who have had it have become immune, possessed of acquired immunity, as it is called, and cannot get it again. It is exceedingly rare for scarlatina to occur a second or third time in the same individual.

When we consider other diseases, such as typhoid fever, the chances of the occurrence of the disease in the same person the second time are still less; and still further, when we come to consider yellow fever, we find that a second attack in the same person has never been known.

We find also that animals are sometimes subject to diseases peculiar to themselves, and sometimes susceptible to those of man. Thus, for example, you are all familiar with the fact that cattle as well as men are subject to tuberculosis, and you, perhaps, know that man is subject to typhoid fever and cholera, which are not taken by animals even during the progress of great epidemics. So we find a distinct difference between animals and man in regard to their susceptibility and immunity to infectious diseases.

Why is it certain individuals can take diseases and other individuals cannot? Most of the diseases which have been under consideration are caused by bacteria or by pathogenic micro-organisms. Is this power of resisting diseases in any way connected with the micro-organisms which cause it? We have every reason to think that it is.

The bacteria cause disease in three principal ways:

(1) By the elaboration of poisonous substances, toxins or tox-albumins.

(2) By causing localized irritations or inflammations, mechanically or chemically, by toxic substances produced in small amounts.

(3) By blocking up the blood and lymph spaces by their massive growth.

It is nothing unusual for vegetable cells to produce poisonous substances. You are all familiar with such of these as strychnine, morphine, nicotine and ricin. You are probably also familiar with the fact that certain bacteria produce similar poisons, which, when separated from them by filtration and introduced into an animal, will cause its death. The toxis substances are probably the cause of the diseases produced by the micro-organisms which elaborate them. The introduction of the

* Read at a social meeting of the Alumni Association of the Philadelphia College of Pharmacy, Oct. 22. Reprinted from the Alumni Report.

toxins into animals will cause exactly the same symptoms as those produced by micro-organisms themselves.

The second group of micro-organisms comprehends those which produce abscesses and local inflammatory conditions.

Under this head we have micro-organisms of suppuration, tuberculosis, glanders, leprosy and a number of others. Some of these diseases develop rapidly, others are produced with great slowness.

The third group of micro-organisms embraces the septic organisms, such as anthrax. They grow with immense rapidity and interfere with the circulation of the body juices. It is not improbable that they, too, produce poisons. It is now clear that most of the infectious diseases are toxemias, i. e., diseases caused by poisons in the blood.

In the case of typhoid fever, diphtheria and tetanus or lockjaw, they certainly are. This being true, does immunity reside in the power of the individual to destroy the bacteria or to nullify the effects of their poisons?

If immunity depended solely upon the fact that our body juices were able to destroy the bacteria which enter them, we could not explain the cases of experimental immunity which the gradually increasing introduction of the toxins minus their micro-organismal producers is known to bring about. It is, therefore, quite clear that immunity must depend in many cases upon the neutralization or nullification of the bacterial poison. It was early suggested that there must be some substance in the body that would resist poison and also act on the bacteria.

Among various theories to explain the occurrence of immunity, the so-called "Humoral Theory" was propounded by Buchner, professor of hygiene in Munich. Buchner teaches that there are substances in the blood which act destructively upon bacteria, and also on bacterial poisons. The substances he calls Alexins. The alexins are exceedingly unstable compounds, which can be very easily broken up by the sunlight, and are destroyed by temperatures ranging from 50° to 55° C.; they are also destroyed by very low temperatures, and by the putrefaction of the fluids or juices containing them. Hankin, who has devoted much time to the study of the alexins, has concluded that they are divisible into several groups. He finds that there are certain of these substances which exist in individuals naturally immune to diseases; that is to say, supposing the Japanese are immune to scarlatina, they have within their blood an alexin which positively prevents the development of the scarlatina germ (not yet discovered), or which neutralizes the toxin of the scarlatina germ. Such substances occurring in individuals naturally immune he has described under the name of Sozins. Other similar bodies which he finds in the tissues and juices of animals having an acquired immunity—such an immunity as you would have if you ever had scarlet fever and recovered from it—he calls Phylaxins. He says furthermore that the sozins and phylaxins can be divided into sub-groups. That is to say, there must be certain sozins in a person naturally immune which act upon the micro-organisms, mico-sozins; there must be other sozins which neutralize the toxins of the bacteria—toxo-sozins. Again, concerning the phylaxins, he says: There must be similar groups which destroy the bacteria, the mico-phylaxins; and another group which act upon the toxins produced by bacteria—toxo-phylaxins. You see what a complicated maze we have constructed by dividing these imaginary substances into groups. As has been said, these substances are all exceedingly unstable compounds. Diphtheria is a toxic disease, which results from the introduction into the body of diphtheria bacilli or diphthero-toxin. If a single diphtheriac bacillus is introduced into the body of a susceptible individual, it will probably cause a case, and, perhaps, a violent case, of diphtheria. The symptoms of the disease arise from the toxic products of the rapidly growing bacilli. The same symptoms can be produced by injecting a hypodermic syringe full of the toxic products without the bacilli. When live bacilli are introduced into the body no limit can be placed upon their multiplication or toxin production; but when the sterile toxin is introduced the experimenter can regulate the amount of damage done by the proportion per body weight of poison which he introduces. Animals can readily be tolerated to increasing quantities, until many times what would have been originally a fatal dose can be endured. This suggests to us the production in the body of a neutralizing substance. Is this substance an alexin, i. e., a toxo-phylaxin?

It was found by Emil Behring, the discoverer of the blood serum therapy, that in the blood of animals who had been accustomed to diphthero-toxin, as described, there was a substance which, when injected into other animals in combination with live bacilli, would protect them from the disease, or which, when combined with the diphthero-toxin, nullified its effects. This peculiarity is not borne by the alexins, and please make an emphatic note of this in your mind. The alexins are protective substances, which protect the individual in which they occur, but which cannot be taken from them and made to protect other individuals. The protective substances found by Behring are now known to us under the name antitoxins. The antitoxins differ from the alexins in that they are stable compounds, affected but slightly by changes of temperature, exposure to light or the putrefaction of the bodies containing them.

Behring, of course, did not let this discovery pass, but has successfully applied it to the uses of modern medicine, and the greatest boon Behring has given us is the ability to use the antitoxins in the practice of medicine.

Behring succeeded in producing a diphthero-toxin so strong that 0.1 cc. would kill a 500-gm. guinea-pig in twenty-four hours. This was his standard toxin. By experiment he discovered that the protective substance was present in the blood of protected animals, i. e., immunized animals, in such strength that 0.1 cc. of their serum would nullify the effect of ten times the above-mentioned fatal dose of the toxin. Such a serum he described as Normal; each cubic centimeter is called an Immunizing Unit. Further experimentation showed that it was possible to make the serum ten times as strong; that is, so strong that 0.01 cc. would protect against ten times the fatal dose. Supposing that the limit was reached, he called each cubic centimeter of this serum an Antitoxic Unit. Of course, each cubic centimeter contained 10 immunizing units. The limit was not reached, however, for serums of 100, 150, 200 and even 300 times normal have been produced, containing 100, 150, 200 and 300 immunizing units, respectively, to the cubic centimeter. The most popular at the present time are those of 60, 100 and 150 times normal strength.

Let us now pause to say that about the time that Behring was bringing forward the results of his antitoxin experiments, Ehrlich argued that if antitoxins were produced by the action of the poison without any regard at all for the bacteria, it might be possible to develop from some other toxin, not associated in any way with bacteria, an antitoxin. His experiments were made with ricin and abrin, which he fed to and injected into animals in very small, but gradually increasing quantities. Experimenting thus upon guinea pigs, he found that if the dose was too large the guinea pigs promptly died. By making the dose very much smaller he was able to accustom them to the ricin, very much as a man accustoms himself to tobacco, and was finally able to give them 300 times the amount they were originally able to bear. When he had reached this point he removed a small quantity of the blood from the animals, separated the serum and found that he had made the animals produce an antitoxin to ricin, an antiricin, or, in the case of abrin, an antiabrin.

This shows that it is not possible that the antitoxic substance is, in any way, connected with the bacteria, or in any way dependent upon bacteria for its origin; for in Ehrlich's experiments we have produced an antitoxin to a toxic substance, in no way produced by or associated with them.

At this late day I need not pause to say that the blood of the normal horse does not of itself protect against diphtheria.

Somebody has raised the question whether or not the anti-diphthero-toxin is anything more than the nuclein, or various nucleins, which had been taken from the blood corouscles. They have argued, it is very well known, that when alexins are injected into animals a great destruction of the blood corpuscles immediately follows, and in this destruction large quantities of nucleins are set free; therefore, the neutralizing sub-

stance is probably nothing more than nuclein. The nucleins have been experimented upon by Professor Vaughan, and great faith has been placed in protonuclein, which came forward as the remedy to compete with antitoxin; and sure enough nuclein and similar compounds have a distinct protective effect upon an individual and a destructive effect upon the bacteria, though the protection afforded is infinitely less than that afforded by the antitoxin. One proof against the nuclein theory is that nucleins act destructively upon the bacteria, while the antitoxins have no germicidal properties.

Ehrlich found anti-ricin had no protective power against abrin, and that the anti-abrin was powerless against ricin and also found that neither of these nor the anti-tetanus toxin was potent against diphtheria. Each antitoxin seems to be a specific against one poison only.

The antitoxins are not poisonous substances, and will work in any dilution. I have injected 25 cubic centimetres of anti-diphthero toxin into the ear vein of a rabbit weighing six pounds, and observed no consequences at all. The rabbit is still living and well, although the experiment was made seven or eight months ago.

The antitoxin is made by injecting animals, generally large animals, which will furnish a considerable amount of blood, with gradually increasing doses of a strong toxin. That toxin is, of course, used for which we wish to produce the specific antitoxin.

Let us suppose it is anti-diphthero toxin. For this purpose we generally select a horse, because the horse bears the treatment very well, and furnishes a large quantity of blood. Goats and guinea pigs were originally used. The first animal I used was a goat, and I promptly killed it by over-injecting it. The animals will often die, however, no matter how you treat them. You take such an animal, and after seeing that the bodily health is good, we begin by injecting 1 cubic centimetre of the toxin, rapidly increasing the doses, which are given about once a week, until the horse is brought up to a condition in which it will stand 250, and perhaps 300 times the original dose of the poisonous substance. We have had two horses die after the injection of only 4 cubic centimetres, so you will imagine the difference in the individual susceptibility of the horses. At the end of this time a sufficient amount of useful antitoxin has developed in the blood. The development of antitoxin in the blood would seem to bear a definite relation to the amount of poison introduced. This is, however, a mistake, as can readily be shown by experiment. Large amounts of antitoxin only exist towards the end of the course of treatment.

It has often been supposed that an animal might be immunized for a few weeks, and then, by bleeding, give a weak but useful antitoxic serum. This is not true. The useful serum only exists at the end of the treatment.

The blood of the horse is taken from the jugular vein, 6 to 8 quarts, sometimes more, being taken at a time. The blood is allowed to coagulate, and the clear serum is pipetted off, and this is antitoxic serum. So you see it is comparatively easy, and there is nothing complicated about it.

Now I want to point out a few essentials. You will be asked many times as to the keeping qualities of the serum. I can give you no exact information upon it. You know it is very unwise to claim things which may be impossible; but, so far as we know, antitoxin is a substance which does not change. It certainly does not change in a year's time. I have found that specimens kept for six or eight months are still perfect, some being in my possession now. In the second place, it is not destroyed by light, and, except by light of great intensity, its vigor is not diminished. It should be preserved in dark bottles, kept away from light, and kept in a cold place, if its vigor is to be kept at a maximum.

It often happens that antitoxin kept for some time becomes slightly opalescent and cloudy. Is it damaged on this account? Not at all. Anti-diphtherotoxin in that condition is just as good as when first sent out. This flocculence is a change between the albumen in the serum and the preservative used. The preservative I use is trikresol, which is preferable to carbolic acid, because it is less poisonous, and its antiseptic powers are about three times as great.

The moment one adds either trikresol or carbolic acid to the serum, some of the albumen is thrown down. The precipitated substance is allowed to subside, the liquid pipetted off, and as the supernatant fluid may contain a few fine flocculi, it is subsequently filtered. The longer the serum is kept, the more the change will take place, resulting in a slight flocculent condition. It does not diminish the active powers of the serum, being simply a chemical change.

The last question as to antitoxin is, whether it can undergo putrefactive changes. This will naturally depend upon the preservative used. If it has been preserved with camphor, it is not only possible, but likely to decompose when exposed to the air. Serums preserved with carbolic acid (0.5 per cent.) or trikresol (0.4 per cent.) are permanently sterile. A bottle can be opened without the slightest danger. I have allowed bottles of the trikresolized serum to stand open in the laboratory, and none have ever spoiled. I have seen hundreds of quarts of antitoxin, and have never seen a bottle of it spoil or undergoing the slightest putrefactive change.

If it is suspected that bacteria are growing in the serum, and that it is dangerous in consequence, all that is necessary is to put a drop of it under the microscope, and see whether the bacteria are there or not. I do not believe the bacteria are ever present in properly prepared serums.

Concerning the use of the antitoxic serum, I say to you it should be used unhesitatingly, and just as freely as possible.

In treating individuals of the human species, there is no way of telling how much poison is in the blood, so you have no positive guide what quantity to use; therefore, it is better to err on the side of too much than too little.

(Written for the Era.)

The Development of our Systems of Weight and Measure.

From the earliest times the subject of measurement has troubled the minds of the wise and simple alike; of the wise in the selection of appropriate standards, and of the simple in the proper use of the standards thus established. No commercial transactions of any magnitude have ever been possible without simple and well understood units of measure, however crude. The necessity of establishing units readily accessible led naturally to a choice of different parts of the body; the width of the hand or length of the finger when small measurements were to be made, of the length of the body, pace or forearm when a larger unit was required. The latter, known as the cubit, was used by all of the old civilized nations. The Egyptians are credited with having measured an arc of the earth's meridian, building the great pyramid with a length of base equal in value to 1-500th of a degree thus found. The Egyptian units were adopted by many of the Mediterranean nations and probably assisted the Grecians and Romans in their choice of units. Certainly great care was exercised in maintaining uniformity, for we are informed that in Greece at one time fifteen officers were employed whose duties called for the promotion of system and accuracy in measurement. As most of the colonies of the world were at one time or another made tributary to these nations, some degree of uniformity must have resulted, for during the reign of Charlemagne, at least, one linear unit was used throughout the greater part of Europe.

The early English measures are thought to have originated with the Saxons. The standard bushel was established more than a century before the Norman conquest; as this unit was kept at Winchester it was termed the Winchester bushel. Stringent laws were passed to maintain a uniformity, but we are given to understand that they were not well kept.

The French employed the line and toise, beside many provincial measures, the use of which between the tradesmen of towns far removed from one another caused much confusion.

Before Lavoisier, during the latter part of the eighteenth century, no unit of weight sufficiently accurate for scientific investigation had been used. Through the efforts of this eminent chemist a greater degree of accuracy was introduced and the necessity for a new system pointed out.

The first attempt to introduce, for general use, a system at once simple and exact was made in 1790, when a national congress was appointed by the French

Government to investigate and, if feasible, to adopt a new system of weights and measures. The committee thus appointed proceeded first to establish a linear unit. Huygens, one of the old philosophers, had suggested the length of the seconds pendulum as a suitable unit for a system of measurement, but owing to corrections made necessary through atmospheric changes, the varying effect of gravity at different altitudes and at sea level in different parts of the world, this unit was not adopted. The method used by the old Egyptians was revived by the French and a meridian of the earth's circumference selected as the most unvarying quantity accessible. Accordingly the length of 1-1,000,000th of a quadrant of the earth's meridian passing through Paris was chosen. This meridian could not be measured without the consent of the authorities of the countries through whose boundaries it extended. Owing to differences then existing between the French and English the invitation given by the French to the Royal Society of London to assist in establishing the new unit was refused.

The distance between the parallels passing through Dunkerque and Barcelona was next measured by two eminent French engineers and found to be 5,130,-700 toises. From this measurement the length of the unit chosen was fixed at 36.94 French inches, or 39.37 English inches. The name meter was then applied, the term having long been in use in connection with one of the old systems. The new meter thus evolved was adopted by the French Government in 1799, and a rod of the length indicated was placed with the national archives. A unit of capacity was also established, being the weight of a cube of pure water at the temperature of its greatest density, 4°C, with an edge of 1 decimeter. This weight was termed the kilogram. A standard was made with great care and accuracy and placed with the meter rod.

The new systems were not favored by the common people; indeed, the triumph of the old systems over the new seems to have been about complete toward the close of the century, the new system not getting a secure standing until after the first decade of the present century.

When the French Government proposed to adopt a new system, the English Government was asked to co-operate, as before mentioned. The reasons for a refusal were based not alone upon political disturbances, but also upon the fact that a standard yard and pound had already been established; the latter, known as the troy pound of 1758, made with great precision and supposed to weigh 5,760 grains, the latter unit being the weight of a grain of wheat of average quality and size. The term "troy" is supposed to have been derived from Troyes, France, was probably introduced by the Normans, and had a value of 7,680 grains. The linear unit was known as the Troughton yard, a brass rod eighty-two inches in length carrying two transverse grooves, the distance between which was the accepted unit or British yard.

After the American colonies had gained independence it was found necessary to fix standards of weight, measure and currency. The decimal system used in France was accepted as our national monetary system. Washington in his first message in 1790 called for a uniform system of weight and measure, foreseeing the difficulties which must necessarily arise should different standards be used. Thomas Jefferson attempted to introduce the metric system, but was unsuccessful, as he was dealing largely with a people brought up under the systems in use in England.

The British yard and the Troy pound were duplicated and copies sent to Washington, our coast survey of 1814 being made with the British standard unit. In 1821 a platinum kilogram and meter rod were made for the United States Government. In 1827 John Q. Adams, then President, received a new Troy pound correct to .0005 gr. of the original, made at the English mint. This action on the part of Adams and his colleagues was occasioned by the fact that duties and customs were levied at the various offices through the use of different standards, leading to a complicated and embarrassing misunderstanding between the separate States. These difficulties Adams sought to remedy by sending a copy each of the yard and pound to every State of the Union. In 1831 the Winchester bushel was adopted as the unit of dry measure (2,150.4 cu. in.), and the wine gallon of 231 cu. in. the unit of liquid measure.

In 1834 the British standard pound was destroyed by fire. A new standard was made from copies of the old, but instead of 5,760 grains the new unit contained 7,000 grains. This was now made the new standard and termed the avoirdupois pound. In 1843 a new standard yard stick was made by the British and fifty copies distributed gratuitously to other nations. Those sent to the United States were "Low Moor Iron," No. 57, sent in 1856, and Bronze, No. 11. A Troy pound was sent during the same year.

Nothing of material importance was done to unify the systems of the world until 1870, when an international convention was called by the French. The disturbed condition of the country caused an adjournment of this convention until 1872. Accordingly the second convention was attended by non-official delegates from several countries, the United States being represented. A third convention was called in 1875. Seventeen nations were here represented and the metric system was formally adopted as the international system. Following this decision an alloy of platinum and iridium was carefully prepared in the proportion of 90 per cent. of the former to 10 per cent. of the latter. From this alloy meter rods were made and graduated with great precision. A copy each of the standard meter and kilogram were deposited at the office of the International Bureau of Weights and Measures in Paris. Those apportioned to the States were sent by Minister Reid to the Executive Mansion Jan. 2, 1890, where the seal of the package was broken by President Harrison in the presence of Secretaries Blaine and Windom, other Government officials being present, including the United States Sealer of Weights and Measures.

The preceding is, in a general way, a review of the subject; a history of weights and measures must necessarily fill a large work.

Since the adoption of this new system in the United States in 1875 scientific men have used it to the exclusion of all others. The results springing from the last century congress in France have made it possible for not only the Frenchman, but for the scientific men of all nations to record the results of their investigations in a language of weight and measure understood by all. As a practical system it stands to-day without a peer, having been adopted in each of the following countries: Argentine Republic, Austria, Belgium, Brazil, Colombia, Costa Rica, Ecuador, France, Germany, Hungary, Italy, Norway, Portugal, Roumania, Servia, Sweden and Switzerland.

Permitted in Great Britain, United States, Turkey, Japan and China.

HOW CARBORUNDUM IS MADE.

It could not have been made at all, this compound of carbon and silicon which is coming into such universal use as an abrasive, were it not for the electric furnace, with its degree of heat that was quite undreamed of only a few years ago. Discovered by accident in experiments on electric smelting, it is now made in large quantities, and its manufacture is one of the first to employ the electric energy generated by the world-famous power-plant at Niagara. Literary Digest quotes a few paragraphs, telling how this power is utilized, from the Electrical World. The crude materials, we are told at the outset, are simple enough, being nothing but coke, sand, salt and sawdust, which are first thoroughly ground and mixed. We now let the article speak for itself: "The four crude materials having been thus thoroughly mixed, the product is conveyed to the electrical furnaces, situated in an adjoining building, and which have the appearance of rough and apparently crude oblong brick boxes, made without cement, mortar or other binding materials. Provision is made for five of these boxes, which extend down one side of the large spacious building, each of them measuring about 15 feet in length by 7 feet in width and the same in height. In the center of each end is placed a large bronze plate, and these are connected by means of four large copper cables to massive bars extending under the floor at either end of the furnaces. Connecting with the inner surfaces of the bronze plates are 120 carbon rods, 60 to each plate. These carbon rods are three inches in diameter and something over two feet in length, and are so placed as to pass through the end walls of the brick box or furnace, projecting into the interior and towards each other, thus constituting the terminals. Into this rectangular brick box the mixture that has been

prepared in the stock room is introduced, about ten tons constituting a charge, and through the centre of the mass of mixed materials is placed a core or cylinder of granules of crushed coke extending from the carbon rods at one end of the furnace to those at the other end, a perfect electrical connection through the furnace, by means of the bronze plates, carbon rods and the core, being thus made."

Into this furnace is turned a powerful electric current of 1,000 horse-power, all of which is transformed within it into heat. The results are thus described: "A short time, perhaps two hours, after the turning on of the current, gases begin to escape through the crevices of the brick walls of the furnace, and, being ignited, burn with a lambent blue flame. As the process continues the outer walls and top of the mass in the furnace slowly rise in temperature through the transmission of the intense heat from the core, the entire top of the mass being red-hot in about 24 hours. After the current has remained on for the period of 24 hours, or until such time as the workman in charge recognizes as sufficient, it is switched off in the transformer building, the flexible cables are disconnected from the bronze plates and others are connected with the plates of the next furnace in the series of five, which in turn are carried through the same operation.

"One end of the first furnace is then removed and a cross section through its center exposed, thus permitting of a ready inspection of the results of the operation. In the center is the granular core, in the same position in which it was originally placed, but it is now purified of all foreign substances. It is now pure carbon and has lost about one-fourth of its weight; this loss represents the volatilized impurities. The presence of grains of graphite disseminated throughout its mass indicates that its temperature must have been near 7,000 degrees F., the point of graphitic formation. Surrounding the core in the form of a cylinder is a beautiful crystalline formation, the crystals being constructed on lines radiating from the center. The crystals in immediate contact with the core are looped or built together into one concrete mass; as the distance from the core is increased, the size of the crystals diminishes rapidly, until at about 15 inches all crystallization ceases and an amorphous material is encountered, of a whitish-gray color, for a distance of two inches, when a sudden change occurs to a black mass composed of the original mixture, now held together in a cemented state by the fusion of the salt. The crystalline and amorphous material, lying between the core and the outer black mass is carbid of silicon, being composed of equal atoms of carbon and silicon. About two tons of carborundum is produced in one furnace run, and to prepare it for the market it is first passed under heavy iron rolls for the purpose of crushing apart and separating the individual crystals, after which it is treated with an acid and water bath to remove solubles. It is then dried and sifted, to separate the various sizes."

Of the uses of the compound thus made, which, it may be said in passing, is so hard that it will scratch any other substance except the diamond, we are told, at the close of the article:

"Owing to the limited facilities heretofore existing, the production of carborundum has been so small—not over 300 pounds per day—as to practically restrict its uses to the finer trades, such as the dental and manufacturing jewelers' trades, fine tool grinding, pearl grinding, and kindred industries. The development in the dental trade especially has been remarkable, and in the form of disks, lathe and engine wheels and cloth-finishing strips carborundum is rapidly displacing all other abrasive substances in this important industry, not only in the United States, but throughout Europe."

Are Alkaloids Waste Products or Protectives?

By C. C. Crolly, Pleasantville, N. Y.

In the Era of Nov. 7 you published under the caption, "Recent Additions to Our Materia Medica," a paper read by the indomitable Dr. Eccles before the New York State Pharmaceutical Association. The doctor uses the exploded Darwinian theory as a peg on which to hang sundry remarks. Nobody to-day in the world of science believes in this theory any more, not even Mr. Spencer dares to indorse it fully. No one but an Englishman could have advanced that theory. Born among the greediest of all modern people, under the incessant click of machinery, Darwin struck the keynote of his nation's peculiarity in the survival of of the fittest. Positive science, while it recognizes evolution as a fact, disproves Darwinism. The science of palophytology shows that plants have evolved from the primal bioplasm in successive gradation to the highest forms, and then passed away to make room for a new evolution. It also shows that this process has gone on indefinitely, and that natural selection had nothing to do with it. Long before there was any trace of plant life on this globe the shark family flourished in their multiferous forms in the sea. The evolution of the different forms of life is a logical sequence of the embodiment of bioplasm potentialities. The dictum of Aristotle, that nothing can come into actuality which has not existed in potentiality is unimpeachable. In his review of modern therapeutic speculations the doctor arrives at the cinchona tree, and cites this as a specimen of the survival of the fittest, because the tree stores up in its bark the cinchona alkaloids. Wonder if the doctor, dissecting a corpse and finding urate of soda in the tissues, would come to the conclusion that the subject of his investigation stored this up as a means of protection against some bacteria, etc.? Wonder if he thinks that the tree which furnishes goa powder puts it in a hole somewhere in the trunk as a protection? The fact mentioned by the doctor, that a cinchona tree which has its bark covered will produce a greater amount of alkaloids, clearly shows that these alkaloids are a waste product, which increases as healthy surroundings decrease. The most advanced biologists do not teach the cell theory any more. They consider the shapeless protoplasm as the living tissue, and the rest of the organism a machine through which this protoplasm manifests itself. As every machine has its waste product, so has the cinchona tree, and it puts it where it is apt to do the least harm. One thing the doctor has omitted in his paper. It is generally conceded that nine-tenths of diseases are due to defective nutrition. The text books give the exact amount of what proteid and carbonaceous substances a man should consume. But there is a law in physiology which says: "Alkalinity of the blood means life, acidity of the blood means death." Therefore the food of man should include substances rich in alkalies. Medicine will not do, as only organic compounds are decomposed in the blood. The discovery of a ferment in the thyroid gland shows the importance of the above. As ptyalin only acts in an alkaline medium, so very likely the different ferments produced by the different glands, which have an inlet into the circulation, will only act in an alkaline medium also. The intuition of the race that fresh vegetables and fruits are blood purifiers seems to be hereby logically established.

PHARMACY.

"EAU RUSSE," or Russian water, is a preparation which quickly wipes out rust stains. It is made by dissolving oxalate of tin in a solution of oxalic acid.

QUINOLINE SULPHOCYANATE is a new Merck product, designed for use as an antiseptic to replace phenol when the odor of the latter is offensive.

PARIS GREEN.—The insecticide efficiency of paris green depends upon the amount of arsenous acid present, which is somewhat variable, ranging from 54 to 61 per cent. In an analysis of five samples obtained in the market, the chemist of the Maine State College Experiment Station found 54.61, 55.39, 54.70, 55.84, and 40.86 per cent. of arsenous acid, respectively. The other constituents were not determined.

TO PROTECT SPECIMENS.—The following compound has been very highly recommended by a practical entomologist, Mr. Walter Hough, for protecting natural history collections of various kinds from the attacks of insects, etc.: Saturated solution of arsenious acid, 570 grams; petroleum essence, 590 grams; 95° alcohol, 140 grams; carbolic acid, 1 gram; 10 per cent. solution of strychnine, 1 gram; mix carefully. (Pop. Sci. News.)

EXTRACT OF MILK.—This is a new article, submitted for trial by Marpmann (Centralh.), and which is said to be free from sugar, casein and albumen. We are not told much about it, but are

allowed to infer that it contains all the valuable constituents of milk without possessing any of its disadvantages. We are asked to believe that one gram of this extract represents the virtues of 20 liters of milk. Marpmann ought to come to the United States, where he can push this good thing.

FOR COPPER CASTINGS.—It has been discovered, according to the Electrical Age, that the addition to copper of pure lead, preferably from 0.5 to 1.5 per cent., detracts but very little from the conductivity of the metal, while greatly improving its fluidity in casting. This addition of lead has long been known to have this effect on gun metal and brass. It has also been known that the addition of lead to molten cast iron has a similar effect and produces cleaner castings.

ADULTERATION IN BERLIN.—During the month of September 385 samples were officially analyzed. Of these 51 were adulterated, or about 13 per cent. of the whole. Of these, two samples of butter and cheese were adulterated with margarine, and one of lard with cottonseed oil. A sample of preserved apples contained zinc, and two of pepper were contaminated with copper; a large number of samples of groats were returned as impure, on account of their containing grain parasites, and being more or less decomposed. (Apoth. Zeit.)

IMPROVED FEHLING'S SOLUTION.—The old way of making this test solution is plenty good enough, but Allen & Gand (Jr. Ph. et Ch.) say this is a better method. In 93 grams concentrated sulphuric acid, diluted with an equal volume of water, dissolve 8.7916 grams of electrically deposited copper, and finally add sufficient stronger water of ammonia to make the product measure 1,000 cc. This may be all right, but for a time we will continue to make the solution with a fixed alkali; there is too much chance in the other for loss of ammonia by evaporation.

MANURE OF VINES AND THE QUANTITY OF THE WINE. Notwithstanding the prevailing idea that the manuring of vines has an injurious effect on the wine ultimately produced, manures are, nevertheless, almost everywhere applied, and frequently in large quantities. The amounts of manure applied in the vineyards of the South of France, of Medoc, Bourgogne, and Champagne vary considerably. In Bourgogne, with rich soils, the smallest amounts are used; in the south rather more manure is used (principally artificial manures), whilst in Medoc and Champagne, where the finest wines are produced, the manuring is very much heavier, exceeding the greatest amounts applied in other branches of agriculture. Heavy manuring does, not, therefore, injure the wines, the effect, it is stated, is rather to strengthen the vines and so render them less dependent on circumstances of weather than to force them to increased fruit production. There is no doubt, however, that if the plants are cut, so as to increase the yield of fruit, then the wine would suffer. The best results are nearly always obtained by the use of natural manures. [A. Muntz. Comptes. Rend. Jr. Soc. Chem. Ind.]

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Queries.

(C.) Queries of the character of yours are not answered in this journal.

Coloring Incandescent Lamp Globes.

(J. F. B.) Coat them with a thin solution of collodion, in which has been dissolved aniline of the desired shade.

States and Territories Having no Pharmacy Laws.

(T. S.) Indiana, Maryland (outside of Baltimore), Alaska, Arizona, Indian Territory and Nevada have no pharmacy laws.

Corking Bottles Containing Corn Collodion.

(M. L.) We do not know what is used to seal the bottles containing the proprietary preparation. Why do you not try dipping the corks into melted paraffin? Or a solution of glue, to which a little potassium bichromate has been added, might be effective. Try a few experiments.

Pharmacy Laws of the Various States.

(W. H. U.) Write to the secretaries of the various boards of pharmacy stating what you want. The addresses of these officials may be found in the calendar of board meetings published in another part of this issue. Last year the Department of Agriculture, Washington, published a pamphlet upon the subject which you can probably get for the asking. It is called Bulletin 42, "A Compilation of the Pharmacy and Drug Laws of the Several States and Territories."

Odor of Iron Peptonate.

(W. B.) The odor of liquor ferro-mangani peptonati, as made by the formula published in the Oct. 17, 1895, Era, page 496, is due to the iron peptonate from which it is prepared. This cannot be entirely gotten rid of, but a very satisfactory product may be obtained if the iron peptonate be carefully prepared. Dietrich's formula for the scale salt is given in the National Dispensatory. The addition of other aromatics to the formula first cited is also suggested.

Solution Potassa and Acetic Acid.

(J. S. W.) asks criticism upon this prescription:

Sulphur water ..... 1 ounce
Solution ammonium acetate .....
Solution potassa, of each ½ ounce
Dilute acetic acid..... 2 ounces
Water, enough to make 6 ounces

Sulphur water is a preparation of indeterminate character and a misnomer, when we remember that sulphur is insoluble in water. In the March 14, 1895, Era was given a discussion of this subject, to which you are referred. A reaction occurs between solution of potassa and dilute acetic acid, potassium acetate being formed, which is soluble in the liquids of the mixture. Whether this prescription should be dispensed or not depends upon how the resulting mixture is to be used. Upon this point you have not enlightened us.

Keel and Ruddle.

(C. H. B.) These terms are synonyms for red chalk, a substance found in the natural state and consisting principally of clay and ferric oxide. It is said to be intermediate between bole and red ochre, containing more ferric oxide than the former, and less than the latter. It is used principally by lumbermen and carpenters, for marking upon wood. Sometimes it is made into crayons by levigating and elutriating it, then forming into a paste with mucilage of gum arabic, moulding it into cylinders and drying.

Antipyrine, Acetanilid, and Resorcin.

(A. E.) wants to know how to dispense the following:

Antipyrin .....
Acetanilid, of each..... 2 parts
Resorcin, re-sublimed .. 3 parts
Listerine ..... 10 parts
Distilled water, enough to make .....100 parts

The prescription is an incompatible one and should not be dispensed. When antipyrin and acetanilid are rubbed together a sticky or moist mass results, the reaction being one you produced in your manipulations. When resorcin is added to antipyrin in solution, a white precipitate of resopyrin is produced. This compound is insoluble in water, but soluble in alcohol, ether and chloroform. The reactions between listerine, a proprietary preparation whose composition has not been definitely stated, and the other ingredients, can only be guessed at, and that you can do quite as well as any one else. A satisfactory solution from the formula cannot be made.

Phenolphtalein and Methyl-Orange as Indicators in the Volumetric Assay of Phosphoric Acid.

(C. M. P.) In the alphabetical list of volumetric assays directed by the Pharmacopœia (page 504), it is stated that 0.978 grams of official phosphoric acid require 17 cc. of normal potassium hydrate solution with phenol-phtalein as an indicator, etc. With methyl orange as the indicator the acid requires 8.5 cc. of normal potassium hydrate solution, etc. The difference in the amounts of potassium hydrate solution used in these estimations is that when phenol-phtalein is used as indicator, neutralization is attained when potassium orthophosphate (K_3HPO_4) is formed, which requires two molecules of alkali. Thus:

$$2KOH + H_3PO_4 = K_2HPO_4 + 2H_2O,$$
$$2 \times 55.9 \quad 97.8$$
$$55.9 = 48.9.$$

With methyl orange as indicator, neutralization is attained when acid potassium phosphate (KH_2PO_4) is formed, which requires one molecule of alkali. Thus:

$$KOH + H_3PO_4 = KH_2PO_4 + H_2O,$$
$$55.9 \quad 97.8.$$

In the table before cited the quantities are those required for the assay of the official phosphoric acid, which must contain 85 per cent. of absolute acid.

Coating for Cast Iron Water Pipes.

(B. E. M.) The only substances used for this purpose, so far as we are aware, are coal tar or pitch. A technical work states that cast iron water pipes and other articles may be preserved by covering the inside and outside with pitch, heated to 300° F. and kept at this point during the dipping. As the material deteriorates after a number of pipes have been dipped, fresh pitch is frequently added, and at least 8 per cent. of heavy linseed oil put to it daily; the vessel is also entirely emptied of the pitch and refilled with fresh material, as often as is necessary to insure the perfection of the process. Each casting is kept immersed from thirty to forty-five minutes, or until it attains a temperature of 300° F. After the bath is completed, the castings are removed and placed to drip in such a position that the thickness of the varnish will be uniform. It is essential that the coating be tenacious when cold, and not brittle or disposed to scale off. The pitch or varnish is made from coal tar, distilled until all the naphtha is removed, the material deodorized and the pitch like wax or very thick molasses.

Chemical Formulæ of Hydrazine and Pyrazolon.

(N. B.) Hydrazine has the formula $H_2N—NH_2$. It is known in the form of its hydroxide, corresponding to ammonium hydroxide, in the form of its salts and in numerous organic derivatives. In organic chemistry the term hydrazines is applied to a series of peculiar bases derivable from the group $H_2N—NH_2$ by the substitution of radicals for one or more of the hydrogen atoms. Thus we may have by the substitution of acid, alcoholic or phenylic radicals for one or more of the H atoms primary, secondary, tertiary, or quartenary hydrazines. Although the most important hydrazines are found among the aromatic compounds, some are derivatives of the fatty series, such as ethyl-hydrazine C_2H_5, $HN—NH_2$. Phenyl hydrazine $C_6H_5—HN-NH_2$, obtained by the action of zinc dust and acetic acid on diazoamidobenzene is another important hydrazine.

Pyrazolon is a derivative of pyrrol

$$HN < \begin{matrix} CH=CH \\ CH=CH \end{matrix}$$

and has the formula

$$HN < \begin{matrix} CH=CH \\ N \quad =OC \end{matrix}$$

Antipyrin is phenyl-dimethyl pyrazolon $C_{11}H_{12}N_2O$. The methods of its preparation may be found in the last edition of the U. S. Dispensatory.

Aristol and Iodothymol.

(M. U. R.) Aristol is a trade-marked name applied to the product resulting from the decomposition of a solution of iodine in potassium iodide by an alcoholic solution of thymol. Coblentz' "Newer Remedies" gives this formula: To a solution of 5 parts of thymol and 1.2 parts of sodium hydrate in 10 parts of water add gradually, under constant stirring, a solution of 6 parts of iodine and 9 parts of potassium iodide in 10 parts of water. The precipitate is washed with water and dried at low temperature. Aristol forms a pale chocolate colored amorphous powder, insoluble in water and glycerin, slightly soluble in alcohol, readily in ether and collodion; light and heat cause its decomposition. The chemical formula is given as $C_{20}H_{24}O_2I_2$. Annidalin, di-iododithymol and di-thymol-iodide have been given as synonyms for the above compound.

Iodothymol is stated by Watts' Dictionary of Chemistry to be $C_6H_2.CH_3.—C_3H_7.OH.I$, and to be prepared by adding 8.5 grams of iodine to a solution of 5 grams of thymol in 6 cc. of ammonia water (sp. gr. 0.960) mixed with 2 cc. of alcohol, and distilling the oily product with steam. Thus obtained, iodothymol is described as lustrous white needles, insoluble in water, but soluble in most of the remaining solvents. It is oxidized by manganese peroxide and sulphuric acid, or by ferric chloride, to thymoquinone; it is not attacked by aqueous potassa-solution at 300°C; nitric acid forms with it nitrothymol, displacing the I by NO_2, and sulphuric acid forms a sulphonic acid with it.

Shampoo Liquid.

(C. A. H.) In addition to the formulas given in the Nov. 14, 1895, Era, page 620, we append the following:

1.) Pure soft soap.....1 ounce
Rectified spirit .....2 ounces
Carbonate of potassium.2 ounces
Rose water .....2 ounces
Perfume, if desired.

The soap and potassium carbonate are dissolved in the water, and then the spirit is added.

2.) White soap, in thin shreds ..... 1 ounce
Bay rum ..... 1 ounce
Solution of ammonia... 2 ounces
Rose water ..... 2 ounces
Distilled water, up to...16 ounces

The soap is dissolved in the distilled water by the aid of heat, and when nearly cold, the ammonia is added to this. Stir assiduously, and gradually add the rum and rose water.

3.) Fresh eggs 3
Soirit of soap.... 1½ fl. ounces
Potassium carbonate .....160 grains
Water of ammonia .....160 minims
Cumarin ..... 1-10 grain
Oil rose ..... 2 drops
Oil bergamot .... 2 drops
Oil geranium .... 1 drop
Almond oil ..... 1 drop
Rose water ..... 27 fl. ounces

Thoroughly beat the three eggs, and then dilute with the rose water. Add the other ingredients.

Many formulas for preparations of this kind have been published in the Era and we suggest you go back over your files for them. You should find one to your liking.

Blackboard Slating.

(T. H. L.) Here are several formulas:

1.) Lampblack .....1 ounce
Powdered pumice stone..4 ounces
Boiled linseed oil.....8 ounces
Spirits turpentine, q. s...2 pints

(2) Sodium silicate, diluted with water and colored with lampblack, suspended in a little of the silicate, makes an excellent slating.

(3) To make 1 gallon of the paint for a blackboard, take 10 ounces pulverized and sifted pumice, 6 ounces powdered rottenstone (infusorial silica), ¾ pound good lampblack, and alcohol enough to form with these a thick paste, which must be well rubbed and ground together. Then dissolve 14 ounces shellac in the remainder of the gallon of alcohol by digestion and agitation, and finally mix the varnish and the paste together. The resulting mixture is applied to the board with a brush, care being taken to keep it well stirred, so that the pumice will not settle. Two coats are usually necessary; the first should be allowed to dry thoroughly before the second is put on, the latter being applied so as not to disturb or rub off any portion of the first. One gallon of this paint will ordinarily furnish two coats for 60 square yards of blackboard. When the paint is to be put on plastered walls the wall should be previously coated with glue size—1 pound glue, 1 gallon water, enough lampblack to color; put on hot.

4.) Shellac .....8 ounces
Lampblack .....1½ ounces
Ultramarine blue.....3¼ ounces
Powdered rotten stone..4 ounces
Powd. pumice stone....6 ounces
Alcohol, 95 per cent...4 pints

Dissolve the shellac in the alcohol, then add the other ingredients finely powdered, and shake well.

To apply the slating, have the surface of the board smooth and perfectly free from grease. Shake well the bottle containing the preparation, pour a small quantity into a dish, and apply with a new flat varnish brush as rapidly as possible. Shake before using and keep the bottle well corked.

Why Don't the Doctor Write what He Means?

(M. U. R.) writes: Recently a local druggist received the following prescription:

℞
Quiniæ sulphas gr. xvj
Ext. glycyrrhiz. co. ʒij
M. et s. ʒ j every 3 hours

He rubbed up the sulphate of quinine with the dry extract of licorice and dispensed the mixture in a powder box. The physician later got hold of the box and condemned the pharmacist, saying he was a fool not to understand that the fluid extract of glycyrrhiza was meant. He then sent the same prescription to another drug store, where it was filled in the same manner. He sent it again to still another store where the fluid extract, the one the doctor expected to get, was used. The first pharmacist claims that he is right because no solvent for the alkaloid (?) is mentioned. The second pharmacist says he is right because he dispensed exactly what was prescribed. The physician claims to have been so busy the first as well as the second time, that he was excusable in forgetting to specify "fl." He also intimates that he believed the pharmacists capable of exercising a little common sense in compounding prescriptions. He is not a "quack" nor an "old fogy."

If the doctor had stated clearly what he wanted this difficulty would not have occurred. He was not excusable in forgetting to specify "fl.," not once, but twice, any more than had the druggists a right to guess at what the doctor meant in compounding the prescription in the manner they did. If they did not know positively what the doctor meant they had no right to compound it, but they should have consulted him about it. A dispenser must know what he is doing, he has no right to guess. Most dispensers would infer that a mixture containing the quinine in suspension was wanted, as that substance is most often dispensed in this way, but, of course, in this instance the directions are of no value in determining the question. There is no official or semi-official formula for either compound extract or compound fluid extract of glycyrrhiza, and had the doctor specified fluid extract, to be exact, he should have also further designated the kind or make wanted. Our correspondent will note that quinine sulphate is not an alkaloid, but the salt of an alkaloid.

Obesity and Its Treatment.

(B. C. F.) A resumé of the various methods of treatment suggested and advocated in these days would require far more space than this department can spare. It is a subject for the practitioner rather than for the pharmacist. Among the best known of the different methods advocated is that called the Banting system. Its chief feature is the exclusion of the elements—fat, starch and sugar—from the food. Therefore bread (except toast, or the crust of a common loaf), potatoes, sweet roots, butter, sugar, cream, beer, porter and champagne, should be avoided. In one year the author of this plan is said to have reduced his weight 46 pounds, and his girth about 12 inches. This was practically the method of Hippocrates, who avoided all fats, starches and sugars; in fact, all roots or vegetables grown underground. Similar to this system is that known as the German Banting, which consists in the eating of fat, but no sugar or starch. The Schweninger or Œrtel method uses chiefly albuminous food, excluding fat and carbohydrates, limits the fluids drank, especially at meals, and enforces exercise. The Munich system does not pay so much attention to dieting, but insists upon the wearing of wool by the patient, and sleeping in flannel blankets instead of sheets. Among the many remedies prescribed may be mentioned iodoform, which is said to be highly efficient, but causes wasting and anæmia by injuring the red blood corpuscles. Alkaline mineral waters, with exercise and dieting, have been found serviceable. Potassium permanganate has also been found useful in doses of ¼ to 1 grain in distilled water, three times a day. Vinegar is another remedy which has been highly indorsed. Fucus Vesiculosus, or bladder wrack, has been used for years for the purpose, its value probably depending upon the amount of sodium iodide it contains. Poke root, in one form or other, is also a claimant for recognition. Another remedy recently put forward is tincture of Adonis æstivalis. Just how successfully it has been used for the reduction of corpulency is not stated. In all methods of treatment, daily exercise in the open air is necessary. This of itself, if carried on systematically and accompanied by a just discrimination as to one's dietary, would seem to be the most efficient and least injurious method of reducing an excess of adipose tissue. Corpulency is sometimes brought on by disease or other systemic disturbances, and therefore any course of treatment pursued should be under the guidance of some reputable physician.

Colored Crayons.

(J. G. Mc.) The Techno-chemical Receipt Book thus describes the fabrication of colored crayons: Colored chalks (crayons), besides beauty of color, must possess a certain degree of solidity, i. e., they must be neither too hard nor too soft. In choosing the white or ground body the chemical nature of the coloring substances to be mixed with it must be taken into consideration. For instance, Paris and Berlin blue, lakes, chrome yellow, etc., must not be mixed with chalk, as this would injure the color. Plaster of paris, alabaster, alumina and chalk are most suitable for the white ground mass. White lead, zinc white, bones burned white, and pearl white may also be used, but as a general rule they are too expensive. Oil, wax and fats serve as agglutinants. The finished and dried chalks are dipped in oil, by which they become softer and color better. Gum tragacanth is much used as an agglutinant. Soap water is used for many colors, as also yeast from beer which has not been hopped. Glue and gum are best for cinnabar, and for pigments which become hard in drying, oatmeal gruel. The pigments are made into a paste with water and divided into three equal portions. The first portion is mixed with agglutinants for finest crayons. The second portion is mixed with white substances for lighter colors, and the third mixed with other desired pigments.

Small boards covered with five or six sheets of waste paper, and on the top of these a sheet of white printing paper, are used in making chalks from the first portion of the pigment. The process is as follows: The ground pigment is spread upon the board, and as the paper with which this is covered absorbs much of the moisture, it will acquire considerable consistency. When it has become sufficiently dry to allow of it being treated with the hand without sticking, a piece of the size of a hazel nut is formed into a ball and rolled out between the hands into a cylinder pointed on both ends. The cylinder is then rolled between smooth boards to make the surface smooth and even. It is then laid upon another board, covered with paper, and dried in the shade. The second portion is rubbed with half the quantity of a white body and formed into cylinders of a lighter color. The last part of the pigment is used for mixing with other colors.

Blue Chalks.—Paris blue gives the darkest shades. To prevent the chalks from becoming too hard the following process is used: Paris blue, finely pulverized, is treated with concentrated sulphuric acid, which decolorizes it. Washing it in water restores the color and deposits a fine sediment, which is mixed with equal parts of alumina and calcareous earth.

Brown Crayons. — Brown ochre with lampblack, terra japonica, umber with chalk, liquid gum and beer yeast, etc.

Crimson Crayons.—(1) These are prepared from madder lake, round lake and alumina, with beer yeast, oatmeal gruel, milk, or gum water as agglutinants. (2) Mix 4 parts of chalk with 1 of calcareous earth and color with a decoction of cochineal and alum. Very beautiful crayons are manufactured from 2 parts of scarlet ochre and 1 of carmine mixed together with milk, oatmeal gruel and gum tragacanth. Carmine and pearl white also furnish very fine crayons. Ordinary crayons are prepared from red chalk, red bole, colcothar, etc.

Yellow Crayons.—Yellow ochre, chrome yellow, or turpeth mineral are used, either by themselves or rubbed with chalk and mixed with gum water or beer yeast.

Green Crayons. — Green crayons are prepared from green earth (mountain green), with chalk and beer yeast; or mixtures of Berlin blue and chrome yellow, or yellow lake and Schweinfurt green, or green ultramarine.

Red Crayons.—Red crayons are made from cinnabar, red lead and beer yeast. The ingredients are boiled until a viscous mass has been formed; then add gum tragacanth.

Black Crayons. — These are prepared from willow-wood charcoal, finest quality of lampblack or boneblack, with an addition of a small quantity of paris blue and an agglutinant.

White Crayons.—Pure white chalk is cut into crayons, or they are made from white lead, zinc white, or zinc oxide stirred into a dough with milk.

Satisfactory colored crayons cannot be produced by dipping white crayons into solutions of coloring material.

THE ACTION OF MUSTARD AND PEPPER ON DIGESTION.—In nearly all experiments dealing with the action of condiments or other like substances on digestion, the work done has been limited mainly to the influence of the substance upon the secretion of gastric juice, or to the effect of the presence of the substance upon the purely chemical process of gastric digestion. Dr. Gottlieb, of Heidelberg, however, has recently tried some interesting experiments on the influence of mustard and pepper on the secretion of pancreatic juice. The experiments were conducted on rabbits, a canula being inserted in the pancreatic duct, after which the condiments were introduced into the stomach. The presence of either of these substances in the stomach led to a marked increase in the secretion of pancreatic juice, the volume of fluid being increased three or four times. As might be expected, the juice secreted under these conditions was somewhat more watery than normally, but showed the usual digestive properties on all three classes of food stuffs. (Food & Sanitation.)

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FREE ALCOHOL MATTERS.

News from Washington regarding the status of free alcohol litigation is of a very meager character, preparations for the assembling of Congress having absorbed the time and attention of all the government departments. The filing of claims, however, is going on with a frequency which indicates that claimants intend to take advantage of any developments in their favor, and this fact of itself reflects the views of most of them that the test cases will ultimately be won by those who are after their rebate. The brief of the Attorney General has not been filed, but it is expected within a short time.

Interest is now directed toward the probable action of Congress as regards section 61 of the tariff law. Internal Revenue Commissioner Miller, in his report recently made, recommends the repeal of the section in very few words and without much argument. It is too early to predict the temper of Congress on this point, and the well-understood difficulty of touching the tariff without touching all of it is a matter which will require careful consideration when section 61 comes up for repeal or modification.

Chicago Opinion on Box and Cartage.

Chicago, Nov. 30.—The general opinion among jobbers here in regard to box and cartage charges discussed in the Era last week is favorable to such charges. In fact, there are no two opinions about it. One prominent jobber expressed the views of all quite forcibly when he said: "It is a legitimate charge, certainly a legitimate charge. In larger cities a man cannot expect to get something for nothing. If we hired a carpenter to make our boxes out of old boards we would have to pay him not less than $2 per day and one man at that work could not begin to make the amount required. We would have to employ several men, perhaps, and buy our own lumber as well. On the whole, it is more convenient to buy of a box factory and save ourselves the trouble of manufacturing on our own account. We could not consistently add box and cartage charges to the other items of the bill, for then our customers would ask, 'How is it that last month you only charged me such and such a price for a certain item, while this month you are charging me more for the same thing?' We should have to say that the extra charge was for boxing and cartage and confess that we hadn't the courage to put it that way in our bill. There is no reason why we should be compelled to pay for an article and then give it to our customers outright. We do not have to make use of chromos in order to sell our goods, and to charge nothing for boxing and cartage for which we have to pay ourselves would be about the same thing as giving a chromo with each bill of goods. In regard to the suggestion that perhaps out-of-town customers will object to paying box and cartage charges when their city bretbren pay nothing for the delivery of goods, I can only say that not one man in a hundred will ever make that objection. No, I do not remember ever hearing such an objection by any of my customers during all the years that I have been in business."

Cut-Rate War in Louisville.

Louisville, Ky., Dec. 1.—A crisis in the drug trade in this city was reached today when the leading stores put into effect a cut in prices of from 25 to 30 per cent. This covers all branches of trade, including toilet articles and prescriptions. Back of this is an interesting story. Last August a year ago Muswick & Co. opened a store here. For a time they maintained the standard of prices in vogue among the druggists of the city, but finally began to undersell their brethren in trade. The association of retail druggists, known as the Louisville Botanical Association, protested against this and Muswick withdrew from the organization. Later a truce was patched up, by which Muswick & Co. agreed to sell at regular rates. Last May, however, Muswick and the association brushed the wrong way and the cutter withdrew once more. Everything in this store was then cut from 25 to 30 per cent. Competitors immediately felt the attack on their trade, but matters were permitted to drift from bad to worse till last September, when another meeting of the druggists was held at which a committee was appointed to induce Muswick & Co. to get out of business and out of Louisville. This the firm agreed to do for a money compensation, but as no agreement could be made as to the amount the same condition of things continued till last Wednesday, when a final meeting of the retailers decided on a plan of active campaign.

At this meeting all the leading drug houses were represented. The wholesalers were asked to stand by the retailers and enable them to meet the cut of the enemy long enough to stamp him out. The wholesale men replied that they could not do this without violating their agreements with the patent medicine firms. Muswick & Co. do not deal with the local wholesalers and are thus independent of them. The only plan considered practicable was to meet the cut and this was decided upon. Each firm is allowed to use its own discretion as to whether it will cut or not. This action practically disrupts the Louisville Botanical Association, it is said. It is the opinion of many that if the present condition of affairs lasts six months there will be fifty drug stores for sale in Louisville.

Whisky in Maryland.

Baltimore, Dec. 2.—The legal prosecution of two physicians for being, as was alleged, entirely too liberal in writing out prescriptions for spiritus frumenti, and of three proprietors of drug stores on charges of selling whisky without prescriptions and thereby violating the local option law of Talbot County in Maryland, have resolved themselves into a farce. Either the accused were not guilty of the charges preferred, or the county authorities are not disposed to question the right of physicians to draft and of druggists to fill as many prescriptions for old rye, peach brandy, applejack, or any other of the indigenous tipples as the symptoms of disease in patients may warrant. Talbot being one of the Chesapeake Bay counties and containing considerable marsh land, is naturally exposed to frequent visitations from malarial fever. Whisky and quinine are a popular antidote, and if a man who has the fever in an incipient form forgets to mix quinine in his whisky, how can a doctor or druggist be blamed? This is probably the view which the Circuit Court took, for the indictments found against the physicians and pharmacists were entirely ignored and only the cases against several restaurateurs and saloonkeepers were considered. The proceedings were calculated to upset the gravity of the court and those in attendance. All the cases, mostly for selling liquor to minors, ended in acquittal, the evidence being insufficient to convict. It was proved that the principal witness had misrepresented his age when he asked to be served with liquor. In one case the testimony went to show that the accused did not receive pay for the whisky, that the latter belonged to a candidate for county commissioner, and was left at the place for campaign purposes. As the November term of court expired on Saturday, nothing more will probably be heard of the Grand Jury indictments.

Arthur N. Coale, a druggist in Easton, was arrested in Baltimore early Sunday morning while on a visit to answer an indictment which charges him with selling liquor in violation of the local option law of the county. He denies the accusation.

——E. C. Haynes is the new proprietor of the East Side drug store at Davison, Mich. Mr. Thomas Dugan is retained as manager.

THE PEPSINS ON THE MARKET.

In the Era of Aug. 8 last was published a paper under this heading, prepared by H. W. Snow, Ph. C., in which the analyst gave the results of his examinatiou of samples of fifteen brands of pepsin on the market. Messrs. Armour & Co., of Chicago, take exception to the statement in that paper that their brand was found to possess a digestive strength of but 1666, instead of 3000, as claimed for it, and request publication of correspondence which has passed between them and Mr. Snow, and of the results of examinations of their product as secured by other chemists. This correspondence is too lengthy to publish in full, but the substance of the several letters is as follows:

(1) On Aug. 27 A. G. Manns, chemist to Messrs. Armour & Co., writes to Mr. Snow for the original package, requesting Mr. Snow to take a sample from it in presence of a notary that there may arise no mistakes as to identity of the pepsin.

(2) Sept. 3 Mr. Snow answers that he retains the original bottle, but sends a small portion of its contents, withdrawn in the presence of a competent and unbiased witness. Mention is made of the fact that the number on the bottle is very obscure, 800319-310-309-399, or something of that sort. (Note by Armour & Co. that they have not used any numbers corresponding to any of these. See also par. 10 below.—Ed.)

(3) Sept. 20 Chemist Manns reports to Armour & Co. that he has tested the sample received from Mr. Snow and finds it well up to U. S. P. requirements, even exceeding 1 to 3000 if the conditions are rigidly observed; with a temperature slightly lower than the minimum directed by the U. S. P., the test would be somewhat lower, and an extremely critical person might call it 2800 or 2900. To be on the safe side he reports it 2500 to 3000 and suggests that it be tested by a third party.

(4) Sept. 21 Chemist Manns writes to Mr. Snow stating the result of his test and his belief that an injustice has been done Armour & Co., and requesting Mr. Snow to retest the sample, allowing proper latitude in the work.

(5) Sept. 23 Mr. Snow replies, giving in outline his method of testing, saying: "My practice has always been to use just enough pepsin to dissolve all the albumen, barring small amounts. For instance, if 5 cc. of the pepsin solution as prepared in the U. S. P. dissolves all but small amounts of the albumen, I call it U S. P. 1:3000. If it doesn't, then I try again, using more of the pepsin solution, saying 10 cc. If that dissolves all the albumen say in five hours I know that the pepsin is stronger than 1:1500, but not so strong as 1:3000, and would then try 9 cc. In the case of your pepsin 9 cc. was the amount needed to dissolve practically all the albumen. Hence your pepsin would be only 5-9 as strong as the U. S. P., or 1:1666. The difference between your results and mine undoubtly grew out of the question of agitation, a matter that is highly important. My interpretation of the U. S. P. directions to 'gently agitate' every fifteen minutes is to simply invert the bottle *twice* every fifteen minutes, thus giving a 'gentle' agitation. To 'gently agitate' does not mean to gently *shake*. My samples were all tested exactly alike and the results are therefore comparative, and if we discard positive statements and simply express the results in ratios your pepsin would stand to Fairchild's as 0.56 to 1.00. I have no desire whatever to do you an injury or injustice and should an error have been made by me will willingly correct same."

(6) Oct. 11 Chemist Manns writes Mr. Snow to learn if the sample has been retested, and urging that any error found shall be frankly acknowledged.

(7) Oct. 14 Mr. Snow replies that he has not retested the sample, but proposes that it be submitted to two chemists, whom he names, of well-known ability and integrity, and that if they find his report erroneous full and proper correction will be made. He still maintains strongly that this particular brand of pepsin did not possess the digestive strength claimed for it, and that in comparison with others which were found of higher strength, calling the latter 100, Armour's would be 55½. He requires that in any retesting of the sample the U. S. P. method shall be exactly followed as described in his article. (No reply seems to have been made to this proposition of Mr. Snow's to submit the sample for retesting to two disinterested parties.—Ed. Era.)

(8) Copy, dated Nov. 4, of a deposition of Albert G. Manns before a notary public to the effect that the sample of pepsin received from Snow had been tested by him and found to answer the U. S. P. requirements, and, further, that the records of Armour & Co. relative to this particular package show that it even exceeded the strength required by the U. S. P. Also that a portion of this same sample had been furnished to Mr. Snow's referee, Prof. John H. Long, of Northwestern University, for examination, and the manner of its corking, capping and sealing is described.

(9) Under date of Nov. 18 a statement from Prof. J. H. Long, reading: "I have made a test of the pepsin sample handed me by Mr. Manns a few days ago and find that it has a digestive value of over 3000, inasmuch as the egg albumen is fully digested in less than the time specified by the Pharmacopœia. The sample was marked A. G. M."

(10) The following from one of Armour & Co.'s representatives, dated Oct. 21: "I called upon Mr. Snow and succeeded in seeing sample. I could not distinguish figures, so I proposed we should take it to a jeweler and examine it under a powerful glass. At A. Mandleberger's store, Paxton Building, A. Mandleberger and his workmen pronounced it 800,009, as well as they could determine after using several glasses."

The publication of Mr. Snow's article in the Aug. 8 Era at once attracted considerable attention and drew forth the rejoinders and criticisms of some manufacturers who were not pleased with his statement of results relative to their products. We are pleased to afford Messrs. Armour & Co. opportunity for the publication of the above correspondence, that they may rest assured that the Era is wholly unbiased and uninterested in this matter save so far as the merits and value of the pepsins which are sold to the drug trade are concerned. We have refused to print other correspondence which has been sent us by another prominent manufacturer for the reason that the writer evaded the issue entirely and devoted his remarks to personal villification and impugnment of motives, though taking no occasion to deny the accuracy of the results. The Era published Mr. Snow's paper in confidence that it had been honestly prepared and in the full knowledge that the analyst's results had been verified by others, and believing that they represented substantially the condition of affairs as found in the pepsin market. We believe it is a good thing for the trade that they should know in this manner the true character and value of the goods they handle, and which are offered to them with all sorts of claims as to superiority, etc. We are fully aware of the difficulty, perhaps impossibility, of two chemists obtaining exactly the same results, even with the same sample, and that work of this character must be more or less merely comparative rather than definite. This discussion brings into prominence as well the question whether the U. S. P. process of testing pepsin is the best, or even a good one, and further, whether it can be similarly interpreted by different analysts?

We have no interest other than this, and, as noted above, are pleased to allow the use of our columns for a fair discussion of the subjects with the view of ascertaining what pepsin is, and what its value as found in the different mercantile brands.

Cost a Druggist $750 to Break his Promise.

Boston, Nov. 29.—A decree of $750 for the plaintiff in the case of Eben R. Smith vs. Edward F. Brown, has been affirmed by the full bench of the Supreme Court. This was a suit in equity, praying for an injunction and for damages on a contract which in substance was that for value received of Smith, and for the taking by the defendant of a lease of an apothecary shop in Ipswich, the defendant, "under penalty of $1,000," agreed not to engage directly or indirectly in the drug business, within at least two miles of the apothecary shop sold, without first obtaining Smith's written consent. The judge in the Superior Court decreed for substantial damages and did not grant an injunction, hence both parties appealed.

The defendant contended that the contract was an unlawful restraint of trade, because it is not limited as to the time of the plaintiff's continuing in business or otherwise. This court, however, holds that the contract is lawful.

If the contract was valid, the plaintiff contended, he was entitled to an injunction enforcing it; or if not, then to the whole sum of $1,000 mentioned in it, which, he says, was to have been regarded as liquidated damages. But the courts finds that it cannot say there was no evidence of laches on the plaintiff's part sufficient to warrant the judge who saw and heard the witnesses in refusing an injunction. The plaintiff admitted that he knew that a store was being prepared, which he had every reason to believe would be an apothecary shop, some months before he brought this suit, and he did not give notice to the defendant. As to the questions of damages, the court holds the decree was right.

Dr. Cornwall and the "New Woman."

St. Louis, Nov. 30.—Dr. John Cornwall, the proprietary medicine man of tonic beer fame, has been having a rather unpleasant experience with the "new woman" and came near going to jail on account of it. The other day Dr. Cornwall sued the McFarland Real Estate Company to annul a contract for the sale of his root beer establishment, because, he alleged, certain securities he took in payment had not been made good. The real estate company in turn sued him for $20,000 damages for failing to execute the contract. Miss Julia A. Carroll, a typical "new woman" and a stenographer and notary public in the law office of Garesche Bros., at Eighth and Chestnut street, was selected as referee and Wednesday the taking of depositions was commenced. Dr. Cornwall was represented by Attorney William E. Fisse and the real estate company by Attorney E. A. B. Garesche. Dr. Cornwall was the first witness. Miss Carroll presided with great grace and as much dignity as a United States Supreme Judge. Everything went on well until the attorney for the real estate company asked Dr. Cornwall who commenced negotiations. The doctor's attorney refused to let him answer and the doctor closed up like a clam. A scene followed. The attorneys on both sides had a wordy war and finally Attorney Garesche announced that if Dr. Cornwall did not answer the question he would have to ask for his commitment to jail. The doctor, under the instructions of his attorney, remained as quiet as a Sphinx. "I shall have to commit you to jail unless you tell who began the negotiations," declared the fair commissioner. Still no answer. Miss Carroll then adjourned court and drew up the commitment in due form. In the meantime Dr. Cornwall disappeared and a deputy sheriff started to hunt him up. The doctor, however, succeeded in eluding the vigilant minion of the law and the next day his attorney got out a writ of habeas corpus. To-day he was brought into court on the latter writ. He was accompanied by his attorney. Miss Carroll was also on hand. Dr. Cornwall said he was perfectly willing to answer the question, but was acting under the instruction of his attorney. The latter was very indignant over the way his client had been treated. He claimed Miss Carroll is an employee of Mr. Garesche, the opposing counsel, and that she followed his instructions in issuing the commitment. Another dispute arose. The court contended that since Dr. Cornwall was willing to answer the question it was only a question as to who should pay the costs of the commitment. Attorney Garesche insisted that the doctor be recommitted. Judge Rombauer, however, released the doctor until Monday, when, it was intimated, the case would be dismissed on his paying the costs.

A St. Louis Druggist Defrauded.

St. Louis, Nov. 29.—John H. Allen, the well-known druggist at Seventh and Olive streets, will cash no more checks in the future. On last Friday William A. Van Zandt, a formerly well-to-do St. Louisan, passed a worthless check for $10 on Mr. Allen. The check was drawn on the Chemical National Bank and had every appearance of being correct. On Saturday Van Zandt had another check for $20 on the same bank cashed at Mr. Allen's store. When Mr. Allen presented the checks for payment yesterday he was informed that Col. Van Zandt had no account at the Chemical Bank. Mr. Allen was dumbfounded, as he had supposed Van Zandt to be a prominent business man. Mr. Allen, however, didn't lose any time in meditating over the matter, but proceeded immediately to the Four Courts and caused a warrant to be issued against Van Zandt. Several hours later the passer of worthless checks was languishing in the dark and gloomy hold-over, and is still there at the present writing. Van Zandt, who formerly lived in the fashionable West End and acted as secretary of the Missouri Brokerage Co., is also implicated in a number of other shady transactions and it is not likely that he will have a chance to get cashed any more checks for some time to come. Mr. Allen, however, is taking advantage of the circumstance to shut down on all check cashing. The newspaper accounts of the affair have been clipped and neatly framed, and every person who presents a check is politely shown this little memorial of misplaced confidence.

A Massachusetts Druggist Accused of Fraud.

Boston, Nov. 28.—Albert E. Lynch, a druggist in Cambridge, who was a Democratic candidate for the Legislature at the recent election, has been arrested on the charge of presenting to the Secretary of State nomination papers that were known to be fraudulent, inasmuch as they contained the names of persons who did not in person sign the papers. Mr. Lynch was admitted to bail in the sum of $500. He is a prominent politician.

——Dr. P. Duquet, a druggist in Fitchburg, Mass., is mourning over the sudden disappearance of a man whose smooth tongue persuaded the doctor, as well as other business men in that city, to loan him money. Duquet's loss is about $600.

RELATION OF THE FOOD LAW TO THE RETAIL DRUGGIST.

The following circular is being distributed by the Michigan Board of Pharmacy to the druggists of that State:

Adulteration Defined.

(15) Section 3. An article shall be deemed to be adulterated within the meaning of this act: One, if any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity; Two, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; Three, if any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it; Four, if it is sold under the name of another article; Five, if it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted, or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal; Six, if it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; Seven, if it contains any added substance or ingredient which is poisonous or injurious to health: Provided, That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale be distinctly labeled as mixtures or compounds and are not injurious to health.

Adulteration of Medicines Prohibited.

(36) Sec. 3. If any person shall fraudulently adulterate, for the purpose of sale, any drug or medicine, in such manner as to render the same injurious to health, he shall be punished by imprisonment in the county jail not more than one year, or by fine not exceeding four hundred dollars, and such adulterated drugs and medicines shall be forfeited and destroyed.

Physician Making Prescription While Intoxicated—Penalty For.

(37) Sec. 4. If any physician or other person, while in a state of intoxication, shall prescribe any poison, drug or medicine, to another person, he shall be punished by imprisonment in the county jail not more than one year, or by fine not exceeding five hundred dollars.

Poisons to be Labeled by Druggists.

(38) Sec. 5. Every apothecary, druggist or other person, who shall sell and deliver at retail, any arsenic, corrosive sublimate, prussic acid, or any other substance or liquid usually denominated poisonous, without having the word "poison," and the true name thereof, and the name of some simple antidote, if any is known, written or printed upon a label attached to the vial, box or parcel containing the same, shall be punished by a fine not exceeding one hundred dollars.

Adulteration of Medicine Prohibited.

(40) Sec. 2. No person shall, except for the purpose of compounding the necessary preparation of medicine, mix, color, stain or powder, or order or permit any other person to mix, color, stain or powder any drug or medicine with any ingredient or ingredients or materials so as to affect injuriously the quality or potency of such drug or medicine, with intent to sell the same, or shall sell or offer for sale any such drug or medicine so mixed, colored, stained or powdered.

Adulterated Articles to be Plainly Labeled.

(41) Sec. 3. No person shall mix, color, stain or powder any article of drug or medicine, or any article which enters into the composition of drug or medicine, with any other ingredient or material, whether injurious to health or not, for the purpose of gain or profit, or sell or offer the same for sale, or order or permit any other person to sell or offer for sale any article so mixed, colored, stained and powdered, unless the same be so manufactured, used or sold or offered for sale under its true and appropriate name, and notice that the same is mixed or impure is marked, printed or stamped upon each package, roll, parcel or vessel containing the same, so as to be and remain at all times readily visible, or unless the person purchasing the same is fully informed by the seller of the true name

and ingredients (if other than such as are known by the common name thereof), of such article of drug or medicine at the time of making sale thereof or offering to sell the same.

Commissioner's Ruling.

On Liquors.

The laws relating to liquors seem to be meant only to prohibit the sale of spirituous or fermented or malt liquors containing drugs or poisons or substances or ingredients deleterious or unhealthful; and provides that each barrel, cask, keg, bottle or other vessel containing the same shall be branded or labeled with the words "Pure and without drugs or poison," together with the name of the person or firm preparing the package. The State has no standard of proof, but liquor in packages where proof is indicated, must test to that proof. Compounds containing nothing deleterious or unhealthful may be sold as cordials The blending of liquors will be permitted. If spirits or other ingredients are not added.

On Flavoring Extracts.

When an extract can be made without the use of artificial means, it must be so made; and when labeled, must be true to name. Extracts made from vanillin or coumarin must be true vanillin and coumarin from the vanilla and tonka bean respectively. Extracts made of more than one principle must be labeled with the name of each principle, or else simply with the name of the inferior or adulterant. In all cases it is understood that when an extract is labeled with two or more names the type used is to be similar in size and the name of any one of the articles used is not to be given greater prominence than another. The word compound cannot be used. The word "artificial" will be allowed to be used only on extracts which cannot be made from the fruit, berry or bean, and must necessarily be made artificially, as raspberry, strawberry, etc.

——The committee of Western drug men who came here a few days ago to secure the return to box and cartage charges by Eastern jobbers will no doubt be surprised to hear that they are accused of snubbing a firm or two in New York City. It was supposed that the committee's business was with the jobbers only, but one importer says he thinks the committee ought to have consulted tradesmen in his class. This started the report that the importers were already sending out goods with box charges on the bill and that they had in one instance received the goods back, because the firm that ordered the articles objected to paying the charge. The fact is that most of the importers never expected to be called upon by the Western committee, and have no particular interest in the matter of box and cartage charges. Many importers refuse to break original packages and refer the purchaser to the jobbers. They do not stand on the same plane with the jobber. In a case of necessity they might break a package to fill an order of some unusual kind, but the ordering firm would never in such a a case refuse to pay for the box. One of the biggest importers in the city said to the Era that he had not even heard of any conference on the part of importers in regard to the box question, and he did not believe any would be held. Another said he believed the jobbers ought to restore the charges, but as for the importers they made the cost of goods such as would cover all expenses and had no reason to add anything. Then the f. o. b. system is such that it would be extremely difficult to lay down a fixed charge, as the jobbers would have to do. The jobbers in turn say, most of them, that they can conceive of no reason why any importer should have felt snubbed, because the Western men did not call on him, and they should have considered it strange if such a visit had been made.

NEW YORK AND VICINITY.

——Charles S. Cutler, of the Boston firm of Cutler Bros. & Co., was in town last week.

——W. C. Wetmore, formerly the State representative of Sheehan & Kelly, Utica, was in town last Friday.

——Arthur Jackson has resigned his position with V. Kopald, druggist at 385 Jackson avenue, Long Island City.

——Van Houten & Lennox have recently opened a new store and put in a new Puffer onyx soda fountain at Yonkers.

——C. E. Dosh, who was one of the '95 N. Y. C. P. men, is now a member of the post-graduate course at the college.

——Peter E. Zahn, N. Y. C. P., '92, has entirely recovered from his recent attack of typhoid fever and expects to take a position shortly.

——George Merrell, of Cincinnati, spent Thanksgiving Day in this city. He thinks one day is enough "to polish off New York," as he expresses it.

——Henry Beck, manager of the Chicago branch of Dodge & Olcott, arrived in this city last Tuesday, Dec. 3, and will remain in town for a few days.

——H. Harrison has left the position he filled at Ferry's pharmacy, Tremont avenue, during the sickness of the regular clerk, who has reported for duty again.

——John G. Steenken, Jr., son of J. G. Steenken, of Battelle & Renwick, and for eight years an employee of that firm, died recently at his home in Brooklyn.

——B. E. Shore, of Shore & Walters, the Richmond, Va., representative of Sharp & Dohme, and C. C. Hudson, a genial Lynchburg, Va., pharmacist, spent Thanksgiving in this city.

——L. R. Edwards, who recently bought out the Broadway pharmacy at Nyack, has shut up the store for good. He came to Nyack from Brooklyn, where he formerly kept a store on Hamilton avenue.

——Fred W. Frost has resigned his position at Weis & Chubbuck's Rockaway Beach Pharmacy and expects to take a position as clerk in one of the city stores for the winter.

——M. L. Barrett, who formerly represented Dodge & Olcott in Chicago and who is now a dealer in essential oils, vanilla beans, etc., was a welcome visitor to New York City last week.

——J. Isaacson, the owner of two pharmacies in San Francisco, returned from Europe last week and stopped here a day or two to see friends. He has been away from "Frisco" about six months.

——At Perry's pharmacy it is stated that George Bronson, the swindler, is not known to anybody there. Bronson recently told Druggist Kaufmann, of Lexington, S. C., that he represented Dr. Perry.

——Orrin S. Trall, who laid the foundation of a large fortune as a druggist on the Bowery, in this city, in the thirties, died at his home, in Hillsdale, N. J., Dec. 1. He was said to be the first man in this country to make root beer.

——The firm of Dall & Uhle, which has had a well-patronized store at 134th street and Amsterdam avenue, has dissolved partnership. Mr. Dall retires and John Uhle will hereafter conduct the pharmacy. Mr. Dall has another store on Columbus avenue.

——"Al" Carmichael, one of the John Matthews Company's employes, well known to down town druggists, had his foot crushed recently by a fountain while delivering goods at Kneuper's pharmacy on Broadway. The wound did not heal and last week the injured member was amputated.

——Miss Helen Ingersoll has been appointed librarian at the New York College of Pharmacy. She took special courses in chemistry and botany at that institution some time ago and is also known to many through her work in connection with the Torrey botanical herbarium.

——A few weeks ago the Era reported that Andrew G. Collin, of the drug firm of Redington & Co., had become so weak mentally that a Brooklyn court declared him incompetent to attend to his business. The Supreme Court has now appointed the Franklin Trust Co. a committee of his estate, which amounts to about $250,000.

——J. B. S. McIntosh, of E. A. Craighill & Co., Lynchburg, Va., accompanied by Mrs. McIntosh, is in town on his semi-annual buying trip and as usual is making his headquarters at 41 John street. Mr. McIntosh has for years been associated with Sharp & Dohme and is one of the most popular drug men in the South.

——The sanitary superintendent of the Board of Health of New York City is strictly enforcing the law passed recently that all places where fat is fried or boiled must be shut off from other portions of the same building where drugs or paints are kept. Bakeries with drug stores next door or in the same house are receiving especial attention.

——Thomas P. Cook, of the New York Quinine and Chemical Works, returned last week from a Southern trip. He speaks of the Cotton States Exposition as one of the most picturesque affairs of its kind and as highly creditable to the South as well as to Atlanta. There are a number of chemical and pharmaceutical exhibits at the exposition.

——Druggist Charles E. Tallman, of 2218 Fulton street, Brooklyn, was arraigned before United States Commissioner Benedict on Saturday last, charged with using the mails for improper purposes. Anthony Comstock made the complaint, alleging that Tallman sent out circulars advertising a "ladies' specific." The druggist was held in $1,000 bail.

——A. P. Stevens, of 249 Willoughby street, Brooklyn, has turned the manufacture of "Evanola" over to an incorporated company, the Evanola Manufacturing Company, with a capital of $25,-090. The directors are A. P. Stevens and H. F. Evans, of Brooklyn, and John C. McLaughlin, of New York City. "Evanola" is a white, petroleum product for the toilet.

——The Niagara Electric Chemical Company was incorporated last Saturday. Its capital is $100,000 and its purpose is to manufacture chemicals and chemical

products in New York City. The directors are Hamilton Y. Castner, of London, England; Jacob Hasslacher of New York City; Franz Roesseler, of Perth Amboy, N. J., and William A. Haman, of Mt. Vernon.

——The will of the late J. Niven Hegeman has been filed with the surrogate. Chauncey M. Depew, Jr., his nephew, and two sisters-in-law are given $250 each, and the rest of the estate, consisting of the bulk of the stock of J. N. Hegeman & Co., is left in trust to Chauncey M. Depew, to be held for the maintenance of the widow and infant daughter of the deceased.

——W. H. Madison, N. Y. C. P., '89, was in New York last week and called on some of his numerous friends. He is now located at Bridgeport, Conn., as manager of one of the leading pharmacies and is prospering. He has just accepted the chair of chemistry at the Bridgeport Young Men's Christian Association and will deliver a course of lectures during the coming winter.

——In a case that recently came before a local court it was testified that a druggist had been caught doing some illegal work by means of a decoy letter signed by a woman. The druggist's lawyer found out that the real signer was a man who made the charge against the druggist. The question of whether this was or was not a forgery will probably be raised at the trial of the case.

——Anthony Paupescheck, a druggist at 104 Manhattan avenue, Brooklyn, is the latest victim of flim-flammers. A stranger entered his store, ordered a bottle of beef and iron tonic sent to 496 Lorimer street, and went out. The messenger boy was met on the way by another man, who took the bottle, gave the boy a $20 Confederate bill, and received $4 in change, the boy thinking the bill was a $5 one.

——Timothy B. Breen, of Breen & Froatz, druggists at the corner of 135th street and Seventh avenue, has many friends in the trade and they will be pleased to hear of his recent marriage. The young lady was Miss Dunn, of Harlem, and the ceremony was performed at the 142d street church on Tuesday of last week. Mr. and Mrs. Breen went South on their wedding tour and were in Washington this week.

——Chairman Peters of the drug trade section of the Board of Trade, has appointed the following committee in the matter of a conference with the rate-making body of the insurance companies: Albert Plant, of Lehn & Fink; C. E. Tyler, of Tyler & Finch; W. A. Haman, of the Roesseler-Hasslacher Chemical Company; John Clay, and William Massey, of Caswell, Massey & Co. The committee held its first meeting last Tuesday.

——James E. Lewis, a salesman for McKesson & Robbins, was arrested at his home, in New York City, last week on the charge of keeping over $300 which he had collected from O. H. Scharfer, druggist at 1341 Fulton street, Brooklyn. Like all city salesmen for the firm Lewis had authority to collect monies due for goods. Magistrate Kudlich, before whom Lewis was arraigned, held him in $1,000 bail to await the action of the grand jury.

——R. G. Bredin's store at Forty-first street and Sixth avenue has been sold out. For a time after he took it the pharmacy did well, but the competition in that vicinity is quite lively. Mr. Bredin was one of the druggists who was arrested for selling chloral hydrate illegally at the time of the "knock-out-drops" trouble with the police. He appealed his case, but finding that he would have to pay a rather large sum for legal expenses, he paid his fine.

——Druggist James S. McBride, of 660 Fifth avenue, Brooklyn, and George Taylor, one of his clerks, were arrested last week charged with a violation of the lottery laws in disposing of three pieces of furniture by chance at his store. They were arraigned in court the next day, the complainant being the Comstock Society. Mr. McBride told Judge Walsh he was doing no worse than a New York newspaper, but the judge said that had nothing to do with the case, and he held the druggists in $500 bail for examination.

——The McKesson & Robbins team is doing splendid work in the bowling tournament, now being tied with Dodge & Olcott for first place. The results last Saturday were as follows: McKesson & Robbins defeated Seabury & Johnson, 770 to 667; Bruen, Ritchey & Co. defeated Seabury & Johnson, 656 to 607; McKesson & Robbins defeated Bruen, Ritchey & Co., 780 to 700; Parke, Davis & Co. defeated Merck & Co., 661 to 620; Merck & Co. defeated Tarrant & Co., 654 to 521; Parke, Davis & Co. defeated Tarrant & Co., 639 to 489.

——The increased use of "Knock-out" drops in recent criminal cases in this city should suggest to the druggists that they exercise all care in the matter of registration of chloral hydrate purchases. The police are liable to repeat the experiment made some months ago, when they made a number of arrests. The case of drug clerk Louis Wade against Capt. Pickett for false arrest in this connection, has not yet been placed on the calendar for trial. Wade was then at Bartlett & Plummer's, Broadway and Thirty-fourth street, but is now at a Fifth avenue store.

——George Carragan, W. P. Young, Martin R. Cook and Howard M. Cook, directors of the Young Perfumery Company at 144 Franklin street, have applied to the Supreme Court for the voluntary dissolution of the corporation. Judge Ingraham has granted an order to show cause on Feb. 25 next. It is said that the successful prosecution of the business requires a cash capital largely in excess of the present capitalization and the directors will be unable to raise subscriptions for the requisite amount. There are no debts. This company was in no way connected with the Richard D. Young Perfumery Company.

——Dr. Cyrus Edson, the former Health Commissioner of New York City and member of the New York City Board of Pharmacy, has resigned from the County Medical Society. No reason was given for his action, but it is suggested that Dr. Edson did not care to remain in a society that will not allow him to sign his name to an indorsement of some medicines. Dr. Edson is a chemist as well as a physician, and one of the society's by-laws says a member should not affix his name "to any certificate, circular or indorsement of any drug, nostrum, mineral water, wine or other proprietary article intended to be used as a medicine or remedy in disease." Dr. Edson will not discuss the reasons for his action.

——Dr. Floriana Stolfi is the owner of two drug stores, one at the corner of Thompson and Broome streets and the other at 122 Mulberry street. William T. Brady, an inspector of the New York York City Board of Pharmacy, has preferred charges against him for violating the pharmacy laws in having at both stores unlicensed clerks who put up prescriptions. At a police court hearing last week Stolfi was held in $300 bail in each case for trial in special sessions. In making his complaint Mr. Brady says he went to both stores without finding Stolfi, and that the clerks who put up his prescriptions had no licenses, and one of them told him the proprietor would not be in that night. The case against Stolfi seems a strong one.

——A new corporation is the American Therapeutic Company, of New York City, which has just been organized with E. H. Hammer, E. K. Jones and R. R. Govin as directors. The capital stock is $35,000. Of the incorporators Mr. Hammer is the well-known vice-president of the Keasbey & Mattison Company, and Messrs. Jones and Govin are lawyers. It is said that several gentlemen well known in pharmaceutical circles are interested in the venture, but Mr. Hammer says that Keasbey & Mattison are not connected with it. The new company will manufacture carnogen, a liquid "restorative in all wasting diseases," and it will be introduced to the drug trade and the medical profession in an energetic manner.

——Judge Truax, referee in the case of C. H. Dietz against J. L. Hopkins, has decided in favor of the defendant, and the costs of the suit, $738.77, have been entered against Mr. Dietz. The firm of Dietz & Hopkins, drug importers and jobbers, was dissolved about two years ago and Mr. Hopkins liquidated the business. Previous to the dissolution an employee of the firm was charged with raising checks and appropriating $2,200 of the firm's money. When discovered he is alleged to have thrown some of the account books into the river. A relative of this man gave $300 toward the amount and promised to make up the balance. Last May Mr. Dietz entered suit against Mr. Hopkins for an accounting and the amounts specified, including the thief's balance. Now Mr. Hopkins has won the case. Mr. Dietz says he intends to prosecute the thief and will also sue the young man's father for the balance due the former firm.

HERE AND THERE.

——J. F. Brown, leading druggist of Casey, Ill., died from a paralytic stroke Nov. 24.

——There will be at least four druggists included in the next Massachusetts Legislature.

——A. G. Berentz, for more than fifteen years a prosperous druggist of Memphis, Tenn., died Oct. 25.

——Bruno O. M. Schreiber and family, of Columbus, O., have just returned from an extended trip in Europe.

——L. Oberhaltzer, Sons & Co., Phœnixville, Pa., have added a new marble front to their just finished store.

——Amos K. Tilden, the well-known Boston druggist, has been honored with a nomination for the Common Council.

——Harry H. Kline, a graduate of the Philadelphia College, has opened a new store at 600 Center street, Reading, Pa.

——The business of the Central drug drug store at Columbiaville, Mich, is booming under the new manager, Mr. Kellogg, formerly of Saginaw.

——Elliott G. Thorpe, a prominent business man of Boston, who was some years ago engaged in the retail drug trade at Tilton, N. H., died Nov. 22.

——Loranger & Fournier, of Saginaw, Mich., are redecorating and refurnishing their store and promise that when it is finished it will be one of the best in the State.

——The Apothecaries' Guild, one of the numerous associations of druggists in and near Boston, has opened its series of social and business meetings for the season of 1895-96.

——The Waterbury Drug Co., Waterbury, Conn., have established a new branch store at 667 East Main street, that city. A new Puffer soda fountain is one of the attractions.

——Sam J. North, of Pontiac, Mich., has gone to Harriman, Tenn., to take charge of a drug store there. His own drug store at Pontiac has been left in charge of Charles Jewell, his head clerk.

——Moore & Baldwin, druggists at Fort Scott, Kan., have been succeeded by R. R. Baldwin, who has purchased the interests of Mr. Moore. Mr. Baldwin will continue the business at the old stand.

——Chicago jobbers are complaining that the recent storm, by breaking down the telephone wires, has seriously interfered with their city business, making necessary personal calls on their patrons to find out what goods are needed.

——The druggists of Muskegon, Mich., are forming a combine to prevent cutting. They do not wish to be caught as were the druggists of most of the other Michigan cities, and hope that "forewarned," they are "forearmed."

——The Colbert Chemical Company, corner Dearborn and Monroe streets, Chicago, has made a change in its management, Mr. Colbert having retired. It is said that Mr. Watson, a druggist of Evanston avenue, will assume charge.

——E. G. Banghart, of Saginaw, Mich., has sold out to Charles M. Grube, who was with Lou G. Moore for several years. Mr. Banghart's continued ill health has compelled him to retire from business and he has gone to California.

——Changes and new drug stores in Detroit: John H. Boylan, 297 Greenwood avenue, new store; F. L. Hankinson, 844 West Fort, sold to Charles Wing; George J. Robinson, 512 Twelfth street, new store; W. P. Robinson, Lyman place, sold to O. S. Bell; T. D. Schmalzriedt, Fort street west and L. S. & M. S. Railway, new store.

——In Toledo, O., it is rumored that Kirchmaier & Son, druggists of that city, will soon have an elegant lot of new fixtures and a new soda fountain. Charles Wolf, with F. T. Bowers, of the same place, has recently become a full-fledged pharmacist, having passed the examination at the last meeting of the Board of Pharmacy.

——Dr. Erastus Dillon, proprietor of a small drug store at Newell, Ind., shot and killed two men in his store the evening of Nov. 26. A number of loungers were in the store when a fight occurred between Dillon's brother, who was present, and another man. Dr. Dillon took his brother's part and in the fight he shot and killed Dillon's assailant and a companion.

——A judgment for $1,379.05 has been handed down in the Circuit Court of Baltimore against A. B. Hoke in favor of Muth Bros. & Co. Mr. Hoke was one of the partners in the drug firm of Hoke & Swartz, who conducted the pharmacy at the northeast corner of Eutaw and Baltimore streets, and who some months ago made an assignment. The judgment is by default.

——Galt & Co., druggists at Selma, Ala., recently reported to have sold out to Groves & Co., of that city, disposed of their stock only to that firm. Groves & Co. are not successors to Galt & Co., the latter firm being still in the drug business, having opened a handsome new store at Selma Dec. 1. Clopton & Barger are succeeded by J. W. Barger. Mr. Clopton, the senior partner, died about a month ago with typhoid fever.

——A. V. Bellows, of Detroit, one of Parke, Davis & Co., traveling men, was arrested at Hinton, W. Va., on charge of passing a forged note for $1,000 on the Wayne County Savings Bank. Bellows formerly ran a drug store of his own on Jefferson avenue. The note in question purports to be made by A. G. Shipman, of New York, and indorsed by T. H. Hinchman & Sons and Henry Haigh. The accused claims that he was not the only one implicated in the forgery.

——Gustav Holzhauer, a prominent citizen and well-known druggist of Newport, Ky., died at his home in that city Nov. 22. He was born in Aurich, Germany, in 1847 and came to this country when eighteen years of age. In his business career he was eminently successful. Besides conducting his drug business he was a director in the Newport National Bank and a member of the Board of Education. He was a prominent Mason and leaves a widow and four children.

——Several weeks ago Charles Davis bought from Henry Kasten the pharmacy at 1000 North Eutaw street, Baltimore. On Nov. 27 Alonzo M. Hurlock, James Gowell and Mr. Kasten made application in Circuit Court No. 2 for the appointment of a receiver. The proceeding is based on a chattel mortgage for $1,000, executed to Mr. Kasten and assigned by him to the other complainants. An order signed by Judge Wickes requires cause to be shown by Dec. 5 why a receiver should not be appointed.

——A verdict has been rendered in a somewhat hotly contested case at Creston, Iowa, where Druggists K. E. Gose & Co., of Larimor, that county, were sued by one Mrs. Higgins for furnishing the husband of the latter with liquor. The jury awarded $250 damages, $100 being real damages and $150 as exemplary damages, and also found that the owner of the building in which the drug store was kept was liable for the said damages. The verdict will undoubtedly have a healthy effect on drug store saloons in that State.

——A Boston drug clerk complains bitterly because of the bad writing that distinguishes the prescriptions sent out by physicians who pride themselves on their professional standing. "Some of the prescriptions that are brought to us are absolutely beyond the power of any human being to decipher. We clerks are compelled to undergo a searching and exhaustive examination before we are permitted to fill prescriptions," he said, "while a doctor, who ought to be careful in every detail, will scribble off something that nobody can read, take his patronage elsewhere if we venture to protest, and spend a part of his time every day in lamenting the incapacity of the modern drug clerk."

National Druggist Suffers Fire Loss.

St. Louis, Dec. 3.—(Telegram.)—In a fire which occurred last night at the plant of the Hogan Printing Company, 310 Elm street, the entire December issue of the National Druggist, which was ready for mail, was destroyed. The proof sheets, however, were saved, and Manager H. R. Strong says the forms will be reset and the paper out inside of a week. The loss, which amounts to several hundred dollars, falls on the printing company.

Ithaca Letter.

Ithaca, N. Y., Nov. 30.—The drug trade has been about the average this past summer, with a bit of dullness this fall. Cold weather is expected to stimulate the business in all branches. Those of us who handle holiday merchandise have purchased a conservative amount, hoping that our expectations may be fully realized. Druggist A. B. Brooks has just returned from a trip to New York, and Charles H. White has been to Washington, D. C., in the interest of the Unitarian Society. Egbert and Merrill continue to supply the wants of those in close proximity to Cornell with prescriptions and hot drinks. C. C. Platt has been making some alterations with the hope of renting offices over his store. Mr. Fuertes is a hard worker and a good

judge of havanas. J. B. Todd has hustled to keep the Cornell foothall team supplied with liniments and bandages. W. S. Warren is soon to open again with new shelf ware, etc., where he was recently burned out. George E. Putney is preparing to open a new store near the one he sold to McClune & Fisher. H. L. Haskin is a Fire Commissioner and always delights in a good dinner. The two others, Vail and Blackmer, stick strictly to business and manage to keep up with the procession. This city is well supplied with drug stores, especially since our physicians write so few prescriptions. I think the years are nearing when tablet triturates will be largely a thing of the past and doctors will do only their part and the pharmacists will be left to do theirs.

North Star Notations.

St. Paul, Minn., Nov. 29.—William A. Mussetter, successor of Lathop Mussetter, the Wabasha street druggist, was the plaintiff in a case tried in the district court here this week. The German Insurance Co. of Freeport, Ill., was the defendant. At a fire in Mussetter's store the soda fountain was among the articles badly damaged, and to ascertain the extent of the loss three referees were called—O. E. Beckwith, of Philadelphia, C. E. Lee, of Minneapolis, and A. B. Putnam, of Boston, all representatives of soda fountain concerns. They found the damage to the fountain amounted to $1,600. Mr. Mussetter said he paid $3,000 for the fountain and offered it to defendant for $50, but the offer was not accepted. The insurance company declined to pay the award and the suit followed. The jury awarded Mr. Mussetter $1,200.

——M. D. Lonergan is now in charge of a drug store at Lake Mills, Wis.

——Dr. Theodore Kerr, of Cooperstown, N. D., was in St. Paul this week buying stock and fixtures for a new store he is fitting up.

——W. J. Havorka, the druggist who was arrested some days ago for selling beer without paying the special Government tax, was examined before United States Commissioner Spencer and discharged. Schlitz's Malt Extract was the article he sold—not plain beer.

——Charles Dawson, with Noyes Bros. & Cutler, is the "guide, philosopher and friend" of more country druggists and both city and country drug clerks than any man in the Northwest. His acquaintance is necessarily very extensive and his inclination and capacity in the way of doing his fellow-man "a good turn" seem unlimited. Hundreds of young men in the trade are indebted to him for timely advice, and in some cases even more material benefits; and the people who have received proofs of his unvarying kindness and loyal friendship are not confined to the pharmaceutical ranks, either. By the way, Mr. Dawson's eldest daughter, Miss Agnes M., a charming girl, was happily married yesterday to Robert W. Edmondson, of Newport, Minn.

ASSOCIATIONS, CLUBS, SOCIETIES.

Philadelphia Apothecaries' Union.

Philadelphia, Nov. 28.—Superintendent Rorhman, of the Apothecaries' Union, reports that the members of the latter organization, at a meeting held three days ago, decided to hold their last session of the year on Dec. 12. At this gathering, which will be well represented, the officers of the Union for the year 1896 will be elected. None of the candidates have been selected as yet, but it is expected there will be several close contests.

Scientific Alliance Meeting.

December will be a busy month for the members of the Scientific Alliance of New York. The dates for meetings are as follows: Dec. 6, American Chemical Society and the New York Microscopical Society; Dec. 9, Academy of Sciences; Dec. 10, public lecture, Torrey Botanical Club and Linnæan Society; Dec. 16, Academy of Sciences and Mineralogical Club; Dec. 17, Entomological Society; Dec. 20, Microscopical Society; Dec. 24, Linnæan Society, and Dec. 27, Mathematical Society.

The meeting of the American Chemical Society, New York section, will be held Dec. 6, at 8:15 P. M., in the chemical lecture room of the College of the City of New York, Twenty-third street and Lexington avenue. P. R. Moale's paper will be "A Brief History of Naphthalene"; T. B. Osborne's, "Vegetable Proteids"; J. H. Wainwright's, "Determination of Solid Fats in Artificial Mixtures of Vegetable and Animal Fats."

The regular meeting of the Torrey Botanical Club on Dec. 10 in Hamilton Hall, Columbia College, will be specially interesting for the reason that Prof. Smith Ely Jelliffe will lecture on "Common Edible and Poisonous Fungi." The lecture will be illustrated by colored lantern slides.

South Carolina Pharmacists.

The annual meeting of the South Carolina Pharmaceutical Association was held in Charleston Nov. 22. Members were in attendance from all parts of the State. A paper was read by O. E. Thomas of his first year's work in the examination of applicants on practical pharmacy, and many specimens of finished pharmaceutical compounds were exhibited by him, prepared by the applicants. After the disposal of several cases of druggists who are doing business without a license, the election of officers was held, with the following results: O. E. Thomas, of Columbia, president; C. O. Michaelis, of Charleston, first vice-president; T. B. Henderson, of Spartanburg, second vice-president; J. O. Barbot, of Charleston, secretary and treasurer. It may be noted that never before has a president been selected outside of Charleston. P. A. Robertson, of the firm of Robertson & Gilder, Camden, was elected a member of the Board of Pharmacy to take the place of A. A. Kroeg, Charleston, who tendered his resignation, as he had gone out of the drug business. The association closed with a banquet, which was participated in by fifty members. The new officers were toasted and a number of impromptu speeches were made.

St. Louis Drug Clerks' Ball.

St. Louis, Mo., Nov. 30.—The regular annual dress ball of the St. Louis Drug Clerks' Society, which was given Tuesday evening at the Union Club Hall, Jefferson and Lafayette avenues, was a brilliant and successful affair. Nearly a hundred couples were in attendance. The hall was artistically decorated for the occasion, while a large number of palms and potted plants added to the ornate features. Acting President C. W. Tritchler made a few opening remarks and welcomed the guests. The evening was spent in dancing and pleasant conversation. A large orchestra at one end of the hall was completely hidden by plants and other decorations. By request, Miss Olga Bredemeyer, the charming daughter of the well-known druggist, rendered several choice selections on the piano and was liberally encored. Supper was served at midnight. The dancing continued until morning and the event promises to linger long in the minds of the participants as one of the most enjoyable ever given by the St. Louis Drug Clerks' Society. The following committees had charge of the affair: Arrangement—William Baron, chairman; A. Horstman and Samuel G. Livingston. Reception—S. E. Barber, Charles A. Lips, George M. Mueller, Charles Witt, Charles S. Roth and S. G. Snuggs. Floor—J. L. Boehm, Emil Bernius, G. E. Kincaid, E. Winkleman, H. Kalbflesch, H. G. Van Aller and C. E. Mengel. Musical director—Samuel G. Livingston. Acting President C. W. Tritchler, Secretary R. S. Vitt, Corresponding Secretary S. G. Snuggs and Treasurer A. Horstman also contributed largely to the success of the affair.

Society of Chemical Industry New York Section.

The New York Section of the Society of Chemical Industry held its regular monthly meeting at the New York College of Pharmacy Monday evening, Dec. 2. After reading the minutes a letter from the general secretary of the society was read, in which thanks were expressed to the section and to the New York and Lehigh Valley sections of the American Chemical Society for courtesies shown to Messrs. Tyrer and Mond while visiting in this country.

A discussion of the duties of the Committee on Papers followed, when it was decided to put to vote by postal card to members the following motion: No paper shall be read before the section unless it has passed the Committee on Papers, the duties of the committee to be decided upon at the next meeting. It seems that some member of the society had broached the subject of holding meetings in Brooklyn. This caused some little discussion, but as most of the Brooklyn members preferred to come

over to New York, it was unanimously decided to continue holding the meetings of the section in the College of Pharmacy as heretofore. The dates of meetings were also discussed. The meetings of the American Chemical Society and those of this section fall in the same week, which makes it very inconvenient for members of both societies to attend. It was therefore decided to hold future meetings of this section on the third Friday after the first Monday in the month. This arrangement makes an interval of two weeks between the meetings of the two societies.

The president then announced that Mr. Peacock, who was to have read a paper on "American Phosphates, 1895," had been called away to investigate the Tennessee phosphate fields and therefore the reading of his paper would have to be postponed.

H. Schweitzer then reported on an investigation carried out in collaboration with E. Lungwitz, the report being a continuation of the results of their studies of the reactions taking place during the determination of the iodine number after Huebl. In the course of this research very elaborate tests have been carried out with almost all of the known commercial fats and oils. In the Huebl solution the ethylic alcohol was substituted in different series by organic solvents, such as methylic alcohol, sulphuric ether, chloroform, bisulphide of carbon, tetrachloride of carbon, the bichloride of mercury, by bromide of mercury, the chlorides and bromides of cadmium, nickel, cobalt, etc.

Before the meeting the members of the Chemical Industry Club held an informal dinner at the Empire Hotel. The next meeting will be held Jan. 24.

Chicago Apothecaries Society.

Chicago, Nov. 30.—The Chicago Apothecaries' Society met yesterday. Under a resolution passed at the last meeting and recorded in these columns a number of names were presented for membership and agreed upon.

The proposed liquor license ordinance as published in the Era last week was discussed, but no definite action thereupon was taken. Your correspondent saw a numer of gentlemen in regard to this ordinance, and while disagreeing somewhat in minor points, all were practically of one opinion in regard to the essentials. Mr. Sempill, of Dale & Sempill, was outspoken in his advocacy of the measure. He said that he hoped to see the time when drug stores would not sell liquor at all. If a man desires to sell alcoholic liquors make him pay $500, run a bar and quit the drug business. He would then be known for what he is—a dram-shop keeper. Mr. Goetz said that in his opinion the only injustice about the ordinance is that it will make the innocent suffer with the guilty, but that it would probably have the salutary effect of compelling druggists to stop selling liquor altogether. If a man wants to run a drug store and sell whiskey, too, he should take down his druggist's sign and open a saloon. He should be either fish, flesh or fowl. Mr. Goetz thought that if the present law was enforced and so amended as to make every druggist found selling liquor unlawfully pay the saloon license of $500 the object of the proposed ordinance would be accomplished without including every one in such disagreeable company. Said Mr. Goetz: "If this new ordinance goes into effect I, for one, shall stop selling any liquor save under a physician's prescription. I do not buy $20 worth of wines, brandy, whisky, gin altogether in six months, and as to selling enough to pay a $250 license, that is not to be thought of. There has never been a drop of liquor sold illegally on these premises. During the World's Fair people were brought in here every day who had been hurt on the street and would want a glass of liquor. I always referred them to the restaurant beneath my store, where they could purchase anything of the kind. Sometimes they would bring it up and administer it here, but I never got a cent out of it. Of course, when a physician was present and prescribed alcoholic spirits I could not refuse that, but I have always been careful to keep within the law in regard to all my liquor sales." Mr. Waldron was of the opinion that if the ordinance passed there would be but two horns to the dilemma, either stop selling liquor or open a saloon. "In that case," said Mr. Waldron, "it will be $500 or nothing." Mr. Wooten thought that the proposed ordinance would not help matters much. The result would be that all druggists would nominally stop the sale of liquor in their stores, but that those not gifted with conscience in the matter would get some equally conscienceless physician to work with them, with the result that they could snap their fingers at the ordinance. Instead of being a source of revenue to the city it would be quite the reverse.

——H. C. McIlvain, of McIlvain Bros., Philadelphia, has been appointed chairman of the Entertainment Committee which will arrange for the entertainment of the delegates to the next annual meeting of the National Wholesale Druggists' Association.

Money Went into the Wrong Hands.

Portland, Me., Nov. 29.—J. H. Dow, formerly with Cook, Everett & Pennell, of this city, has been in the employ of C. M. Roof & Co., liquor dealers, of New York. A Portland apothecary has a printed statement from the firm, signed by their agent, declaring that J. H. Dow is no longer in their employ; that they would not honor any dealings done by him in their name, and giving a statement of this apothecary's indebtedness to them, as shown by their books. The amount was something more than $300. The apothecary's books showed that he owed the firm of C. M. Roof & Co. only about $100, and he had receipts of Mr. Dow to show that there had been paid to him the balance of the money which the firm had charged. Another apothecary in this city received a similar statement, charging him with something over $100. The fact is that he has paid all his indebtedness to the firm, and has Dow's receipts to show for it. Another man in this city who has had extensive dealings with C. M. Roof & Co., has paid Dow about $600, which the firm now seeks to collect.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parentheses the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of boards are requested to send in their announcements of meetings for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Jan. 8, 1896.
Colorado (C. H. Wells, Pueblo)—Denver, Dec. 6.
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Dec. 10.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Jan. 13, 1896.
Florida Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—.
Illinois (Frank Fleury, Springfield)—Springfield, Jan. 7.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon, Dec. 3.
Kansas (W. C. Johnston, Manhatton)—Junction City, Dec. 11.
Kentucky (Wiley Rogers, Louisville)—.
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Dec. 11.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Jan. 9, 1896.
Massachusetts (Freeman H. Butler, Lowell)—Boston, Jan. 7.
Michigan (F. W. R. Perry, Detroit)—Detroit, Jan. 7, 1896.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Jan. 21, 1896.
Mississippi (J. C. Means, Natchez)—Jackson, April 7, 1896.
Missouri (F. W. Sennewald, St. Louis)—St. Louis, Jan. 13, 1896.
Montana (G. W. Shoemaker, Billings)—Butte, April 7, 1896.
Nebraska (M. E. Shultz, Beatrice)—Lincoln, Feb. 12, 1896.
New Hampshire (George F. Underhill, Concord)—Manchester, Jan. 28, 1896.
New Jersey (Albert S. Elwell, Bridgeton)—Trenton, Jan. 16, 1896.
New Mexico (W. C. Porterfield, Silver City)—Las Vegas, Jan. —, 1896.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburg, Rochester, Syracuse and Yonkers, Feb. 28, 1896.
North Carolina (Wm. Simpson, Raleigh)—.
North Dakota (W. S. Parker, Lisbon)—.
Ohio (W. R. Ogier, Columbus)—Cincinnati, Jan 14 1896.
Oklahoma (C. P. Wickmiller, Kingfisher)—.
Oklahoma City, Jan. 7, 1896.
Oregon (Dan J. Fry, Salem)—Portland, Dec. 10.
Pennsylvania (Charles T. George, Harrisburg)—Philadelphia, Jan. 18, 1896.
Rhode Island (William E. Gates, Providence)—Providence, Jan. 6, 1896.
South Carolina (H. W. Hummel, Charleston)—Newberry, March —, 1896.
South Dakota (I. A. Keith, Lake Preston)—Sioux Falls, Jan. 8, 1896.
Tennessee (J. O. Burge, Nashville)—Memphis, Jan. 15, 1896.
Vermont (J. G. Bellrose, Burlington)—Montpelier, Jan. 7, 1896.
Virginia (E. R. Beckwith, Petersburg)—Richmond, March 16, 1896.
Washington (W. H. T. Barnes, Seattle)—, Tacoma, Feb. —, 1896.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Helmstreet, Janesville)—Milwaukee, Dec. 11.
Erie County N. Y. (C. O. Rano, Buffalo)—Buffalo, Dec. 7.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn)—Brooklyn, Dec. 17.
New York City (William Balser, M. D., 218 East 13th street)—College of Pharmacy building, Dec. 9.

——The Board of Pharmacy of Kings County, New York, met for examination on Tuesday, Nov. 19. There were thirty-six applicants in attendance and of this number the following persons passed successfully as pharmacists: Joseph Robinson, Samuel Beinstock, Julius Roelly, E. Brondfenbrenner, Vitold B.

Drossnes, Frank L. Downs, Oscar Hickstein, William Falkiner. As assistant pharmacists: F. W. Muller, Archy Meyers, D. M. Webster, Adolph Behr, Albert May, George H. Bottmann, Charles F. Herbert, G. L. Rapport, Harry F. Mullarky, George Meyers, H. Rothenberg. There have been twenty persons registered during the month past. The next meeting for examination will be held on Dec. 17 in the Brooklyn College of Pharmacy, 329 Franklin avenue. Application for examination must be made in person to the secretary previous to the day of examination.

——The South Carolina Board of Pharmacy held a meeting for examination purposes Nov. 20 and 21. Three candidates were present, of whom W. L. De Pass, of Camden, was successful and received a license to practice pharmacy in that State. The Board of Pharmacy is composed of E. S. Burnham, Charleston; O. E. Thomas, Columbia; P. A. Robertson, Newberry; R. B. Loryea, Manning; H. Plenge and H. W. Hummel, Charleston. The board holds its next meeting at Newberry in March of next year.

——The Illinois Board of Pharmacy examined a class of sixty-five at their meeting held in Chicago Nov. 12-15. The following passed for registered pharmacists: Allan Brown, William H. Brown, Joseph L. Champion, Charles J. Grady, John W. Gough, Sol Jack Krone, Howard C. Lisle, George L. Peck, Henry Shapiro, Arthur W. Stadelmann, G. Lebrecht Tanzer, J. J. Wuerth, all of Chicago, and Leverett E. Brainerd, of Elgin, Benson E. Crum Normal and J. T. McDill, of Sparta. The next meeting of the board for organization, examination and other business will be held in Room 3, State House, Springfield, Jan. 7, 1896, at 9 o'clock a. m. Chicago meeting Feb. 11, 173 Thirty-ninth street, at 9 o'clock a. m.

Changes in Drug Laws Desired.

Boston, Dec. 2.—When the Legislature meets the Board of Registration in Pharmacy will have ready some recommendations of changes in the laws governing the drug trade. These laws have been critically examined, and have been codified, consolidated and very much better arranged. One point made by the board is this, that if an error is made in refusing an applicant a liquor license, the board should be authorized to reconsider its action and grant a certificate; and, on the other hand, the board asks the right to withdraw a certificate if time shall show that an error was made in conferring it. This privilege is now held by the license boards. President Whitney of the Pharmacy Board says that the movement is one which temperance folk should welcome and support, one calculated to be of benefit to reputable druggists. "We ask," he says, "for an extension of the time limit of fifteen days, as we have a number of cases where the persons interested have left the State, and where we cannot find them and serve notices upon them. We wish the publication of the notice to be a sufficient warning when we revoke a license."

COLLEGES AND SCHOOLS OF PHARMACY.

——On Thursday evening, Dec. 5, Mr. Wilhelm Bodemann will give a talk to the students of the Chicago College of Pharmacy on the "Burning Questions of the Time in Pharmacy."

——The M. C. P. Club was formed during the winter of 1894-95, chiefly from members of the class of '93 of the Massachusetts College of Pharmacy. A constitution and by-laws were adopted and monthly meetings are now held. The last meeting and dinner were held at the Castle Square Hotel, Boston, Nov. 20. Dinner was served at 8 o'clock and was followed by a business meeting and speeches by the members. President Stover spoke of the formation of the club, its objects and great success thus far. Five new members were admitted and several names proposed. The club has more than trebled its number of members during the past year, and is in excellent condition financially. The present officers are: President, C. A. Stover; first vice-president, Irving Nute; second vice-president, L. F. Porter; secretary, Alfred A. Balch; treasurer, G. E. Coleman; Executive Committee, P. R. Crocker, T. H. Fish and H. H. Smith.

Philadelphia College.

Philadelphia, Nov. 30.—The Board of Trustees of the Philadelphia College of Pharmacy will meet on Tuesday next. However, they have no special matters which will come before them for consideration at this session, but will merely transact ordinary routine business. Students in the college were notified this week that those who wish to contest for class historian, prophet, poet and orator must hand in their names before Friday, Dec. 6, to Miss Case, the secretary, or J. I. Watson, the president of the Zeta Phi Society. Every year about this time a number of students hand in their names for these honorary offices. The contest between them occurs around the holidays, when it is decided who the four students shall be who will represent the class at the commencement in April. The contests are always spirited and interesting.

St. Louis Druggists Caught in a Blizzard.

St. Louis, Nov. 29.—The blizzard which struck St. Louis Monday night played havoc with the students who were attending the St. Louis College of Pharmacy and many of them said things which are not taught in Sunday school. The night session was over about 10 o'clock and the blizzard was then in its glory. Every street car line in the city was blockaded and the boys trudged about in the snow and sleet for many hours. The street car companies were caught napping, for none of them seemed prepared for what came. The boys would ride for about a block or two, when the cars would be stalled and the passengers turned out into the cold and dismal night. Many of the boys managed to walk home, though most of them did not reach their couches until 7 o'clock the next morning.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ALABAMA.

Russellville.—Crescent Drug Store, new store.

Selma.—Clapton & Barger, now J. W. Barger.

We recently reported Groves & Co., as being successors to Galt & Co. This was not entirely correct. Groves & Co. and Galt & Co. are both in business.

ARKANSAS.

Altus.—M. B. Boyle & Co., discontinued.

Brinkley.—Webb & Dennis, attached.

Hazen.—Dr. J. T. Bell, new store.

Mountain Home.—Mountain Home Drug Co., new store.

Pleasant Plains.—B. R. Woodward, sold to Lloyd Wood.

CALIFORNIA.

Glendora.—Engelhard & Craig, now A. E. Engelhard.

Oakland.—C. A. Seifert, removed to 932 7th st.

Riverside.—Kennedy's Loring Opera House drug store, sold to Charles E. Weck.

St. Helena.—S. C. Davidson, sold to W. H. Smith.

San Francisco.—L. O. Jacques, 1165 Market, new store; he has also a branch at 432 6th st.

Eagle Pharmacy, 29th and Mission, new store.

Traver.—C. W. Hartsough, Jr., attached.

COLORADO.

Breckinridge.—H. Morgan, has started a store.

CONNECTICUT.

Danbury.—V. E. Hawley Co., burned out; lost about $12,000; insurance, $10,000.

IDAHO.

Shelley.—C. S. Rapp, new store.

ILLINOIS.

Chicago.—Ackerman & Hitchcock, Garfield, Bldv. & Halsted, new store.

Breves & Gelser, 323 W. 14th st., sold to A. Rosenwald.

A. T. Fleischer, correct address is 296 Orleans.

A Heiberg, Milwaukee ave. and Carpenter, will open new store.

International Pharmacy, removed to Western Springs, Ill., and are succeeded at Clark and Polk by Dr. Wetzel.

F. Kvasnicka, discontinued.

T. Lind, Western and Fullerton aves., sold to A. Abert.

F. J. Link & Co., dissolved.

Richard Merz, 894 W. Lake, sold to Dodds & Sullivan.

J. G. Saxe, Chicago and Hamlin aves., new store.

John M. Small, 654 W. Van Buren, in hands of receiver.

Ferris.—K. S. Holt, sold to W. T. Harris.

Galesburg.—M. H. Johnston, sold to S. T. Gottschall.

Mill Shoals.—C. W. Mathis, new store.

Sadorus.—Successor to D. E. Davis is firm of Miller & Craw, instead of A. Craw, as reported.

INDIANA.

Bloomfield.—Robert Fowler, burned out.

Butler.—Mrs. George Kehrer, sold out.

Columbus.—D. W. Adams, sold to J. E. & W. W. Creswell; style of new firm will be Creswell Drug Co.

Evansville.—George Potts, 512 Virginia, new store.

Loogootee.—Walker & Patterson, new store.

Marion.—Lynn, Leedy & Daugherty, succeeded by A. W. Leedy.

Byron Willcuts, sold to Enos Willcuts.

Marmont.—C. E. Slattery, late of Benton Harbor, Mich., removed to this place.

Summitville.—E. B. Searle, succeeded by Howard Bros.

Wabash.—Lynn & Leedy, dissolved; James Lynn, Jr., continues.

Winchester.—Denny & Browne, sold to Wm. Hawkins. Mr. Hawkins is not a druggist, and will probably re-sell immediately.

INDIAN TERRITORY.

Miami.—D. N. Clark, sold to Mathews & Cooter.
Purcell.—A. Thiel, burned out; loss, $1,500; insurance, $1,000.
S. Curtis, burned out; loss, $3,000; insured.
H. P. Campbell, burned out; loss, $7,500; insurance, $3,500.

IOWA.

Des Moines.—C. D. Duke & Co., dissolved. Jos. Lehner & Co., closed.
Kamrar.—Willits Drug Co., sold to A. G. Torrence & Son.
Lenox.—T. W. Bennett, succeeded by Bennett & Malden.
Remsen.—O. G. Luers & Co., now O. G. Luers.
Walker.—Getchell, Swan & Co., now Getchell & Swan.

KANSAS.

Leavenworth.—John A. Mesel, in hands of mortgagees.
Ottawa.—P. J. Youngberg, deceased.
Powhatan.—G. H. Valentine, succeeded by E. J. Barnett.
Scottsville.—L. Z. Preston, sold to P. W. Jones & Co.

LOUISIANA.

New Orleans.—Carl Alwes, now at 2601 Dauphine.
G. V. Claren, now at 1127 Decatur.
C. E. Diebold, now at 3032 Carondelet.
Mench Mercier, now at 727 Dublin.
Elite Drug Co., Ltd., 20th and Carondelet, new store, (H. Cohen, manager.).
H. Menage, now at 1834 Esplanade.

MAINE.

Auburn.—Smith & Cook, dissolved; O. J. Cook, continues.
Portland.—C. H. Guppy & Co., now the C. H. Guppy Co.

MARYLAND.

Baltimore.—Charles Davis, receiver applied for.
L. P. Chaney, Fairmount ave. and Burke, sold to William F. Edwards.
J. V. Scissors, discontinued.

MASSACHUSETTS.

Boston.—Forrestall & Klein, dissolved; Paul C. Klein continues.
Holyoke.—G. J. Schrich & Co., attached.
Millbury.—C. W. Eggleston, succeeded by H. C. Thomson.
New Bedford.—John P. Taylor, deceased.

MICHIGAN.

Allegan.—Grice & Gay, succeeded by E. M. Gay.
Bay City.—F. H. Van Emster, now at 306 Columbus ave.
Goodrich.—M. Van Vliet & Co., now M. Van Vliet.
Holly.—A. M. Church, will open new store.
Muskegon.—Tinholt & Abbott, dissolved; J. A. Tinholt continues.
Saginaw.—E. G. Banghart, Michigan and Genesee aves., sold to C. L. Grube & Co.
Saugatuck.—Phelps & Heath, dissolved; D. A. Heath continues.
Wayne.—P. Schambers, new store.

MINNESOTA.

St. Paul.—Hoffin-Thompson Drug Co.'s annex, damaged by fire.
Waconia.—Dr. D. Van Krevelen, new store.

MISSISSIPPI.

Biloxi.—J. Davis McKie, new store.
New Albany.—W. A. Bratton & R. B. Henderson, Jr., have consolidated under name of R. B. Henderson & Co.

MISSOURI.

Cameron.—Wright & Stuetz, succeeded by Wharton Drug Co.
Canton.—Canton Drug Co., succeeds Kurtz Pharmacy.
Clarence.—C. W. Hornback, sold to Chinn & Felker.
Clarksdale.—J. A. Clark, of J. A. Clark & Sons, deceased.
Higginsville.—Bell-Boyer Drug Co., incorporated; capital, $2,000.
Jefferson.—J. C. Preston & Co., filed deed of trust.
Rosendale.—Nealeigh & Porterfield, new store.
Sumner.—Null & Kayes, succeeded by Null & Wanamaker.
Tina.—Burt & Blacketer, burned out some time ago, will not resume.

NEBRASKA.

Tamora.—B. G. Kennedy, burned out.

NEW HAMPSHIRE.

North Stratford.—John C. Hutchins, damaged by fire.

NEW JERSEY.

Orange.—J. E. Saunier, recently mentioned as a new store, succeeded Chas. Koehler.
Rutherford.—C. W. Knape, sold to F. W. McGee & Co.
Westfield.—R. B. Shove, sold to H. H. Trenchard.

NEW YORK.

Brooklyn.—F. Gunton, 195 Reid ave., sold to G. H. Lawlor.
Hempstead.—George N. Brinckerhoff, sold to T. H. Botham.
Middletown.—G. H. Hill & Co., sold to W. H. Perlee & Co.
Morrisville.—H. P. Mead, sold to E. Roble.
N. Y. City.—Caswell, Massey & Co., will open branch at Columbus ave. and 77th st.
Richard F. Fischer & Co., now Fischer Chemical Importing Co., and removed to 14 Platt st.
American Therapeutic Co., 116 William st., incorporated; capital, $35,000.
Sicilian Essential Oil Co., have discontinued their American branch; Mesars. Leo. Bernard & Co. now sole agents.
Nyack.—Mrs. J. E. Blauvelt, out of business.
Watkins.—C. E. M. Taber, sold to N. Crofut.

NORTH CAROLINA.

Raleigh.—Wynne & Birdsong, Halifax and Johnson, new store.

NORTH DAKOTA.

Fort Ransom.—P. J. Walker, new store.
Hillsboro.—Amlie & Larson, dissolved; S. Amlie continues.

OHIO.

Cadiz.—O. H. Finnleal & Co., new store.
Chagrin Falls.—Vackar Bros., now F. M. Vackar.
Chillicothe.—James Sproat, of J. & F. Sproat, deceased.
Cincinnati.—C. P. Calvert, will succeed Leroy Brooks, chemicals and dye stuffs.
Standard Drug Co., wholesale druggists, will discontinue.
Cleveland.—Denner's German pharmacy, 1069 Pearl, new store.
F. McCoy, Scoville ave. and Kennard, assigned.
F. J. Miller, 430 Cedar ave., new store.
G. E. Schmehl & Co., Willson, cor. Hough ave., sold to Charles Beehberger.
Commercial Point.—S. M. Seeds & Son, now S. M. Seeds.
Delaware.—F. D. King, new store.
Logan.—Dollison & Arnold, succeeded by Dr. G. W. Dollison.
Lucas.—J. H. Rummel, burned out.
Toledo.—J. G. Widrig & Co., Lawrence ave., near Monroe, sold to Frank McGrath.

OREGON.

Huntington.—J. M. Duffy, burned out.
Portland.—E. E. Hewitt, assigned.

PENNSYLVANIA.

Allegheny.—James R. McClelland, removed to 81 Federal st.
Riverview Pharmacy, Perrysville ave. (A. W. Boggs, proprietor), new store.
Bradford.—W. B. Callender, will open new store in Phœnix Block.
Cambridgeboro.—E. B. Johnson & Co., succeeded by W. M. Clark.
McKeesport.—S. M. Staley & Co., new store.
Philadelphia.—H. B. Lippincott, 1403 Filbert, sold to Charles Leedom.
Harry C. Watt, deceased.
Pittsburg.—Jos. Grunenwald, 19th st. and Penn ave., new store.
W. J. Innes, 305 5th ave., who was closed by sheriff, succeeded by C. E. Wilson.
Murto & Kier, Boggs ave., succeeded by Boggs Ave. Pharmacy.

SOUTH CAROLINA.

Donalds.—T. O. Kirkpatrick, out of business.

SOUTH DAKOTA.

Bowdle.—H. E. Yankey & Co., new store.
Garretson.—B. L. Haydahl, in hands of sheriff.
Waubay.—S. H. Groshong, now Groshong & Swan.

TENNESSEE.

Memphis.—A. G. Berentz, of Berentz & Co., 193 Poplar st., deceased.

TEXAS.

Elgin.—Bennett Bros., now Bennett & Meeks.
Granbury.—P. H. Thrash, sold to C. S. Bowden.
Houston.—E. A. Daniel, deed of trust.
Jacksonville.—Dr. I. A. Maphis, deceased.
Milano.—W. H. Smith, sold to Jos. Stewart.

UTAH.

Georgetown.—Lydia A. Johnson, new store.

VIRGINIA.

Richmond.—Polk-Miller Drug and Chemical Co., incorporated.
Cape Charles.—D. F. Wilkins, assigned.

WASHINGTON.

Fairhaven.—A. C. Gifford, succeeded by E. L. Nicholson.
Hillyard.—W. D. Keller, removed to Mullan, Idaho.

BRITISH COLUMBIA.

Nanaimo.—G. Jessop, in hands of bailiff.

ONTARIO.

Aurora.—Walter Ashton, assigned.
Eganville.—Dr. H. Irwin, sold to Dr. J. Reeves.
Hamilton.—J. A. Barr, James st., N. and Merrick, will open new store.
Toronto.—F. J. Greer, Queen and Elizabeth, new store.

BOOK REVIEWS.

A TREATISE ON PHARMACY. For Students and Pharmacists. By Charles Caspari, Jr. Ph. G., Professor of the Theory and Practice of Pharmacy in the Maryland College of Pharmacy, Baltimore. 680 pages 288 illustrations. $4.50. Philadelphia, Lea Brothers & Co.

This work compares favorably with the productions of other American authors upon the same subject. We have taken some pains to place beside many of the sections of it similar sections from the works of Parrish, Remington and Coblentz. And it loses nothing by such comparison. Of course, it is not so voluminous as Parrish or Remington (it does not contain the Pharmacopœia or formulas), yet it is comprehensive enough to make it a good text-book and work of reference for any pharmacist's library. The number of illustrations is not so large as given by some of the authors named, yet all of them are up to date and well chosen.

The subject matter is grouped under three distinct headings; Part I. comprises General Pharmacy, in which the author includes the study of weights and measures, specific gravity, application and control of heat, mechanical subdivision of drugs, methods of solution and separation, and a classification and description of the various plant products and solvents used in pharmacy. Part II. is devoted to Practical Pharmacy, and in it the author discusses the various galenical preparations of the Pharmacopœia and the many operations of the dispensing counter. The official preparations of the Pharmacopœia are divided into two classes, those of a strictly pharmaceutical character and those involving chemical action. It is noticeable, however, that the author does not discuss the latter class under "practical pharmacy," but takes it up under the head of pharmaceutical chemistry, where the preparations of each element or compound are grouped together. For instance, in chapter xiv., under the general heading, Practical Pharmacy, are given the official solutions or liquors. These are subdivided into simple solutions and chemical solutions. The former are disposed of in the chapter cited, while the latter are also there enumerated, their constituents and strength stated, but their methods of

preparation, reactions, etc., must be sought for in another part of the book. This may or may not prove a wise arrangement. We do not attempt to discuss it. The chapters on extemporaneous pharmacy and dispensing are good. The question of incompatibles is discussed at some length and a summary (after Hager) is given. Right at this point we have one criticism to make, and that is the failure of the author to introduce a comprehensive list of typical prescriptions for the purpose of illustrating the various incompatibilities met with in actual dispensing. Examples of this character are most valuable to the student and can be easily compared with prescriptions of a like kind when met with by him in his future work. From information which has been gleaned from many correspondents we know that the chapters devoted by other authors to actual prescriptions in which incompatibilities occur are most heartily appreciated. In fact they are referred to by dispensers more often than any of the other chapters of those works.

Part III., to which reference has been made and which concludes the work, is devoted to Pharmaceutical Chemistry, the subject being confined to such compounds as are either officially recognized in the Pharmacopœia, or are of special interest to pharmacists. These are treated more particularly from a pharmaceutical standpoint than from their chemical relationship, inorganic substances being first considered, and last the organic substances. In this part of the work the author has endeavored to explain the tests and assay methods of the Pharmacopœia as applied to the various subjects under consideration. This work has been efficiently and effectively done, and it is sure to be appreciated by the practical pharmacist in his use of the official guide. Mechanically, the book is all that can be desired, and characteristic of the publishers.

ON MEMORY AND THE SPECIFIC ENERGIES OF THE NERVOUS SYSTEM. By Prof. Ewald Hering. Paper, 50 pp., 15 cents. Chicago: Open Court Publishing Co.

This little pamphlet presents an address delivered before the Imperial Academy of Sciences at Vienna May 30, 1870. It so bristles with interdependent ideas and the chain of reasoning is so closely interwoven that an adequate outline of the author's treatment of the subject is quite difficult. Memory is viewed from the standpoint of the physiologist and the difficulties to be encountered when this position is assumed are thus stated: "The physiologist observes how a beam of light, a wave of sound or vibration of heat affects the organs of sensation; how they enter the nerves, are transformed into an irritation of the nerve fibres and conducted to the brain cells. Here he loses all trace of them. On the other hand, he observes a spoken word coming from the mouth; he sees the person move his limbs and finds these movements are caused by muscular contractions produced through motor nerves irritated by the nerve cells of the central organs. Here again he is at his wit's end. The bridge which should lead him from the irritated sensory nerve to the irritated motor nerve is indicated in the labyrinthian connections of the nerve cells, but he lacks the clue to the infinitely involved processes which are interposed." The registry of these sensory nerve irritations upon the brain, so that they may be recalled days or years afterwards, and be made to irritate motor nerves, constitutes the faculty of memory, and as far as these phenomena are explainable, the author considers the registry of sensations upon nerve matter as one of its innate qualities comparable with the innate faculty of cells of the liver to secrete bile and nothing else. As cells of the liver reproduce other cells with corresponding attributes, so cerebral substance in reproducing transmits not only the reproductive faculty, but the stored up impressions which have been accumulating for years in the brain substance. That which we call instinct, as the action of the newly-hatched chick in picking up a grain of wheat, is but the exercise of a nerve impression which has been stored in the nerve substance of the gallinacea ever since the first chicken first picked up a grain of wheat. The new chick simply exercises a well-equipped memory at the instant of its birth. But our author does not encourage us in reaching a solution of the nature of the specific energies of the nervous system. He says: "The anatomist will never understand the labyrinth of cerebral cells and fibres, and the physiologist will never comprehend the thousandfold intertwined actions of its irritations, unless they succeed in resolving the phenomena of consciousness into their elements in order to obtain from the kind and strength, from the progression and connection of our perceptions, sensations and conceptions, a clear idea about the kind and progression of the material processes of the brain. Without this clue the brain will always be a closed book to us."

POLYGLOT INDEX of all the Principal Articles in the Materia Medica in Latin, English, French, German, Swedish and Norwegian-Danish, with separate Indexes referring to all. By Henry T. Hedges. 295 pages, $2. Chicago, Gray & Co.

This work is not a new one, but it has proven itself a useful adjunct to the druggist called upon to dispense domestic and other remedies used by customers of different nationalities in this country. The principal part of the work is devoted to the polyglot index proper, which gives the common names or pharmaceutical terms in English, French, German, Swedish and Norwegian-Danish, all being arranged in one line across two pages of the book, the key to all being based upon the Latin title as given by the U. S. or B. P. Wherever the Latin title of other pharmacopœias differs from that in the U. S. or B. P., the fact is noted by such title or titles being given in the Latin column. This part of the work occupies 127 pages. Following it are separate indexes for each language, by which a common name in any one of them may be traced to its official title in the polyglot index proper. Not a small part of the book is devoted to tables of useful information; thus, a list of incompatibles, facts in chemical history, poisons and their antidotes, pharmacopœias of different countries, disinfectants, thermometric equivalents, abbreviations in common use, directions for restoring the apparently drowned, dietetic preparations for the sick, etc., are among the subjects noticed.

HANDBOOK OF PHARMACY. Embracing the Theory and Practice of Pharmacy and the Art of Dispensing for students of Pharmacy and Medicine, practical pharmacists and physicians. By Virgil Coblentz, Ph.G., Phil. D., F. C. S., etc. Professor of Pharmacy and Pharmaceutical Chemistry and Director of the Pharmaceutical Laboratory in the College of Pharmacy of the City of New York; Fellow of the Chemical Societies of London and Berlin; etc., etc. 572 pages, $3.50. Philadelphia, P. Blakiston, Son & Co.

The first edition of this practical work was reviewed so recently in these columns that it is deemed unnecessary at this time to more than note that a second edition has made its appearance. No great changes have been made in the text beyond the few corrections and alterations deemed necessary. Two new chapters, however, have been added on the "Analysis of Urine" and the "Applications of the Microscope in Pharmacy." These run through some eighty-six pages, the aim being to furnish the pharmacist and the pharmaceutical and medical student with the essentials of these subjects in concise form. The chapter on the microscope is eminently practical and is intended to familiarize the pharmacist with the construction, handling and various applications of the microscope in the examination of drugs, chemicals, food products, etc.

TEMPTATIONS, HABITS, CHARACTER. A Monograph by William C. Capp, M. D. Paper, 46 pp., 25 cents. Boston: The Arena Publishing Co.

The introductory note to this little book says: "Parents and teachers often feel that they ought to instruct the young in their care upon matters relating to sex and the temptations arising therefrom. This little book may serve to break the ice when desired." A perusal of the work shows that the object is attained with the greatest possible delicacy, and our greatest commendation for it is in the expression of a wish that it might be placed in the hands of all young people for the purpose of cultivating the highest standards in morals and manners, and counteracting the evil tendencies, which at no time more than the present seek to disguise vice in most attractive forms.

Pamphlets, Price Lists, etc., Received.

Price Lists.—Marx & Rawolle, New York; Lotus Press, New York; J. L. Hopkins & Co., New York; E. B. Reed & Son, Baltimore, Md.

Proceedings.—Virginia and Kentucky Pharm. Associations, 1895.

Pamphlets.—Journal Alumni Association, Cincinnati College of Pharmacy.

Neroli, the new synthetic oil of orange flowers invented by Schimmel & Co., Leipzig, is a product which every perfumer should know all about. Write to Fritzsche Bros., 34 Barclay street, New York, for description and prices.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS
Issued Nov. 26, 1895.

550,295—Andrew Schwind, Newark, N. J.—Valve for soda fountains.

550,303—Léon P. Tissier, Paris, France.—Stoppering bottles or other vessels.

TRADE-MARKS
Registered Nov. 26, 1895.

27,313.—Topical Remedies for Diseases of the Skin and Mucous Membrane. The Quaratol Remedy Co., Norfolk, Va. The word "Quaratol."

27,314.—Preparation for the Cure of Tuberculosis. The Winyah Hotel and Sanitarium Co., Asheville, N. C. The word "Antiphthisin."

27,315.—Remedy for Diseases of the Kidneys and Urinary Organs. Smith Medical Co., Memphis, Tenn. The word "Smith's" and a pictorial representation of the globe, having a bottle printed thereon.

27,316.—Tonics and Remedies for Indigestion. The S. S. Ryckman Medicine Co., Hamilton, Canada. The word "Kootenay," associated with the representation of an ellipse.

27,317.—Certain Named Medical Remedies. Electine Medical Co., Athens, N. Y. The word "Electine."

27,318.—Certain Named Medicines and Toilet Preparations. Boehringer and Reuss, Cannstadt, Germany. A coat of arms which, in the language of heraldry, may be described as follows: An escutcheon couché, bordered, divided per fesse, the lower half paly, four, azure and argent, on the argent a scroll, bordered; in the upper half a horse rampant, issuant, bridled, on a field or crest; a helmet surmounted by a horse's head; a mantling or lambrequin shaded azure and having scrolled edges inclosing the greater portion of the escutcheon.

27,319.—Laxative Compound. William Reading, Brooklyn, N. Y. A fac-simile of the signature of the registrant and the compound word "Laxo-Cassia."

27,320.—Liniment. Gilbert Bros. & Co., Baltimore, Md. Two symbolic representations—one a man applying liniment to his arm and having one limb bandaged, a woman holding his diseased arm with her left hand and a bottle in her right, and a child looking on, and the other the representation of a horse hitched to a post and a man in stooping position applying the liniment, used in connection with the words "Yager's Liniment."

27,321.—Veterinary Remedies. Emmet & Bidelman, Coldwater, Mich. A portrait of the registrant.

27,322.—Condition Powders for Horses, Cattle, Hogs, etc. Shoemaker & Miller, Wichita, Kan. The words "Buckeye Stock Food."

27,323.—Antiseptic, Germ Destroyer and Inflammation Eradicator. Albert H. Baldwin, Chicago, Ill. A bust picture of a man in the act of spraying electro-carbol in electric zigzag lines from the nozzle of an atomizer or spraying device, and the compound word-symbol "Electro-Carbol."

27,324.—Fungicides and Insect and Vegetable Mixtures. Leggett & Bro., New York, N. Y. The word "Fungiroid."

27,325.—Disinfectants. The H. W. Jayne Chemical Co., Philadelphia, Pa. The word "Tarola."

27,326.—Perfumes, Extracts, Oils, Vanillas, and other Perfumers' Materials. Geo. Leuders, New York, N. Y. The letters "G L" upon the figure of a star.

27,327.—Perfumery, Toilet Articles and Preparations. Richard Hudnut, New York, N. Y. The word "Phantom."

27,330.—Sweetening Compound. Dr. F. von Heyden, Nachfolger, Radebeul, Germany. The word "Alcose."

27,333.—Root Beer. Charles L. Hehle & Co., Philadelphia, Pa. The letters "O. K."

27,346.—Bakery Products. American Biscuit and Mfg. Co., Chicago, Ill. The word "Somatose."

27,368.—Vaginal Syringes. E. J. Hussey & Co., New York, N. Y. The compound word "Pri-Mo."

Jayne's Medical Almanac will soon be asked for by the many people who have used it for years, and it is a good idea to remind D. Jayne & Son, Philadelphia, that you want some as usual with your name on them, if you haven't already attended to this matter.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

Retailer Objects to Box and Cartage.

Washington, D. C., Nov. 29.

To the Editor:

Is it not time the retail druggist entered a violent protest against the proposed restoration of the box and cartage charge? Is our business at the present writing in such a prosperous condition that we must tamely submit to this additional tax upon us? The Vanderbilt "public-be-damned" policy was no more arbitrary nor arrogant a proceeding than this action of the Wholesale Druggists' Association calmly voting to restore a charge in which there was never either equity or justice. I trust that readers of the Era will bear in mind that if they submit to this injustice they will be the only class of tradesmen in the whole mercantile world who are obliged to pay for boxes and cartage. Cannot there be come concerted action taken, and at once, to nip this imposition in the bud? A vigorous outcry from every reader would have its effect. Trusting you will give this letter a sufficient prominence to attract the attention of your many patrons, I am, very respectfully,

A WASHINGTON DRUGGIST.

But Few Sell Liquor.

Butler, Pa., Nov. 25, 1895.

To the Editor:

Permit me to call attention to an article in your issue of Nov. 21 relating to Butler druggists. While it is true in part, it is misleading in that it does not state all the truth and leaves the impression that all the druggists are alike responsible for the state of affairs alleged to exist. A majority of the druggists had no hesitancy in producing their prescription files, and on examination it was shown that the prescriptions for liquor did not exceed 5 or 6 per cent., and in some cases even much less, and all of these for legitimate purposes.

It is true His Honor directed indictments to be made against one physician and one proprietor (not registered) of a drug store. There was not the slightest evidence against at least four of the leading stores as to the abuse of the sale of intoxicants.

While we regret the notoriety of the affair and the distorted reports that have found their way into print, the investigation has had the effect of placing the blame where it properly belongs, and that legitimate pharmacy in Butler is conducted on principles that will bear investigation. Respectfully,

C. N. BOYD.

An error was made on page 669, issue of Nov. 21, in quoting the price of Adeps Lanae, "N. W. K.," to the retail trade at 65 cents per pound. It should be 75 cents per pound. The other statements made regarding Adeps Lanae were, however, entirely correct.

LONDON NEWS.

London, Nov. 23, 1895.

A New English Brand of Quinine.

Some months ago there was a rumor of a new competitor to existing quinine works, but as time went by nothing more was heard of the matter and it was quite forgotten. Nov. 13, however, we woke up to the fact that he had been in our midst all the time quietly at work, 6,000 ounces of the "Imperial" brand being advertised for sale at the following day's auctions. The telephone was kept hard at work between the English makers and the agents of the German brands, and shortly afterwards they were all seen making their way to the brokers in whose hands the quinine had been placed for sale. In the catalogue a large space was allotted to the parcel, a certificate of analysis by Dr. B. H. Paul, the principal bark analyst and editor of the Pharmaceutical Journal, being printed, stating the quinine to be of "good commercial quality, and answering the tests of the B. P." "Good commercial quality" seemed not only a redundant phrase, but one throwing some doubt upon the article. Upon inquiry, however, we found that Dr. Paul had so worded his certificate at the express wish of the brokers who had sent him the samples. Whilst every one was wondering who were the makers and where it was made, after the style ladies are said to do with their letters the handwritings of which they do not recognize, the go-ahead city man of the Chemist and Druggist looked at the address on the bottles and started off to headquarters. At first he thought his cab fare had been wasted, as no sign of the Imperial Quinine Works could be found among the offices in the building in question, but after considerable thought on the part of the housekeeper it was suggested that he should try the offices of the Congo Soap, which he did, and there found a Mr. Simeons, who was proud to acknowledge his connection with the new works and declared himself ready to answer any questions, with one exception, that being "Where are the works?" This question, however, was later on answered by the selling brokers, who stated that they were at Stamford Hill, a northern suburb of London. Mr. Simeons stated that his father, with a Mr. Ruth, under the firm name of Simeons, Ruth & Co., had formerly manufactured quinine near Frankfurt, their factory being subsequently bought by Messrs. C. F. Boehringer & Sons. The chemist of the new "Imperial" works, Mr. Ruth, had a first-class experience in quinine making, having helped to establish the Amsterdam quinine factory, and had also experience gained in German factories. As stated in the current market report, the quinine sold at 12¾ to 1s. 1d., a good price, considering the newness of the brand, and one evidently showing a handsome profit on present rates paid for the raw material. Mr. Simeons seemed not to have a very high opinion of the British workman, but the desire to produce English quinine overcame any hankering he might have to

return home and find employment for his own countrymen. At the present the other makers do not seem inclined to lay much stress on this new competition, but no doubt they will have consultations as to the course they will pursue. Whether their action will be to make the ways of transgressors hard, or to draw them into the "combine," remains to be seen.

Mr. Tyrer's Return Home.

On Monday, Nov. 11, Mr. Thomas Tyrer made his appearance on 'change upon his return from your side and was warmly welcomed by his numerous friends. He expressed himself very fully on the subject of the warmth of the reception he met with while in the States, for which he was grateful, but in business matters he did not seem quite so pleased. He evidently could have said much, and perhaps some day will fully unburden himself, but after his absence, although only a short time, he found so much to do that his time was valuable.

English Grown Coffee

The secretary of the Royal Botanic Society of London, at a meeting recently, called the attention of the Fellows present to some coffee on the table which had been prepared from berries grown in the gardens of the society, and invited their judgment on its merits. It was pronounced excellent and the secretary suggested that nurserymen might cultivate it in the same way as grapes and tomatoes, and offer it as English coffee.

NEW ZEALAND AFFAIRS.

Dnnedin, Oct. 29.

There has been nothing of interest in the pharmaceutical world of New Zealand for some time, with the exception of the alterations in the customs tariff, which are now finally passed and copy of which I send by this mail. The principal alterations, as far as regards American exporters, is the duty on patent and proprietary medicines, which is raised from 25 to 40 per cent. ad valorem. Some hard things were said in the House when this item was being discussed about patent medicines, and it seemed to be generally thought that these goods were of a most injurious and harmful character. The public do not seem to think so, however, and although in some instances the increased prices cause complaint, I do not think the volume of business will be much affected. Almanacs, show cards and bills usually sent broadcast over the country to advertise these remedies are now subject to a duty of 25 per cent. The increase of duty on drugs from 15 to 20 per cent. ad valorem, and the increase of 6d. per pound on liquid extracts and tinctures containing less than 50 per cent. proof spirit and 1s. per pound on tinctures containing more than 50 per cent. proof spirit (as against 15 per cent. ad valorem before), press heavily on the local trade, as these advances are in many cases too small to enable them to recover increased prices from the public. The privilege of making tinctures in bond free of duty will now be withdrawn and a duty of 4½d. under and 9d. per pound over 50 per cent. proof spirit charged. The duties on acetic acid, glycerin, eucalyptus oil and many other items are considerably raised. The government have shown a good deal of incapacity, to say the least of it, not only in the tariff alterations, but in the banking legislation which has been necessary to bolster up the Bank of New Zealand, and there will probably be a radical change at the next election.

Pharmacy matters are dull. The Pharmacy Board at present located in Wellington have done their best to get an amended Pharmacy Bill passed to give the chemist a better standing, but so far without effect. This year the government took the matter in their own hands and introduced a bill which was so unpopular from every point of view that they were glad to drop it without ceremony. As is the custom, every three years the headquarters of the Pharmacy Board are shifted to one of the four centers, Dunedin, Christchurch, Wellington and Auckland. It is the turn of Auckland for the next three years commencing Jan. 1 and the voting papers are now out for the candidates for membership. There are four candidates for Auckland (the required number)—Messrs. Aickin, Crawford, Haslett and Kenderdine and Mee of Wellington—and there will therefore only be a contest for the members representing Christchurch and Dunedin. Of course, the principal work of the board is done at headquarters, and from the past record of the Auckland members there is reason to believe the interests of the trade will be well looked after during the next three years.

We had a visit from Mr. Roe, representing F. Stearns & Co., a few weeks ago and he is looking in his usual good health and vigorously pushing his firm's specialties. Mr. Roe always is welcomed in New Zealand.

Business generally has been quiet here during the last twelve months and the prospects of improvement are remote. The uncertainty of the banking legislation has been set down as principally the cause.

We are glad to see the Era progressing and acknowledge particularly the appreciation of the articles on the study of pharmacy, which we think will be well worth issuing as a separate book.

PHARMACY IN AUSTRALASIA.

Sydney, N. S. W., Oct. 28.

The subject of intercolonial reciprocity, about which so much has been said in the past and so little attempted, is being brought forward again, and this time at the instance of South Australia. The suggestion made is not a new one. They want the various pharmacy boards of the different colonies to agree to the holding of a common simultaneous examination as a step towards complete reciprocity. The same thing was suggested by the Victorian Board of Pharmacy many years ago, but the other colonies did not take on, and nothing further came of it. As a matter of fact, the Victorian examination was too stiff for the other colonies at that time and it did not suit them to adopt the idea. Now, however, they have all improved their standards of education and consequently it is not surprising to find them—or at least some of them—looking up to Victoria to come to their rescue and meet them in the manner proposed. No doubt this could easily be accomplished as things are in respect of the examinations, but there is one important impediment overlooked, and that is that all the colonies except Victoria insist upon apprenticeship in their own colony. Obviously this part of the law forms an insuperable barrier to any real reciprocity. It may be that in making the proposal the South Australians regard the removal of this apprenticeship provision as a mere trifle.

The third terminal examination of the medical students at the Melbourne University attending the pharmacy classes at the College of Pharmacy was held during the month, when the following questions were given (time allowed, two hours): (1) State the composition and chief pharmaceutical points of glycerin of borax, boroglyceride, Donovan's solution, infusion of digitalis, ammoniated tincture of quinine, Warburg's tincture and Friar's balsam. (2) Name the official "neutral principles"; give the source, dose and mode of administration of each. (3) With what drugs are the following incompatible—quinine, chloral hydrate, citrate of iron and quinine, strychnine? (4) Write to their full terminations the abbreviations in the following prescription—℞ Ext Bellad. Emp. Sap., aa p. æq m. ft. emp. huj. form. et magnit.; Extend. sup. alut.; Part. affect. applic. (5) Compound and dispense the prescription at table. At the termination of the examination the lecturer, Dr. F. Hobil Cole, announced the result, the following being the prize takers: First, Basil Kilvington; second, Lindsay E. Miller; third, H. J. McGee.

A very novel case is just to hand from Queensland. A chemist who had contracted with a lodge to supply its members with medicine was called upon to make up six gross of Blaud's pills. He supplied half the quantity and refused to give more until the patient had used them. To his surprise he was sued by the lodge for beach of contract and the verdict went absolutely against him. It was held that as the patient lived many miles from the town, the chemist was bound to supply the full quantity asked. The chemist's contention that there were three mails a week to the patient's place and that he was quite willing to supply any quantity as they were required had no weight with the court. It also transpired in the course of the hearing that there was no necessity for the chemist to supply the second three gross, as the patient died. It was then found that only two dozen of the lot had been used.

The annual report of the Queensland mining department for 1894 tells us that the Mount Biggenden mine is principally worked for bismuth, but contributed 394 ounces of gold as a by-product. The machinery has been so much improved lately that after the ore leaves the mine hardly any handling is required in the

process of bringing it up from perhaps 1 or 2 per cent. to something over 30 per cent. Some new bismuth discovery has been made at Mount Hastings near the former mine. Bismuth is only raised in two places in Queensland, namely Gayndah and Ravenswood. In 1893 55 tons, valued at £8,700, were raised in the Gayndah district and 19 tons, valued at £1,976, in the Ravenswood district. In 1894 the quantity was 35 tons, valued at £4,680, in the Gayndah district, and 30 tons, valued at £1,590, from Ravenswood. The statement of exports, however, accounts for only 36 tons 3 hundredweight, valued at £4,702.

Pharmacy Board matters are at a standstill at present in Sydney owing to the illness of Mr. Pinhey, the old and respected registrar, who, at the time of writing, is slowly and peacefully passing away. He is not suffering from disease of any kind, but death is stealing over him simply as a matter of time. The duties of his dual offices—secretary of the Pharmaceutical Society and registrar of pharmacy to the Government—are being performed by the president of the society, but immediately on his death a permanent appointment will be made. With my next letter I will send a few particulars of his life.

The New Zealand chemists are in a state of consternation through the way they have been tricked by the government. They have been fearfully victimized over their Pharmacy Bill, which was wiped off the business paper at the end of September in the most unceremonious fashion. The government found it was impossible to please everybody, so they think it best to keep everybody in suspense. They had never regarded the bill with any sincerity, and as far as the chemists were concerned they did not act with common civility. Right on top of this treatment the government, without the slightest warning, announce that the extra duty on tinctures fixed or understood to come into force on Jan. 1 next dates from September last. They have also added to the tariff the following: Eucalyptus oil, 20 per cent.; patent medicines, 40 per cent.; proprietary medicines or medicaments—(1) Bearing the name of the proprietor on label or package; (2) bearing a prefixed name in the possessive case; (3) not otherwise enumerated, prepared by any occult secret or art, 40 per cent. ad valorem.

Pharmacy legislation is receiving anything but fair dealing in the majority of the colonies. In Sydney the chemists are weary of going to the government and asking that their bill should be brought forward. New South Wales is the worst off of the lot, as she has no Pharmacy Act at all. The other colonies have something which they can call a Pharmacy Act, no matter how good or bad it is, but the parent colony is lagging behind with a wretched and almost useless Poisons Act. The cry is "We don't want class legislation," and in Tasmania the other day, in the prosecution of a grocer for selling patent medicines, the magistrate, who was obliged to inflict a fine on the offender, said he would let him off with 1 shilling, as the chemists had too much a monopoly as it was. The opposition to pharmacy legislation is daily growing and if decent acts are not secured pretty promptly in the near future the chances are that by and by the chemists will get no further protection whatever. Ever since 1876, when the Poisons Act was before Parliament, the board have met with the most strenuous opposition from the unqualified and certain members of Parliament who pose as the guardians of the people's rights. As an instance of the sort of opposition they have had to face from the very beginning the following paragraph from a petition presented to Parliament in 1876 by Washington H. Soul, now conducting the largest retail business in Sydney, speaks for itself: "That your petitioner from his knowledge of the drug trade and drugs in England, France and the United States of America, advisedly asserts that there is not in any of the countries named above one in every hundred engaged in the trade or trades of 'chemist and druggist' competent to analyze any compound of six or more articles; and yet while there is a great deal of mystery shrouded round tradesmen known as 'chemists and druggists,' there is not so much skill or art required in compounding medicines as there is in the manufacture of glass or soap, or in the works of a tannery; and believing that these tradesmen in this country are not more intelligent than in the countries named above, etc. Your petitioner humbly prays that your honorable House will hesitate before placing the beginning of what may ultimately prove a monopoly in the hands of a few, comparatively speaking, incompetent tradesmen." Mr. Soul was registered three years ago as a matter of policy to get his influence in favor of the bill.

The great Dean case arising out of the charge of George Dean having poisoned his wife with arsenic has led to the most extraordinary revelations. Briefly, he was sentenced to death and the death penalty removed in favor of imprisonment for life. A royal commission exonerated him he received the Queen's pardon and was released, to the great delight of the populace, several demonstrations being held in his honor. Things went on quietly for a time, when suddenly a bombshell was dropped by Sir Julian Salomons, the leader of the bar, who startled the people with the announcement that Dean's solicitor had confessed to him the guilt of the man Dean. Then followed a series of revelations in the shape of confessions, the rearrest of Dean, as well as the arrest of the firm of solicitors and others. For perjury and making a false declaration Dean has just been sentenced to nineteen years' imprisonment and another charge is still over his head. The man who sold Dean the arsenic was an unregistered chemist named Smith, who states that he was a missionary in the United States some years ago after being a hospital sergeant with the mounted police in South Africa. Only twelve months ago this same Smith organized all the unregistered men in a crusade against the Pharmacy Bill now in the hands of the Government and caused a lot of mischief. In order to save himself from being prosecuted for selling poison and consequently ruined in his business he has turned Queen's evidence.

TRADE NOTES.

From information furnished by manufacturers and dealers in regard to their products.)

The Flag Salt Remedy Co., Savannah, N. Y., in order to extend the sale of Flag Salt make an offer which does not cost the druggist anything to try. They send samples for distribution, and some of the goods to pay for distributing them. See their new advertisement in this issue.

A drug store equipped with rolling ladders has its capacity for the storage of goods more than doubled, and their convenience more than doubles the ease of selling goods. If you want a larger store without moving or building, investigate this rolling ladder system. Address Coburn Trolly Track Mfg. Co., Holyoke, Mass., for catalogue.

J. M. Grosvenor & Co., 105 Milk street, Boston, are making an exceptional offer on Konseals, which every druggist who is not using these most excellent means for dispensing powders should not fail to investigate. This offer probably has more money in it for the retail druggist than anything previously offered. Write for particulars.

There is one item on the holiday goods list which should not be forgotten, and that is the great Christmas tree adjunct, the wax taper. There are degrees of quality in even wax tapers, and the Haledon brand made by Theodor Leonhard, Paterson, N. J., is a good one to specify, because it is made of good material, and will give the brightest, clearest light.

Dodge & Olcott, 86 William street, New York, have completed arrangements by which they become sole American agents for the well-known house of De Laire & Co., of Paris, and they solicit orders for the perfumer's and confectioner's specialties for which this French firm is famous. Write for circulars giving quotations on some of these goods.

One of the best reminders or souvenirs for customers is a calendar, one which is attractive enough to last and be appreciated until Dec. 31, 1896. E. B. Read & Son, Baltimore, Md., make that kind, and if you attend to the matter right away you can get some of their sample illustrations, pick out something artistic, and order a supply of calendars to hand out to customers during the holiday week.

Japanese napkins are dainty affairs for use at the soda fountains, and they can also be sold at a good profit in the drug store. Success in either giving them away or selling them depends upon how they are bought. The C. C. White Paper Mfg. Co., 164 Duane street, New York, will quote prices upon application which will show that they are profitable either as an advertisement or an article of sale.

The druggist who has worked up some of his own specialties to a point where economy in manufacture may mean greater success will find upon the list of pharmaceutical machinery made by J. H. Day & Co., Cincinnati, many labor-saving contrivances which will greatly reduce the cost of manufacturing. Send for catalogue of grinding, sifting and mixing machinery.

The pharmacist should please his customers more than himself in the matter of corks. This requires a cork which will not break or crumble after being removed from the bottle a few times. The Conestoga Cork Works, Lancaster, Pa., will send samples of a line of corks which they make especially to suit the druggist's customers, at prices to suit the druggist.

The Sicilian Essential Oil Company, of Messina, have discontinued their branch office at 96 Maiden Lane, this city, and have appointed Leo Bernard & Co., 228 Pearl street, as their sole agents for the United States and Canada. Mr. H. H. Sawyer, who managed the old branch, will wind up its affairs and will continue to look after the interests of Sicilian Essential Oils, at the new address.

Perhaps your customers are tired of the appearance of your old soda apparatus and would show their appreciation of something new or a change in design. A. D. Puffer & Sons, 38 Portland street, Boston, have their new designs ready for 1896 and will send illustrated catalogue upon request. They offer very liberal terms in exchanging old apparatus for new, and it is not too early to begin figuring on changes for the next season.

Druggists who supply photographic materials will find the chemicals made by Larkin & Scheffer, St. Louis, most satisfactory to their customers. Eikonogen, Hydrochinon and re-sublimed pyrogallic acid are furnished in packages of 1 ounce up to 1 pound, to meet the varying requirements of both amateurs and professionals, and prices will meet the views of druggists who wish to sell first-class goods at a good profit.

Nine people out of ten do not know how to choose colors to get the most harmonious effects in painting. Lucas' color cards show them just how to choose and combine, therefore they appreciate the cards and buy Lucas' paint. The dealer's name is printed on Lucas' advertising matter, and this matter is so attractive that it helps his other business. Send for specimens of these color cards, etc., to John Lucas & Co., Philadelphia.

Mellin's Food babies are such a healthy hearty looking race of youngsters that their portraits in the public prints cannot fail to be remembered when occasion arises for helping other babies through some of the difficult periods of their lives. This means that Mellin's is the food most likely to be called for, and it also indicates that the druggist should not forget the goods in best demand when he writes to his jobber.

Before ordering supplies of wines find out what your physicians and best customers want. This can easily be done by showing them samples. Duroy & Haines, Sandusky, O., furnish samples free of charge, expressly for the purpose of showing both the druggist and his customers just what Duroy wines are before purchasing them. Try this sample method before ordering your next supply of wines.

Cod liver and castor oil medication is always a problem for the druggist, and he gives much thought to means for disguising the taste of these medicines. There is one method, however, which is sure, as far as palatability is concerned, and that is the soft capsule. H. Planten & Son, New York, put up a line of such capsules in various combinations, and such goods are perhaps just what some customers will earnestly appreciate. Send for Planten's list.

There is probably nothing in the line of staple goods that will find a larger sale as Christmas presents than Pozzoni's Complexion Powder, put up in Scovill's handsome gold puff boxes. Every lady uses complexion powder, and must have a puff box. It is certainly difficult to find a prettier box than is furnished by Pozzoni, and as box and powder are sold at 50 cents the holiday sales will be enormous. Every druggist should have a stock on hand for Christmas trade.

Teutonic, the concentrated liquid extract of malt and hops, claims a greater amount of nutritive material than any other extract on the market. This is just what people want when they ask for a malt extract, and they are asking quite frequently for Teutonic, because they are reading about it in most of the popular magazines and newspapers. The price list which S. Liebmann's Sons' Brewing Company, of Brooklyn, N. Y., will send upon application will interest the druggist.

Do you want a thermometer to hang in front of your store for the benefit of your friends who are curious about the temperature? If so, order some of Major's Cements at $1 per dozen, which retail for $1.80. With 3 dozen a 20-inch thermometer is furnished, and with 10 dozen a 4-foot instrument can be secured. Send order to A. Major Cement Co., 463 Pearl street, New York. The goods will come from your jobber in the regular way, and the thermometer will be shipped by the Major Cement Co.

A-corn Salve is the best advertised corn remedy, and is consequently most likely to be called for. The druggist who is not handling it has a most liberal inducement offered him by the Giant Chemical Co., Philadelphia, who will send one dozen free, with plenty of advertising, on all orders for one dozen at 85 cents sent to jobbers through them. This only applies to druggists who have never handled the remedy, and will so state over their signature. The return from this 85-cent investment is $3.60.

If you are thinking of doing a hot soda business start right by purchasing the most economical apparatus you can find, Rowe's Automatic Apparatus has certain claims in this direction which the careful buyer should not overlook. It only burns gas when necessary and regulates the supply automatically, so that the work of the dispenser is confined exclusively to dispensing—no turning on and off the gas, the apparatus regulates that matter itself. Write for styles and prices.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Glycerin, Golden Seal Root, Gentian Root, Oils: Cinnamon Leaf, Camphor, Citronella, Natural Sassafras.

Declined: Gum Chicle, Lycopodium, Menthol, Quicksilver, Oil Wintergreen (artificial), English Rape Seed.

New York, Dec. 3, 1895.

The most active section of the large jobbing houses, at the present time, is the department where samples are displayed of the various "druggist's sundries," perfumery and miscellaneous fancy goods, suitable to the annual holiday trade. If it were not for the increased activity in that class of merchandise the general drug market would present a comparatively tame appearance, inasmuch as other departments show a falling of in demand, and a consequent slower movement into consuming channels. It should not be understood, however, that there is any decrease of confidence on the part of dealers, or that any unexpected stagnation of business has developed. It is merely the result of the usual course of buyers toward the end of the year, as the closing month generally witnesses a cutting down of orders to the lowest possible point consistent with actual necessities. It is a noteworthy fact that there is nothing of an epidemic character in any large section of our vast extent of country, and the continued mild weather has retarded the tendency to pulmonary troubles; these conditions naturally have considerable to do with the movement of certain drugs, but the recent gradual lessening of the volume of business is chiefly due to the near approach of the annual stock taking period. When that is past, and the usual settlements made, it is believed that the general market will again assume an active appearance. The statement that confidence in the future is not lacking is partly confirmed by the continued upward trend of values, nearly all leading descriptions showing decided firmness on the part of holders. There have been some declines since our last report, but most of them are in articles of minor importance, and have no unfavorable influence over the general situation.

OPIUM.—Nothing new has developed to materially change the condition of the market for this article. There is no demand of consequence, and the continued lack of interest on the part of buyers has a more or less unsettling influence. Spot values are the same as quoted last week, but there is rather more disposition to sell, and large parcels to arrive are offered at a slight concession from former quotations. The larger buyers, however, are not disposed to operate and with the consuming trade keeping close to actual requirements, the movement is exceedingly slow and the market dull. The Philadelphia holder mentioned in our

last report continues to offer at 2½ cents per pound less than local dealers, but the concession does not seem to stimulate activity. The question of quality is again being considered and out-of-town buyers, when sending in their orders, usually request a careful examination by their representative. The situation abroad is about the same as previously noted.

MORPHINE.—The market has ruled quiet, without change in manufacturers' prices, and buyers continue to operate cautiously in view of the unsettled condition of the opium market.

QUININE.—Continued activity has characterized the market and values maintain the same degree of firmness noted for several weeks past. The only feature of noteworthy interest is a report from London that a new brand has been offered in that market. It came as a surprise to the other manufacturers, as the projectors had carefully concealed their operations until several thousand ounces were placed in the auction rooms. Of course, investigations were started immediately, but up to the present time nothing very definite has transpired except that the excitement produced by the sudden development of a new competitor has subsided, and the older makers are awaiting further information.

ACIDS.—General trading is fair in all leading descriptions, and the recent improvement in values of carbolic is firmly maintained, but the market is without new feature calling for special mention.

ALCOHOL.—Both grain and wood continue to move steadily on consuming orders, with the tone of the market firm.

BALSAMS.—The market is practically in the same position as noted last week. All kinds are in good jobbing request and firm, with tolu and Peru particularly strong, owing to continued scarcity.

CACAO BUTTER.—Continues very scarce on the spot, with the limited stock firmly held at the recent advance. The future course of prices will depend somewhat on the result of to-day's regular monthly auction sales in London and Amsterdam.

CAFFEINE.—Values show no further change, but the market has ruled firm, with the advance noted last week steadily maintained.

COD LIVER OIL.—The unsettling influence mentioned in our last report has caused an easier feeling among some of the local dealers, and regular customers have been supplied at the reduced price named by the manufacturing consumer, but others adhere firmly to old quotations, and claim that the statistical position warrants an advance instead of a decline.

ESSENTIAL OILS.—A continued good demand is reported from perfumers and fancy soap makers, and seasonable activity pervades the general market, with the tendency of prices toward a higher basis. No further change has occurred in cassia or anise, but both show considerable strength. Cinnamon leaf oil has attracted increased attention and holders of the limited stock have advanced their quotations 25@75c. per lb; the improvement is due to the current high prices for cassia, but it is claimed to be neither a good substitute for, nor adulterant of, the latter. Camphor oil has been advanced 2c. per lb owing to reduced stocks. Citronella is steadily moving upward, and holders have further marked up their prices 3@4c. per lb. The upward tendency of mirbane, noted last week, has resulted in an advance of 2 cents per lb, partly owing to a further improvement in nitro-benzol abroad. Natural sassafras is scarce and about 4c. per lb higher. Peppermint of all kinds is in better demand for both home consumption and export, and values show increasing firmness. The only decline is in artificial wintergreen, which has been reduced 5c. per lb, owing to keen competition resulting from a break in the combination of manufacturers.

VALENCIA SAFFRON—Is firmly held at the advance noted last week, but the market is less active, and no further large sales are reported.

GLYCERIN.—A continued strong market for crude abroad has caused a further advance of 2c. per lb in manufacturers' prices of refined.

CIRCLE.—Values are again 1c. per lb lower, owing to large available stocks and continued slow demand.

QUICKSILVER.—Foreign markets continue firm, but an easier feeling has developed here owing to pressure to realize, and quotations are 1c. per lb lower.

LYCOPODIUM.—Recent heavy arrivals have had a depressing effect on the market, and values have declined about 3c. per lb.

MENTHOL—Is offering freely from outside holders, and former quotations are being shaded about 15c. per lb. On the other hand, primary markets are cabled higher.

GENTIAN ROOT.—The spot stock is light and closely concentrated, and the principal holders have advanced their prices ½c. per lb.

GOLDEN SEAL ROOT—Is scarce and wanted, with quotations about 1c. per lb higher.

RAPE Seed.—English is quoted ¼c. per lb lower.

London Market Report.

London, Nov. 23, 1895.

Our markets have been very quiet this week, but the prices of several articles are higher.

ACETANILID—Is quoted rather dearer at 1s. 1½d. per lb.

ACID, CHRYSOPHANIC—Is quoted from 20s. to 24s. per lb, and is very scarce.

ACID, CITRIC—Is quoted down to 1s. 2¼d. per lb from second hands.

ACID, TANNIC.—Owing to higher prices for galls this is quoted higher.

BORAX.—There is an expectation of higher prices being fixed shortly.

CAFFEINE—Is quiet at 19s. per lb, prompt delivery, and 18s. forward. Tea dust is more plentiful, but no lower prices in the alkaloid.

CAMPHOR.—German refiners have reduced their quotations 1d. per lb this week, but the syndicate continue buying crude for forward delivery.

COLOCYNTH.—Upon the report of a very short crop holders of Turkey apples are firmer.

GLYCERIN.—Refined is again dearer at 67s. per cwt. for 1.260 s. g. in tins and cases from refiners, while second hands are sellers at 2s. per cwt. less.

OIL, COD LIVER—Is firmer and sales have been made at 175s. for best Norwegian brands.

OILS (ESSENTIAL).—Cassia of fine quality (85 per cent. cinnamic aldehyde) sold this week at 10s. per lb, which marks an advance. Star Anise seed firm at 9s. 6d. per lb. Peppermint very firm to rather higher. Eucalyptus is being moved off at full rates.

OPIUM.—While holders are very firm, buyers hold off, anticipating that the troubles in Turkey will bring prices down, slightly at least.

ORRIS ROOT—Is easier owing to forced sales in Italy.

SAFFRON—Has been rising daily and closes firm at 30s. per lb for finest Valencia.

The price of morphia sulphate is now quite low, and it will undoubtedly pay to replenish stocks, specifying the "N. Y. Q." brand when ordering. This brand comes in cubical form—no mistaking it for quinine

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One way to hold good customers is to tell them that you can fill their favorite prescriptions when they are away from home just as easily as when they are at home. This can be done by putting up their prescriptions in a mailing case made by the U. S. Mailing Case Co. of Boston. When your customers are away on an extended visit they can mail the bottle to you, and you can fill it and return it by mail. The prices for these mailing cases make this plan quite feasible. Write for catalogue.

The Chattanooga Medicine Company, manufacturers of McElree's Wine of Cardui and Thedford's Black-Draught, have commenced the erection of another large four-story annex to their Chattanooga laboratories. This plant is located just at the foot of Lookout Mountain, and the business has become one of the most extensive of its kind in the country. Wine of Cardui is being advertised in the newspapers in the West this year. Ten million copies of the Ladies' Birthday Almanacs for 1896 are also to be distributed.

The firm of Richard F. Fischer & Co., 96 Maiden Lane, has been changed into a stock company and will hereafter be known as the Fischer Chemical Importing Company, and be located at 14 Platt street, New York. The company is sole agent in the United States and Canada for the Berliner Capsules Fabrik, and Dr. Graef & Co., of Berlin, Dr. Schaeffer Chemische Fabrik Charlottenburg, A. Wassmuth & Co., Barmen, Chemische Fabrik Cotta, near Dresden, and wholesale agents for Koeniglich Preussische Porzellan-Manufactur, Berlin, and Verein Chemischer Fabriken, Mannheim.

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A NEW BOTANY.

The articles upon Botany in the Era's "Study of Pharmacy" course, by Professors Rusby and Jelliffe, have met with such popular acceptance, and furnish such an excellent means for the study of structural botany, both in the classroom and by the home student, that they have been reprinted in book form.

The new book is an exceedingly handsome publication, printed upon heavy paper, with cloth covers and gilt lettering.

The gross and minute structure of plants is treated in accordance with the most recent and advanced ideas, with a conciseness which makes the work one of easy reference, and the 560 illustrations, most of them never before presented in a botanical text-book, make the work especially valuable to the home student.

Price, $2.50 by mail, postpaid.
D. O. HAYNES & CO., Publishers,
New York.

A SUBSTITUTION CRUSADE.

There seems to have been formed some sort of a union or compact among a certain class of medical journals with reference to the substitution question. They are all publishing exactly the same editorial in which occurs such expressions as:

"We will expose in our columns the names of frandulent dealers on receipt of satisfactory evidence. . . . Feeling that all doctors, honest druggists and manufacturers of legitimate preparations will be benefited by our action in this matter, we solicit their assistance."

"The above notice must be considered as a warning to druggists who believe they are at liberty to substitute drugs."

This particular editorial first appeared, we believe, in a St. Louis journal, which has made a lamentable and ludicrous failure of its "substitution crusade," undertaken, to judge from superficial evidence, to please certain of its patent medicine patrons. Nearly, if not quite all, of these journals are second-class (in merit and in payment of postage), are either house organs or conducted for the personal glorification of their doctor-editors, and it is significant as well as amusing to note that the substitution investigation is always made with reference to some particular secret nostrum which is a heavy advertiser in their pages. They all spell substituter with an "or," too.

We all know there are some druggists who substitute in the most outrageous degree, and at every opportunity, but they are an exceedingly small minority and looked upon as scoundrels by the great majority of druggists.

We know, too, that there are physicians, not a small minority, though, who prescribe any and every patent medicine, knowing nothing and caring less about its true nature, simply shooting at the disease with the pop-gun squirt put in their hands by the nostrum maker, resting upon his assurance that it is a mighty good weapon. There isn't much to choose between the substituting druggist and the patent medicine doctor. Here is what one of the latter writes to the St. Louis journal above-mentioned.

"I put up my own prescriptions, therefore am safe against the cheat of substitution. It is a great and vile fraud, to be sure. All who prescribe proprietary preparations (and their number is extensive), are open to be cheated by the vile act of substitution. Physicians can stop this damnable rascality by putting up their prescriptions out of their pocket cases."

How much confidence would the public have in physicians if they only knew that they were being dosed with patent medicines. (Nearly half of the physicians' prescriptions call for patent medicines.)

But so far as substitution is concerned, reputable druggists and conscientious physicians are not worrying themselves much over it. The former give what is called for, and the latter do not prescribe things of which they know nothing. These medical journals which are seeking cheap notoriety will not profit much from it. We hope, though, that they will discover the dishonest druggists and let us know who they are.

PLACING THE RESPONSIBILITY.

It is refreshing and significant to note that the newspapers, which usually are found arrayed against any proposition to enact and enforce stringent pure food and drug laws, have relinquished this position and of late are pronounced advocates of such legislation. Heretofore they have declaimed loudly about "prying into private business," "unwarranted interference with trade," "disclosure of trade secrets," and all that sort of stuff, fearing apparently that their patent medicine patronage would drop off through the application of these laws to this class of products. But now, especially in Michigan, Ohio and Pennsylvania, where the food and drug laws are at present attracting most attention, we find the newspapers quite generally approving them and urging their thorough enforcement, though they must know that this means the disclosure of the true nature of secret medicines and proprietary articles in general, and such disclosure would mean the death of many of these preparations, because they would be shown not to be true to their claims. We want, right here, to applaud the papers for this stand. In Ohio it is said that an attempt will be made this winter (by those whose toes have been stepped upon) to secure the repeal or modification of the pure food laws. Hear what the Cleveland Leader says about this, isn't it good?

"Inasmuch as these laws were passed to prevent the sale of adulterated food products to the people of Ohio, we are at a loss to understand why anybody should seriously consider their repeal. We do not imagine that any man, no matter what his business, would say it was right to sell any article of food that had been adulterated to a customer who had paid for and expected to get the pure article. The Leader believes the pure food laws were passed in the interest of the people, and that they should be left in the statute books. Certainly the

Dairy and Food Commissioner deserves the thanks of the people for the energy he has displayed in bringing violators of those laws to justice."

But there is one feature of all these State laws which it is claimed works unjust hardships upon dealers in food products and drugs. If a retailer innocently purchases adulterated goods it seems hard he should stand all the punishment. He should not be held entirely guiltless, for he should know the character of the goods he sells, but the law ought to provide for the punishment of the manufacturer and the wholesaler who puts adulterated products upon the market as well as the retailer. But not until we have a national enactment can these people be reached by legal process. Now, the retailer has the choice between two ways of avoiding conflict with the law. He must analyze or test, or pay for having tested, all the goods he purchases, or he must insist upon a pritten guarantee of protection against prosecution from the wholesaler or manufacturer from whom he obtains supplies.

The latter method we urge our retail friends to adopt. If the manufacturer refuses to thus protect you it is presumptive evidence his goods will not bear examination in comparison with their claims. Some druggists have already demanded such guarantees, and we learn from the Confectioners' Journal that manufacturing confectioners are receiving from grocers and other dealers in Michigan, Ohio and Pennsylvania letters of which the following is a type:

"Dear Sir: For our protection we ask that you kindly sign at once the following agreement. The Pure Food law, which is now in effect in our State, makes it necessary that we take this step.

"In consideration of the purchase, now and hereafter, by..... from us of groceries, goods, wares or other merchandise, we hereby agree to save harmless said.....and each and any of them, and each and any of their agents and customers from any loss, damage, costs, fines, penalties or expense incurred by them because of the fact that the goods, or some or any of them, heretofore purchased or hereafter to be purchased by.....of us, or held by.....on consignment from us, or held or sold by them as our agents, may be claimed to be within the prohibitions of the statutes of the State of ....."

Manufacturers of package goods, if they are honest, ought to be willing to sign such an agreement. If they refuse, they probably are putting out fraudulent preparations, and the retailer should refuse to handle them. But when it comes to goods in bulk, staples, etc., not in packages with the manufacturer's identification marks upon them, such an agreement undoubtedly will not be entered into, for the manufacturer will not be responsible for the goods after they have left his hands. In such case, the retailer's duty is to test and examine the goods, and if he fails to do so he should and justly, be held accountable, if convicted, of selling adulterated articles. Here, ignorance is certainly no excuse.

Retailers are too careless in their purchases; they make price rather than quality the standard of measurement, and the conviction and punishment of a few of them now and then will do a world of good. It has been beneficial in Ohio. We hope to see the sentiment in favor of pure food and drugs grow and gather strength and influence until there is an effective law in every State, or, better still, until a national act is secured. In the meantime we recommend to druggists in Michigan, Ohio, Pennsylvania and any other State where there is present activity and interest in the matter, that they cut out the sample letter above, and send copies of it to the manufacturers and jobbers with whom they deal.

THE RETAILER AND BOX AND CARTAGE.

A correspondent, whose letter is published in this issue, has that to say about the box and cartage matter which abundantly proves that a very decided reform with reference to this charge is essential. Instances he quotes and statements he makes show how greatly it has been abused, and what has been the imposition upon the retail druggist. But he looks at the matter from his own individual standpoint alone, gives credit for no honesty of purpose and action on the other side, and does not fight fair. He insinuates that this journal is taking sides, when he knows better, and he has evidently not read with any degree of care what we have had to say on this question, for if he had he would see that our position is virtually the same as his. We have asserted and now repeat that there must be a radical overhauling of the matter, there must be no more of the overcharge, the unequal and unjust distribution of the charges which have characterized its administration in the past, but that, if now generally to be imposed, it must be honestly and equitably. Most of the Western jobbers now charge for box and cartage, but the jobbers in Eastern cities are not following this custom. The conditions here are different, for the business is divided more into special lines. We think it a step backward to introduce these charges into drug invoices. It is sure to antagonize the retailers, the jobbers will make exceptions, and the old trouble will crop out again. Better kill this box and cartage question once and for all.

UNDER WHAT PLAN ARE WE WORKING?

The danger of burning bridges behind a body which intends to act aggressively in a new country with which it is unfamiliar, was never more strikingly illustrated than in the recent failure of the Denver plan, through the unwillingness of the proprietors to adopt it. The old bridge, the Detroit plan, serves as an avenue of retreat for the jobbing trade. It is too early after the engagement to determine the exact condition of this old structure, but we feel rather squeamish when we recall the words which were spoken regarding it last summer, when the new one, the Denver plan, was brought forward for consideration. In bringing it forward, the old bridge had to be in a measure discredited. Its piers and abutments were shown to be undermined by the continual wash of the trade current; its beams were weakened, and some of the planks so rotten that it was hardly safe to roll a box of pills over them. The structure was formally condemned by Chief Engineer Kline last May, and now we are compelled to go back and drag all our heavy artillery, brass bands, mules, etc., over its creaking timbers.

The Detroit plan provided that proprietors should accept orders for full quantities, with rebate discount only from regular houses, recognized as belonging to the number who would faithfully observe the prices and conditions established by the manufacturers, or, in other words, sales were to be made only to those who were doing a legitimate jobbing trade. The efforts to decide who were legitimate jobbers, the ups and downs of the "cut-off list," and the vast amount of detective work necessary to keep this list in proper shape, are too fresh in our minds to call for reference at present. But under this plan the cutter has reached his highest development. He still flourishes, and we have never heard him complain that he could not buy all the goods he wanted.

A NEW SCHEME FOR PROCURING NAMES.

The inquiry, "What's in a name?" is usually met with the inference that calling a rose jimpson weed would not affect its odor. But there's money in it, and the above statement was made years ago, before the establishment of one of our modern industries which shows that there is money in a name. The industry referred to is that of gathering names from all over the country for the use of certain tradesmen who wish to send printed matter relating to their wares to parties whose names they thus secure. This method, which within bounds is perfectly legitimate, is one which is much used by proprietors of patent medicines and others, and many are the devices used to secure names. The business has reached such refinement of detail that a classification has been found feasible, not exactly upon the lines of financial integrity adopted by the commercial agencies, but based rather upon the comparative gullibility of the persons whose names are secured. For instance, a list of people who answer free prescription advertisements is greatly prized, as this particular class, if able to keep out of the poorhouse, can be relied upon to purchase most anything of a shady character. And, again, the man who places upon the market a remedy to counteract the inhibitory power of the vagus finds after a certain time that his audience is unresponsive, in which case his list of customers becomes an article of merchandise, to be sold to the next man who "discovers" an elixir of life intended to promote indefinite longevity.

One of the latest dodges for securing addresses to which circulars, etc., can be sent emanates from an Indiana town. For a combination of gall and enterprise it challenges admiration. The scheme consists in sending long sheets of paper headed "For the Relief of Cuba" to all

the principal cities and towns to be signed by all those who feel like petitioning Congress to do something or recognize the belligerents who are endeavoring to cast off the Spanish yoke. Now, most anybody will sign a document of this kind if it involves no monetary considerations nor requires the signer to visit the unhappy island and personally hunt up and recognize the patriots. After the sheets were signed they were returned to the patent medicine concern which sent them out, and as the signers undoubtedly experienced some pulling of the heart strings, possibly disarranging their diastole and systole, in thus expressing their sympathy for the downtrodden Cubans, they were immediately favored with circulars calling attention to some remedies having a "restorative" action upon their overtaxed hearts.

The extension of this scheme of obtaining names brings to mind many possibilities within reach of the enterprising patent medicine man. People who will sign petitions which call forth emotional sympathy are undoubtedly soft-hearted, and the maker of a medicine which will correct this defect would find rich pickings in such a list. The signers of a petition to abolish hand organs would quite certainly buy a liver medicine, and those who would similarly express themselves in favor of bloomers would be good customers for a brain restorer. A little study of the relation between mind and matter would enable the medicine man to discover through such petitions the possessors of a great many bodily weaknesses which he could discover in no other way.

BOTTLING DISTILLED LIQUORS IN BOND.

A recommendation made in the recently-issued annual report of the Commissioner of Internal Revenue is apparently one which the retail drug trade can vigorously champion. It refers to bottling distilled liquors in bond under governmental supervision. This question has been vigorously discussed by several leading distillers, who have recognized the great advantages to be secured through some plan by which they could put their products in small packages for the consumer, and have them reach the latter with an internal revenue stamp upon them intact, thus assuring both parties that the user of distilled liquors is getting a product which has not undergone sophistication.

This plan may not improve the quality of distilled liquors, but the consumer will be more certain of procuring a liquor which is just as the distiller made it, and will only have to confer his patronage upon those distillers in whom he has confidence. It will undoubtedly operate to make the consumer careful to see that the whiskies and brandies which he uses are in, or come out of, revenue-stamped bottles, and the druggists who is as solicitous as he should be regarding the character and quality of the liquors which he dispenses will have something besides the prices to guide him in making his purchases.

PRACTICAL HINTS.

——Wooden spigots used in the cellar and stock rooms of the drug store may be well preserved, it is said, by plunging them into a bath of melted paraffin (120° C.). The temperature must be kept up as long as air bubbles may be seen to arise from the wood. The bath is then allowed to cool gradually and the spigots are taken out just as the paraffin is about to solidify. The excess of paraffin is then wiped off with a cloth and the spigot finally subjected to energetic rubbing with the same cloth. Other wooden apparatus may be treated in a similar manner, and so preserved for a long time from the effects of corrosive liquids, damp, etc.

——There is lots of meat in the following good business hints a commercial paper gives its readers: Never sign a paper without reading it; and if, after reading, you do not understand it, have it thoroughly explained before you put a signature to it. It is best to get some third person, who is not interested in the matter at all, to explain the meaning of what is not clear, or to point out words that may have two meanings in the document. Always make a memorandum in your little book of any contract you undertake for money or any agreement to work. It saves much trouble to keep a memorandum book and put down the dates when you either pay or receive money. Whenever money passes on account, set it down. If any money or thing of value goes through your hands, give a receipt for it and make a memorandum. Your receipt settles the amount that passes, and that cannot be disputed. When you pass it to a third party, get a receipt and keep it. This form is as important in the transfer of income, trust money or valuables among your own family as with other persons. Never allow a person to do any service for you without first agreeing upon the cost to you. This rule, strictly adhered to, will save you many annoyances.

——The wrapping of packages for delivery to the customer is an art which is acquired only by practice. Besides practice the druggist must have desirable paper, and that, too, in pieces of the right size. Many druggists buy their wrapping paper by the bundle in large sheets, cutting it in the various sizes as they need it. Economy in use and a saving in time may be effected by having this work done before the paper is wanted. An old rule for cutting paper advantageously is to purchase a bundle (two reams) of white paper 24 by 38 inches, three quires of which is to be left uncut. The balance is cut as follows:

Each sheet cuts into	Size.	Each quire makes	Quires cut.
32	½ oz.	768	5
24	1 oz.	576	6
18	2 ozs.	432	7
12	4 ozs.	288	8
8	8 ozs.	192	8
4	16 ozs.	96	3

The cutting may be done by the druggist with a sharp knife and a heavy straight edge of hard wood. Or what is better and just as economical, he can have a printer cut it for him with a paper cutting machine.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

While it may be a bad thing for the makers of some household furnishings, also the second-hand dealer, to have the druggist advertising for means of repairing broken articles, the druggist's customers will not object. The chances are that they will appreciate the hint which our sample advertisement gives, and proceed to purchase the necessary articles for making repairs. There are so many things around a house which are too much disabled to use but too good to throw away, that an occasional repetition of a cement or glue advertisement can be depended upon to give some immediate returns.

(No. 43)

Such Things Will Happen.

If they didn't the crockery and bric-a-brac dealers would go out of business, and we wouldn't keep cement. The next time one of these "didn't-mean-to" accidents occurs, come and see us about it. We have cements for all purposes:

CHINA CEMENT—15 & 25 cents.
For your broken dishes and bric a-brac.

LEATHER CEMENT—10, 15 & 20 cents
For repairing boots, shoes and leather goods

RUBBER CEMENT—15 cents
For rubber boots, shoes, waterproofs, umbrellas, etc.

LIQUID GLUE—10 & 15 cents.
For furniture, and all wooden articles.

KNIGHT & DAY, Druggists.

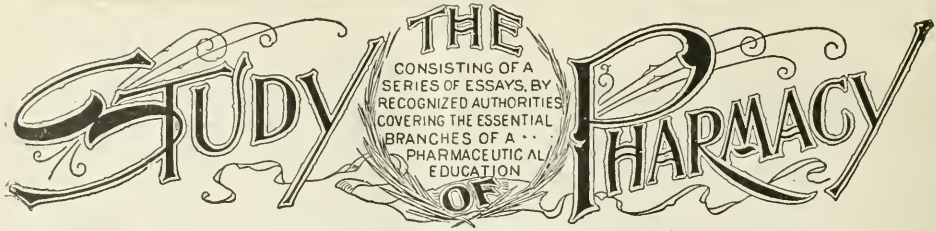
For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

Advertisers' Exchange.

In our issue of Nov. 28 we intimated that it might be a good idea for druggists in different parts of the country to correspond with each other upon advertising matters, and exchange ideas and samples of their effective advertisements. We promised to publish the names of those who desired such correspondents, and the first one to avail himself of the opportunity is

E. J. Hall, of Tupelo, Miss.

Who's next?



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[Continued from page 711, December 12.]

[*This series of Essays was begun in the Pharmaceutical Era of January 3, 1895, and will be continued, in weekly installments, throughout the year.*]

XXV. PLANT ANATOMY.

(Concluded.)

By SMITH E. JELLIFFE, M.D.

CHAPTER VII.

TISSUES OF NUTRITION.

1. ABSORPTION SYSTEM. This consists of tissues whose function it is to absorb from the earth the water containing in solution the various mineral salts that will be of benefit to the plant, and which, with the food received from the air, constitute its entire nourishment. The part of the higher plants devoted to this work is the root hair, which has had a gradual development from the lowest algæ to its present structure. The root hairs are true trichomes of the epidermis of the root, and have very thin walls, through which osmosis can readily take place. (Fig. 45.)

Fig. 45.—Young roots of Triticum vulgare with root hairs and attached earth. (Tschirch).

2. ASSIMILATION SYSTEM. The main tissues of assimilation are those in the leaf or leaf-like organs, and the important and active agents are those cells that possess chlorophyll. The leaf consists of a stalk, the blade, and, in some cases, two stipules. The petiole carries the vessels from the stem into the leaf, and has various supporting elements, according to the needs of the leaf. The blade consists of these vessels and some of their protecting elements which are collectively called the ribs or veins and veinlets. These ramify either in more or less parallel lines, as in the Monocotyledons, or irregularly in a reticulated fashion, as in the Dicotyledons. (Fig. 46.) Between these fibro-vascular bundles the fundamental tissue of the leaf the parenchyma or mesophyll, is arranged in various ways. Surrounding the whole surface is the epidermis, which is a direct continuation of the epidermis of the stem.

Thus, each leaf has portions of at least three distinct types of tissue: The Epidermal tissues, with its modifications, stomata and trichomes; the Conducting tissues, with, perhaps, some mechanical support; veins, and the spongy Internal tissue of the leaf proper, namely, the Mesophyll, which makes up the tissues of Assimilation. (Fig. 47.)

The Mesophyll alone will here be described, leaving the veins to be discussed under Conduction System and the Stomata with the Respiratory tissues.

The Mesophyll consists of thin-walled parenchymatic cells, which are generally loosely arranged, giving to it the name of Spongy Tissue. In some leaves there is a single or double row of cells, which are somewhat cylindrical or brick-shaped and which are placed with their longest diameters at right angles to the epidermis. They are thin walled and filled with chlorophyll. They are called Palisade Cells, and by means of their chlorophyll assimilation of the carbon dioxide of the air is carried on.

According to the arrangement of the palisade cells three types of leaves have been described.

1. Leaves without any palisade cells. Centric.

2. Leaves with palisade cells on both surfaces. Iso-lateral.

3. Leaves with palisade cells on the upper side only. Bifacial.

To the first belong many herbs which grow in the shade, also many stipules and calyx lobes, the latter having little or no functions of assimilation.

In the Iso-lateral type a single or double layer of palisade cells is found,

Fig. 46.—Leaf of Digitalis purpurea showing veins or conducting vessels. (Planchon).

with a spongy mass of parenchymatic cells between forming a middle layer. In general leaves that are affected on both sides equally by the sun have this internal arrangement, hence it is found more often in erect monocotyledonous leaves, as in Aloes. It is also found in Senna, Eucalyptus and Lactuca. (Fig. 48.)

The third type, Bi-facial, is the more common. It is found in most leaves which are horizontally placed with reference to the sun's rays, Jaborandi, Absinthium, Conium, Mentha piperita, Laurel, Matico, Uva Ursi, etc., in which the palisade cells may be one, two or five rows in thickness.

It is an easy matter to determine most of the official leaves by means of their external shape and internal arrangement, but in a powdered condition the determination becomes very difficult, and the epidermal cells, the trichomes and

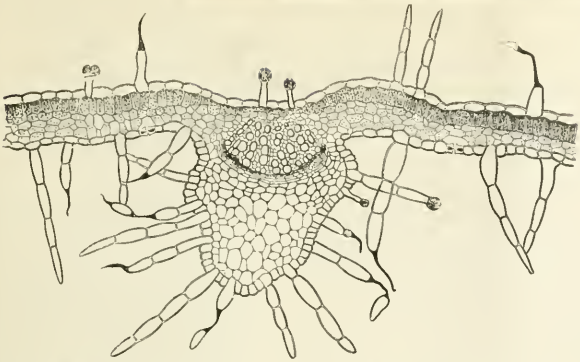


Fig. 47.—Cross section of leaf of Digitalis purpurea, showing finer anatomy of conducting vessels, also hairs and glands. (Tschirch).

the presence or absence of the palisade cells are of great importance. (a)

3. THE RESPIRATORY TISSUES are those which enable the plant to take in food from the atmosphere in the form of carbon dioxide and to give off oxygen and watery vapor. They are the tissues of gaseous exchange. They occur in the epidermis of leaves as the Stomata and as Water Pores, and in the epidermis of stems as Stomata and Lenticels. As a part of the respiratory tissues Intercellular Spaces should be borne in mind, as they provide means of communication between the internal tissues and the stomata and lenticels.

The Stomata are peculiar modifications of the epidermis. In the higher plants they are composed of two guard cells, generally oval in shape from a surface view, between which a space is left for the passage of gases into a breathing cavity beneath. (Fig. 49.)

On cross section they are more complicated; in the figure (Fig. 50) ss. are the two guard cells, between which lies the opening E. and underneath the breathing space A. On looking at the cross section the external cutinized layer of the epidermis may be seen. This varies in thickness in every plant. Beneath this in the chink of the opening lie two chambers, the front and back, which vary greatly in the different stomata.

Stomata sometimes lie superficially, at other times, though less commonly, they lie immersed in the tissues of the leaf.

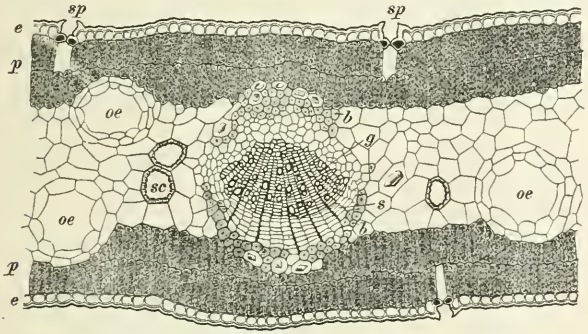


Fig. 48.—Cross section of Melaleuca minor showing *e*. Epidermis, *p*. Palisade cells, *sp*. Stomata, *sc* stone cells, *oe*. oil reservoirs, (Ol. Cajeput), *g*. vessel portion (xylem)—*s*. sieve portion (Phloem), with *b*. bast fibres of the same. (Tschirch.)

These points of variation in shape and size, and degree of cuticularization, serve as practical guides in the determination in the leaves of the official plants(a).

The number of stomata varies widely, from 0 to 40 to 300 on an average to the square mm. Some leaves have as many as 700. It has already been said that the number on the upper and lower sides may be unequal, the majority of leaves having more stomata on the under side.

The function of the stomata is the interchange of gases and the evaporation of water, the activity of these functions depending upon the opening and closing action of the guard cells, which have a special action. When the guard cells are filled with water, they become turgid, thereby making the opening larger; active evaporation can then take place until the turgor of the cells is gradually diminished, when the opening becomes smaller and the stomata are thus automatically closed. (b)

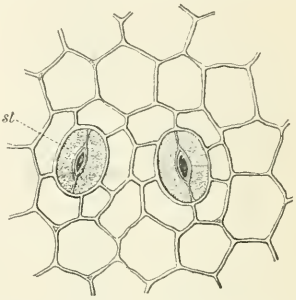


Fig 49.—Leaves of Uva Ursi, under surface showing *st*. stomata, chink and guard cells. (Vogl).

In the determination of powdered drugs the stomata are of importance.

Water Pores are not properly respiratory tissues. They are similar in shape to the stomata, but differ in the immobility of the guard cells and in the fact that they generally lie at the end of a fibro-vascular bundle of a leaf, and hence are found in greater number along the edges of the leaves.

Lenticels are respiratory tissues occurring in the stems where the stomata of the epidermis have been lost by the process of secondary growth already described. They occur on stems, leaves and on roots in the shape of small rounded or oval or warty elevations of loose and irregular corky tissues; this looseness of arrangement of the cells allows of the free exchange of gases to the stem that otherwise could not occur.

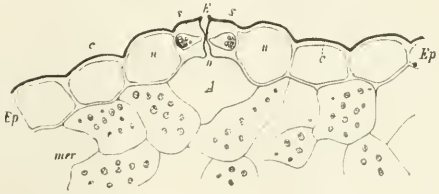


Fig. 50.—Cross section of leaf of Mentha piperita showing *a*. stoma: *E*. opening, with front and hind chambers, *o*. opening, *t*. breathing space. *A*. *ss*. guard cells with protoplasm. *Ep*. epidermis, *c*. cutinized and thickened outer wall. (Tschirch).

(a) Meyer, Officielle Blatte und Kraüter, Halle, 1882. Lemaire, Determination histologique des feuilles medicinales, Paris, 1882. Vogl, Atlas der Pharmacognosie. Tschirch und Oerstele, Atlas der Pharmacognosie. Moeller, Microskopie.

(a) Tschirch, Angewandte Pflanzen Anatomie, p. 434.

(b) Schwendener, Berichte d. Berliner Akadamie, 1881.

Intercellular Spaces. These exist between the cells of plants partly in order to allow the gases taken in by the stomata and lenticels to go to all parts of the plant, and conversely to allow the products of oxidation and other products of gaseous interchanges to escape. Such spaces are found in most tissues of the plant, save the epidermis. They vary greatly in shape and size, and are often filled with products of secretion and excretion, to be later discussed. They frequently serve as carriers of water and are quite common in plants growing in marshy grounds. (Fig. 51.)

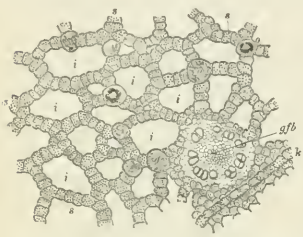


Fig. 51.—Cross section of Rhizome Calamus showing, *i*, intercellular spaces, *s*. starch conducting parenchyma, *o*. oil cells, *gfb*. concentric vessel bundle with xylem surrounding phloem. (Tschirch.

4. CONDUCTING SYSTEM. In the lowest plants there is no conducting system proper. The cells lying either singly, in chains or surfaces, absorb freely the necessary food materials, each for itself. In the higher Thallophytes, the seaweeds and mushrooms, are met modifications which foreshadow a conducting system in plants; but only in the Bryophytes, in the mosses proper, is there to be found a true series of elongated cells set apart to do an especial work in the conduction of food materials. From the mosses on upward the conducting system becomes more complete and more intricate. At first it is a simple string of elongated tubular cells. Later it develops into a system which it is the purpose here to describe.

It can readily be seen that as plants get larger the growing tips, as the leaves and the flowers, are further removed from the source of supplies, i. e., the roots, and there must be established a quick line of communication between the extremities, hence the necessity for a system of cells capable of transporting and communicating fluids, both from the root to the leaves and from the leaves back again to the roots.

The groups of tissues of the conducting system, together with the mechanical fibres that support them, and which have been already described are called the Fibro-Vascular Bundles.

As the elements of the Fibro-Vascular Bundle have all been developed from the same primary meristematic tissue, it is but reasonable to remember that all degrees of variation will be found in a careful study of the elements of such a bundle. For convenience, however, the typical elements have been distinguished from one another, and named.

Naegli has divided the Fibro-Vascular Bundle into two parts, from a purely anatomical standpoint. One he calls the Xylem, or the woody portion, and the other the Phloem, or the bast portion.

According to his classification the Xylem contains

Wood fibres,
Vessels,
Parenchyma,

The Phloem contains

Bast fibres,
Sieve tubes,
Parenchyma.

Haberlandt has proposed a classification which divides the bundle into parts more in accordance with the physiological functions of the plant, as follows:

1. Vessel portion—Hadrom.
   (a) Vessels,
   (b) Tracheids,
   conducting water,
   (c) Woody parenchyma, conducting water and plastic materials.
2. Sieve portion—Leptom.
   (a) Sieve tubes and accompanying cells,
   (b) Cambiform cells, conducting plastic materials.
   (c) Accompanying cells (Geleitzellen).
3. Parenchyma sheath, conducting soluble plastic materials.

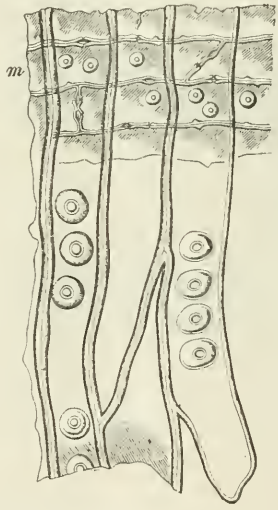


Fig. 52.—Tracheids of Pine wood radial long section with border pores, *m*. medullary rays. (Tschirch).

In this classification it will be noticed that the bundle is considered apart from its mechanical supports, and that the terms Hadrom and Leptom are synonymous with Xylem and Phloem, from which the wood fibres and bast fibres have been omitted.

Much variation will be found in individual bundles, in the number and kinds of elements present, some bundles containing only one or two of the elements. Such variations should be borne in mind in the practical study of tissues. In general, however, anatomists recognize as component parts of the conducting system the following: The vessels, tracheids, and conducting parenchyma in the Hadrom; the Sieve tubes, Accompanying cells (Geleitzellen), and Parenchym in the Leptom.

1. The Vessels form the most conspicuous portion of the internal structure of the plant. Their function is to carry water with inorganic salts in solution up from the root hairs to mingle it with the plastic materials that are to be brought down from the leaves. The vessels are of two main types, Ducts and

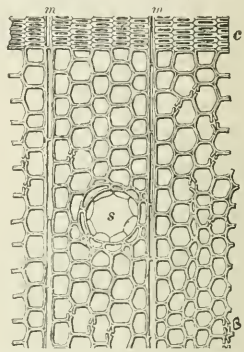


Fig. 52. *a*.—Tracheids of Pine wood on cross section, *m*. medullary rays; *c*, fall wood, *s*. resin passage in spring wood—border pores seen in cross section *b*. (R. Hartig).

Tracheids, both being by some authors included under the name of Trachea.

The Tracheids are of a more elementary type of cell and make their appearance lower down in the vegetable world than do the Ducts. In the lower plants they are simply elongated cells with a well-marked lumen and oblique cross walls. They first assume their characteristic shape in the Ferns. Their length varies. In pines it is 4 mm. The ends of the Tracheids are pointed, and sheath into one another. The walls are generally thickened and the lumen of the cell is generally extensive. The thickening of the walls is due to lignification which takes place irregularly, sometimes forming spiral markings and sometimes thickening the whole wall save in certain spots where border pores may occur. (Fig. 52.)

Simple slit-like pores, such as are found in Libriform tissue, are generally wanting in tracheids. This fact is of practical diagnostic importance.

In some plants the water-conducting tissues consist entirely of tracheids. This is the case in the pines, in the root of Ipecac, and the nerve endings of leaves. The sides of tracheids which border on ducts or libriform tissue are apt to conform in their appearance to those contiguous tissues, therefore sharp distinctions between them cannot always be made.

Ducts. Under this head are included cells which resemble tracheids in many respects, but differ in the fact that their end walls are absorbed, thus forming long open tubes which may run the entire length of the plant without any cross walls. Although Ducts were orig-

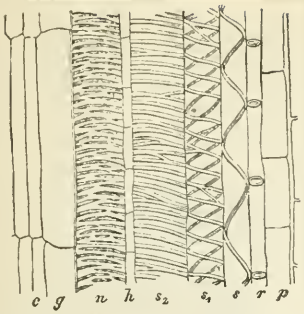


Fig. 53.—Types of ducts, *r.* annular, *s. s.*, s_2. spiral ducts, with simple and double spirals, *n* reticulated.

inally closed cells, by the absorption of their cross walls they cease to be cells in one sense of the word.

The modification which Ducts have undergone, through thickening of the cell wall by lignification, are so marked that special names have been given to certain characteristic forms. The principal types are Annular, Spiral, Reticulated and Pitted Ducts, with intermediate forms between. (Fig. 53.)

An Annular duct (r.) is one in which the thickening of the cell wall takes place in the form of a ring, making a series of bands around the inside of the tubular vessel. This form occurs in the stem of Conium, and Radix Podophyllum.

Spiral ducts have the lignification disposed in the form of spirals. (S, S_1, S_2). There may be from one to several on the inner wall of a single duct. The spirals generally coil from right to left, but in some cases two or more will coil in opposite directions, forming a double set of spirals. Some variation of this form is found in the corollas of most flowers, in the stem of Conium, in Bulbus Scillæ, etc.

Reticulated ducts have net-shaped thickenings on the inner walls. (n.) Sometimes they are quite regular, forming ladder-like markings, and again they are extremely irregular.

Pitted ducts are quite different from the preceding forms in that their walls are wholly thickened but deusely perforated with pores, either bordered or simple, or both, and in form round, oval or slit-shaped. Typical pitted ducts may be seen in Radix Glycyrrhiza, Tuber Jalap. (Fig. 54.)

Primary vessels are generally annular or spiral, presenting a greater unthickened interior surface, but the vessels of secondary growth are generally reticulated or pitted.

Parenchyma. Numerous parenchymatic cells may be found interspersed among the elements of the Xylem that serve for purposes of water conduction. As a rule, they offer little in the way of diagnostic characteristics.

2. Leptom, or the Conductors of Plastic Materials. The leaves and young growing stems contain plastic materials which, when combined with the water and inorganic salts brought by the ducts and tracheids from the roots, serve the purposes of anabolism. The Leptom is a series of tissues (according to Haberlandt, the conducting elements of the Phloem), whose special function it is to convey these worked-over materials down from the leaves, where the active transformations take place, to those parts of the plant where they are needed.

The Leptom consists of Sieve Tubes, Cambiform Cells and Accompanying Cells, in fact, all the elements of the Phloem, except the bast fibers, which belong to the protection system.

Lactiferous Tissues, or Milk Tubes, are in part plasma-conducting vessels and in part secretory organs.

(a) Sieve Tubes are long cells whose end walls are perforated, forming a sieve-like plate through which the plastic

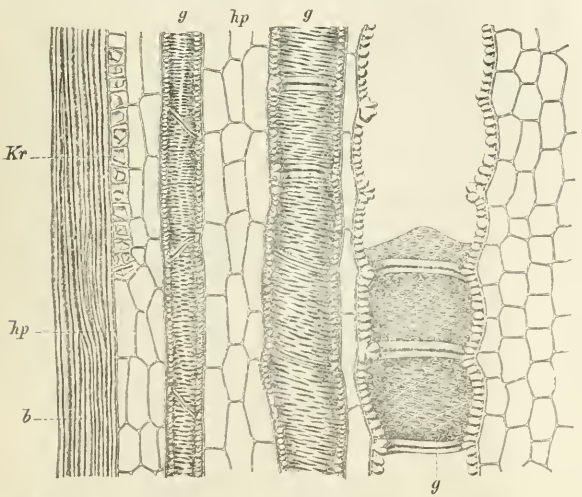


Fig. 54.—Longitudinal section of Glycyrrhiza glabra showing, *g.* vessel with pitted and border pore markings in the walls, *hp.* wood parenchyma, *b.* wood fibres, libriform. (Tschirch).

Fig. 55—Sieve tubes from Poppy capsule. (Dippel).

materials can pass. These sieve plates may be horizontally arranged if the ends of the cells were originally straight, but they are generally much inclined. As a rule, the sieve tubes in primary tissues are more apt to be horizontal, while those in tissues of secondary growth are apt to be inclined.

The walls of sieve tubes are generally thin and composed of cellulose. The sieve tubes vary greatly in size, but as a rule they are smaller than the vessels. They are often very irregular in form, being large and swollen at the points where the sieves occur and much contracted between. (Fig. 55.)

Their contents are plastic, consisting largely of Albuminoids. These often form by deposit upon the upper surface of the sieve a callous growth which is apt to appear in autumn and winter, and to stop up the openings of the sieve. This may be redissolved in the spring, or, in some cases, it may continue until it obliterates the sieve tubes entirely, as is the case in Radix Glycyrrhiza.

(b) The Cambiform Cells are exceedingly thin-walled, elongated cells with sharpened ends. They closely resemble Cambium cell, and are filled with protoplasmic contents. Their walls have no traces of pores.

(c) Accompanying Cells (Geleit Zellen) are cells accompanying the sieve tubes. They are seen to best advantage on the cross section of the bundle, where they appear more or less quadrangular, with small lumen and very thin walls. They transmit protoplasmic substances and

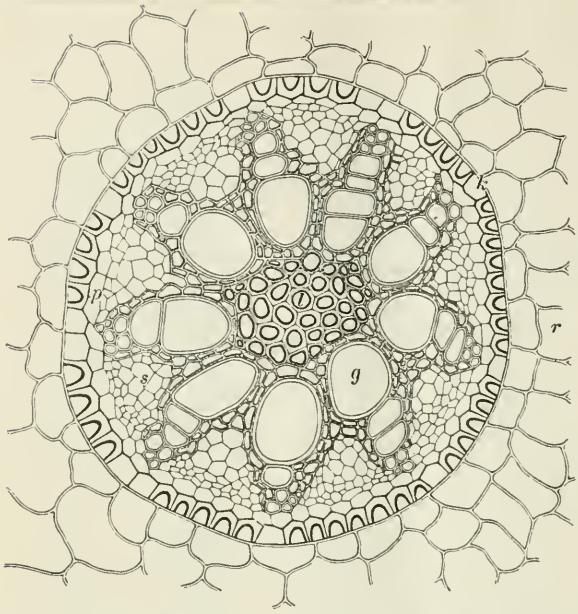


Fig. 56.—Cross section of *Radial bundle* in root of Veratum viride, *r*. endodermis sheath, *g*. vessel portions, *s*. sieve portions. (Tschirch).

are connected ofttimes by pores with the sieve tubes.

In specimens of dried drugs it is almost impossible to distinguish the accompanying cells or the cambiform cells, as they are so delicate.

3. Conducting Parenchyma. As in the Hadrom parenchymatic cells were found taking on the function of conducting water, so in the Leptom portion of the bundle there are numerous parenchymatic cells which conduct plastic substances. The prominently marked starch sheath of many Monocotyledons and young Dicotyledons belongs to this group of tissues. The parenchymatic tissues of the phloem are important agents in carrying on this function.

Types of the Fibro Vascular Bundle.

The individual tissues which collectively form a Fibro-vascular bundle may be grouped in various combinations. Anatomists describe three principal types based upon the relationship that the vessel portion, or Xylem (in the wider sense), bears to the Sieve portion or Phloem (in wider sense). These are

1. Radial.
2. Concentric.
3. Collateral, of which three forms are described.

1. The Radial Bundle is one in which the xylem and the phloem lie side by side, alternating with each other radially. The xylem starts at the center and builds strong ribs of tissue between which lie the phloem elements. Radial bundles are characteristic of young roots, and according to the number of the bundles the roots are known as diarch, triarch, tetrarch, etc. Few of the official roots have radial bundles. Sarsaparilla, Aristolochia. (Fig. 56.)

2. The Concentric Bundle is one in which one of the elements encircles the other more or less completely. In some cases the Xylem is in the centre and surrounded by the phloem, (Aspidium). In others the phloem is in the centre and is surrounded by the Xylem. (Calamus, Iris, etc.) (Fig. 57.)

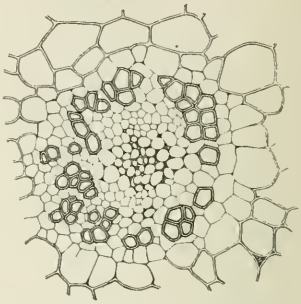


Fig. 57.—Cross section of *Concentric bundle* of Rhizome of Iris with central sieve portion surrounded by vessel portion. (Tschirch).

Concentric bundles are more common in Monocotyledons, where they form strings of tissue irregularly disposed in the parenchymatic tissues.

3. The Collateral Bundle is characterized by the Xylem and phloem lying side by side in a tangential direction, the xylem being towards the centre. This is the type of bundle of most Phanerogamic stems and roots. Three forms of collateral bundle have been described.

a. The Open Collateral.
b. The Closed Collateral.
c. The Bi-collateral.

a. The Open Collateral bundle is char-

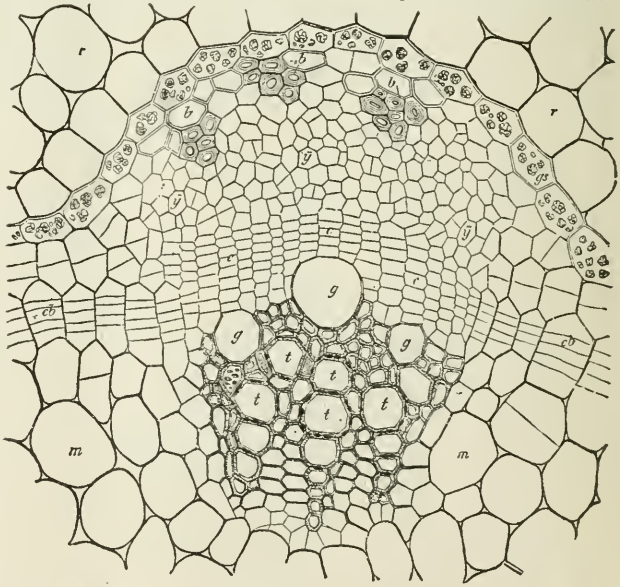


Fig. 58.—Cross section of developing open Collateral bundle, *g*. vessels, *t*. tracheids, with libriform between, constituting the xylem part of the bundle *c*. cambium between it and, *y*. sieve tubes, *b*. bast fibres, with cambiform and accompanying cells between, constituting the phloem part of the bundle, (Sachs).

acteristic of Dicotyledons. The centre of the root or stem and generally the larger part of it is occupied by an indefinite number of Xylem elements radiating from the axis, forming a solid cylinder. This is surrounded by a thin layer of growing tissue, the Cambium, which separates it from a zone of combined phloem

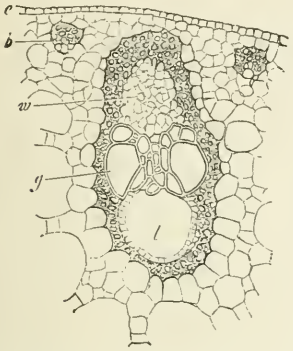


Fig. 59.—*Closed Collateral* buudle from the lea of Calamus, *g*. vessel portion, *w*. sieve portion. (de Bary).

elements. In young roots and stems the individual bundles lie distinct and separate. As the growth of the root or stem proceeds they gradually coalesce, the cambium zone becomes complete and the bundles remain separated only by thin radiating lines of tissue termed the Medullary Rays. By virtue of the meristematic power of the Cambium, the Xylem is constantly growing centripetally, while the Phloem grows centrifugally. The bundles are therefore capable of indefinite extension, and are consequently called Open Collateral bundles.

b. The Closed Collateral bundle is characteristic of the Monocotyledons. The elements are grouped together without any cambium, and are generally surrounded as a whole by a circle of sclerenchymatic fibres which checks the lateral growth of the bundle. To this arrangement is due the fact that Monocotyledons after forming their bundles do not grow in thickness but only in height. (Fig. 59.)

c. The Bi-Collateral Bundle has two strands of Phloem, one on each side of the Xylem. It is found in the Cucurbitaceæ and Solanaceæ, etc. (Fig. 60.) Solanum Dulcamara.

Secondary Growth is the term given to the process which takes place in the stems of most Dicotyledons, increasing their size and giving rise to a set of new tissues known as Secondary Tissues. These as individuals have already been described in the elements of the xylem and the phloem of the fibro-vascular bundle, and it here remains to look at the process in general and to describe a few tissues not before spoken of.

In Monocotyledons there is as a rule no secondary growth, a few exceptions occurring in the Lily family, (Dracæna, Aloes, Smilax), and, in consequence, the Monocotyledons generally possess long thin stems which increase but little in diameter. In Dicotyledons, on the contrary, there is a regular growth. New tissues are constantly being formed in annular layers by means of the Cambium. The Cambium is a meristematic tissue having its origin in the primary meristem of the plerome cylinder, and by its divisions new elements are added to the phloem and the xylem. The cambium cells are elongated and have their walls at right angles. They are somewhat brick-shaped, with their longest diameter vertical. The cambium cells increase by tangential division, at times building up the sieve elements, again forming the woody elements which in general are formed more rapidly.

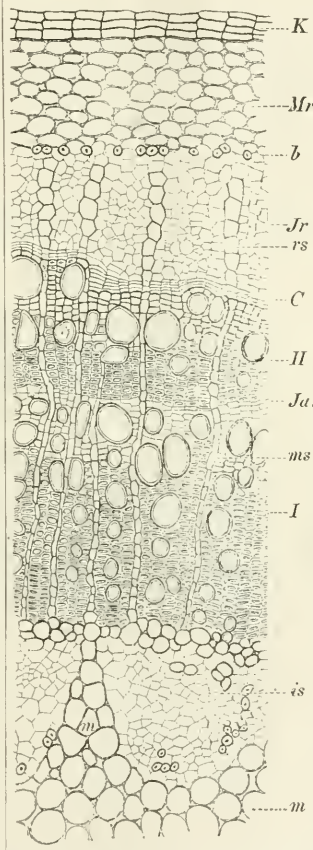


Fig. 60.—Cross section of two year old stem of Solanum Dulcamara showing *Bi-Collateral* bundles. *is* inner sieve portion, *Jr*. outer sieve portion in secondary bark with cambium and vessel portion between, *rs*, *ms*, medullary rays, in sieve portion and vessel portion, respectively. (Tschirch).

Medullary Rays. Between the fibro-vascular bundles of most Dicotyledons and Gymnosperms thin strips of parenchymatic cell are found. These are the Medullary Rays, connecting the pith with the epidermis. Two kinds are to be distinguished:—Primary medullary rays which represent the early divisions between the bundles, and Secondary medullary rays, which occur in the process of secondary growth.

In shape the cells of the medullary rays are iso-diametric with slightly thickened right-angled walls, which are provided with simple pores. Their function is to convey nourishment to different parts of the plant during the growing time; and during the resting period of the plant they serve as storehouses of reserve material, starch, etc. The num-

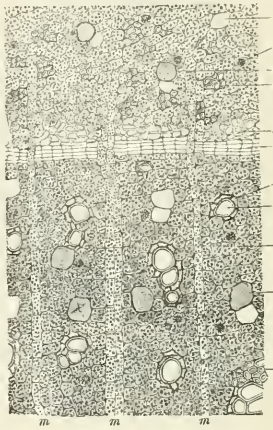


Fig. 61.—Cross section of root of Althæa officinalis, *c*. cambium; *m*. medullary rays, *sch*. mucilage cells, *b*. bast fibres, *hp*. woody parenchyma filled with starch, *sb*. sieve portions, *lb*. libriform. (Tschirch).

ber and size of the medullary rays, the shape and size of the markings of the individual cells, are of diagnostic importance for pharmacognostical purposes.(a)

Woody Parenchyma is also a product of the cambium by means of cross-walled division. They are iso-diametric in cross section and somewhat elongat-

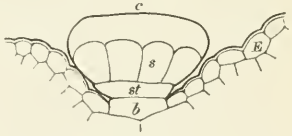
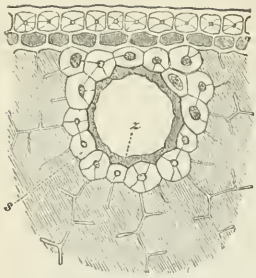


Fig. 62.—Cross section of *Oil* gland from leaf of mentha piperita. *b*. base, *st*. supporting cell, *s*. secreting cells, *c*. cuticle, *E*. epidermis of leaf. (Tschirch).

ed. They conduct plastic materials by means of their thin walls, which are provided with round or oval or simple pores. During the resting period of the plant these cells contain reserve materials, mainly starch.

5. SECRETORY AND EXCRETORY SYSTEMS. In the process of plant developement many compounds are produced which the plant either stores up for future use or gets rid of entirely. Many of these secretions have especial

(a) Nordlinger, Vergleichende Anatomie der Wichtigste deutschen Wald und Garten holz arten, Stuttgart, 1881.



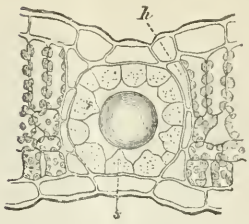


Fig. 63.—Cross section of resin passage in leaf of Pinus; oil cells in leaf.

reservoirs adapted for their reception, while others use ordinary conducting cells.

A large number of these secretions have no economic value in contributing to the growth of the plant, but may be of use in attracting insects, healing wounds, or in preventing the ravages of animals. The secretion of oil and its related products may have its influence upon the temperature of plants by preserving them from excessive heat in the day time and cold at night. (Haberlandt, p. 325.)

Haberlandt classes the organs of this system as follows:

(a) Secretory organs, glands, external and internal channelled organs for resin, oil, mucilage and gum.

(b) Excretory organs, mucilage, resin and oil holders, tannin and crystal sacs. Intercellular excretory reservoirs.

Glands. These may be external or internal. The external glands are generally at the extremity of epidermal hairs, which at times are quite short. They may be one celled or composed of many cells. Mint. (Fig. 51.) By the gradual filling up of the secretory cells these glands grow larger, forming distinct sacs, filled with the secretion. The ethereal oils are generally found in such reservoirs.

Official plants bearing external glands are Hyoscyamus, Tabacum, Mentha, Thymus, Lavandula, Humulus, Matricaria, Achillea, Arnica, Absinthium, Kamala, etc

Internal Glands and Excretory Cells are the names given to a number of cells varying in shape and size which are generally contained within the parenchymatic tissues of the plant organs. They are generally large sac-shaped cavities filled with secretions, oils, mucilage, etc., and are generally designated according to the character of their contents. The most prominent are those containing resin, oil and crystals. Such secretory organs are to be found in Rhizomes Calamus, Zingiber, Galangal, Curcuma, Zedoary, Cortex Cascarilla, Angustura, Radix Valerian, Folia Laurus, Sassafras, Matico, Fructus Cubeba, Cardamomum, Sinapis, etc. (Fig. 63.)

Channelled Secretory Organs. These are generally formed in the intercellular spaces of the plant. They are much elongated and are surrounded by secretory cells. Conifers, Umbelliferæ.

Secretory Vessels are formed in the tissues of the plant by the coalescence of a number of secretory cells, thus making irregular tubes which may be branched or unbranched. These generally contain the so-called milky juices, and are met with in the Euphorbiaceæ, Asclepiadaceæ, Campanulaceæ, Lobeliaceæ, Papaveraceæ and Apocynaceæ. (Fig. 64.)

Crystal Cells are generally thin-walled and sometimes cutinized or suberized. They vary according to the shape of the contained crystals, being rather regular in those containing rhapides.

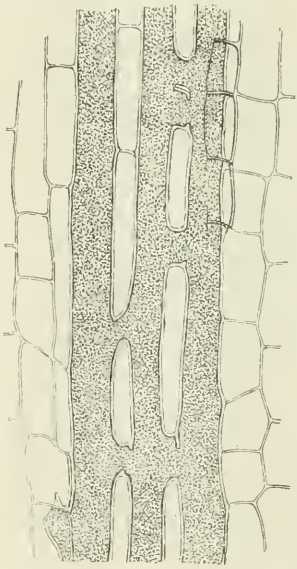


Fig. 64.—Branched milk tubes in the cortex of stem of Lactuca virosa, which contain Lactucarium. (de Bary).

Tannin occupies the typical parenchymatic cells of the plant, which, when so employed, are generally suberized and have a brownish or reddish appearance.

The study of those portions of the plant devoted to excretion and secretion is as yet little understood, and the student is referred to the bibliographical references for a more complete account of them.

CHAPTER VIII.

REPRODUCTIVE TISSUES.

There are few types of tissue that have not at least been touched upon in the foregoing pages, and although there are no essential differences in the tissues of reproduction, it is, nevertheless, of advantage to recapitulate somewhat concerning them. The organs of reproduction are the pistils and the stamens, and each have some elements that are of use in a practical determination of many drugs, such as the official herbs, flowers, fruits and seeds. In herbs and flowers the pollen grains are the only elements that have not received some attention; they will therefore be treated somewhat hastily in this place.

Pollen Grains originate by cell division in the anther sacs. When mature they vary greatly in shape, size, color and markings. Specimens of drugs that are to be examined for pollen grains should be placed in some oily substance, as this preserves the markings of the grains better than water. Specimens may also be examined in water, as many of the older figures of pollen grain were made from grains that had been examined in that medium. The differences in the shapes and other peculiarities of the grains of the official herbs and flowers it is impossible to treat of in this place, but the student is called upon to bear their importance in mind, and is referred to a treatise on "Pollen," by M. Pakenham Edgeworth, London, 1877, where the literature of the subject up to that time is given.

The parts of the pistil have already been considered. In the study of the mature pistil, in particular the seeds, a great deal could be written of the numerous modifications that take place in the cells of these parts. In general they belong to the parenchymatic type, while the chief interest in them is the great amount of thickening and distortion that takes place. The changes that take place during fertilization are of interest from a scientific botanical standpoint rather than from a practical analysis point of view.

CHAPTER IX.

MICRO-CHEMICAL REACTIONS.

It is far from the purpose of the present chapter to do any more than to point out in as brief a manner as possible some of the more important micro-chemical reactions of plant structures or contents; the student who would follow them out to any further detail is referred to "Botanical Micro-technique," by Zimmerman, H. Holt & Co., and Hervey's translation of the "Microscope in Botany," by Behrens. In these volumes a full consideration of the subject will be found, with copious bibliographical references.

Tests for Cell Walls. It has already been pointed out that the cell wall may undergo at least five modifications from its chemical basis of cellulose. Each of these has some micro-chemical tests that are of value.

Cellulose. Strong sulphuric acid causes cellulose to swell, turn blue and dissolve. Schweizer's reagent, cupra-ammonia, dissolves cellulose completely.

It should be made fresh, as it does not keep well. Iodine and sulphuric acid give a blue color. Chlor-iodide of zinc, blue to violet coloration. Hematoxylin in weak solution stains cellulose wall blue to black, depending upon the time of staining. I prefer Delafield's solution for this purpose.

Lignification. Lignified cell walls are insoluble in Cupra-ammonia, and they color yellowish to brownish by Chlor-iodide of Zinc or Iodine and Sulphuric acid. Several aromatic compounds, as Phenol, Thymol, Orcein, Aniline, Phloroglucin, etc., give characteristic reactions. (See table Zimmerman, p. 141.) Phloroglucin in water or alcoholic solution, preceded or followed by dilute Hydrochloric acid, gives a beautiful cherry-red coloration to lignified cell membranes. Fuchsin stains lignified cell walls a deep and persistent red.

Cutinized and Suberized Cell Walls have about the same micro-chemical properties. They are insoluble in sulphuric acid, are colored yellow or brown by chlor-iodide of zinc, and iodine and sulphuric acid. Concentrated caustic potash causes a yellowish coloration which becomes more intense on heating.

Mucilaginous Modification. This can be readily detected by the extreme degree of swelling that takes place on the addition of water. The various gums have a number of different reactions which must be sought for in the works of reference already quoted.

Tests for Cell Contents.

Nitrogenous Contents: Protoplasm. It has already been pointed out that the albumenoids of the plant are numerous and very complex, and a great many characteristic reactions have been found for different members of this general group. Only those general reactions will be here mentioned that have been in long use. With iodine the proteids take on a yellowish or brownish or even black coloration, according to the strength of the solution, Concentrated nitric acid gives a yellow color, the Xantho-proteic reaction, and Millon's reagent (a mixture of mercuric and mercurous nitrate with nitrous acid, prepared by dissolving one part of mercury in two parts of nitric acid and then diluting with twice the volume of water) colors proteids red in various shades; slight warming brings out the reaction more rapidly.

Aleurone grains. In searching for aleurone grains the previous treatment of the sections is of importance. They should not touch water in any form, as aleurone is soluble in that medium. The material to be investigated should first be fixed, preferably with absolute alcohol or picric acid alcohol, and then treated according to the desire of the investigator to bring out the inclusions or the fundamental mass or ground substance of the grains. To bring out the ground mass, staining in an alcoholic solution of Eosin gives a reddish coloration, and the crystalloids remain yellowish if picric acid was used to fix. To bring out the crystalloids we prefer to use acid fuchsine. This stains the crystalloids an intense red. Permanent preparation should be preserved in balsam, glycerine or some oil.

Non-nitrogenous Contents. Of the non-nitrogenous cell contents there are to be considered, with a greater or less degree of minuteness, oils, fats, starch, sugar, amylodextrin and sulphur.

The Fats and Oils can generally be detected as small globules of a yellowish or brownish color, circular or slightly oval and of a high refractive index. They are generally found lying free in the cell cavities. In powdered drugs they are dissociated and sometimes run together in masses. Micro-chemically, osmic acid, 10 per cent., stains them black; they are saponified by the alkalies, a weak solution of KOH being sufficient; tincture of alcanna stains fat and oil globules bright red. Absolute alcohol distinguishes the fixed oils and fats from the essential oils; the former are insoluble, the latter soluble. A characteristic reaction is seen when a section of a plant to be investigated is placed upon the slide in glycerine and slightly warmed. The fats and fatty acids melt, at first in drops, and then by slow cooling crystallize in long needle-shaped crystals collected in bundles.

Starch is distinguished both morphologically and micro-chemically with great readiness. It makes a characteristic reaction with iodine solution, varying with the strength of the solution and the length of application from blue to violet to black; alkalies destroy the coloration and acids restore it.

The Constituents of the Cell Sap are the most numerous of the cell contents, and much research is necessary to differentiate all the substances thus far described; hence they can be hardly more than touched upon. These materials in solution include hesperidin, inulin, asparagin, tyrosin, aloin, sugar, mucilage, tannins, alkaloids, glucosides, bitter stuffs, ethereal oils, gums, resins, rubbers, milky juices, balsams, plant acids, and various crystals. A number of these are of little importance save in the most detailed investigations, while others are constantly determined by chemical means, and their presence can frequently be made evident by means of the microscope. The more important constituents from our present standpoint are tannin, resins, sugar, wax, the alkaloids, and the glucosides.

Sugar. Although Trommer's and Fehling's tests are most often given for the detection of sugar, it is not an easy matter to determine its presence in small quantities; Phenylhydrazine acetate has given satisfactory results in our experience when the amount of sugar has been very small.

Tannin is found extensively in plants, generally dissolved in the cell sap, especially of the bark; it is often found in granular form also. As a general micro-chemical reagent for tannin, ferric chloride is used, either in aqueous or alcoholic solutions. Ferric sulphate and acetate give less intense reactions. If a substance is impregnated with any of these mixtures, the masses of tannin or the cellulose membranes impregnated with tannin give a bluish or greenish reaction, strong solutions giving a blue-black or greenish-black reaction. The tannin in galls, oak for instance, give the bluish reactions, whereas rhatany, coffee, and male fern give the greenish reaction. Potassium bichromate is also of value, giving after some time a reddish coloration. A dilute solution of zinc chloride gives a reddish violet coloration with tannin.

Resins are found either fluid or in more or less solid granules, sometimes lying in the cell wall, sometimes in special secretory reservoirs, or partly saturating the cell walls. The resins are generally brownish in color, and if in grains, irregular in shape. Tincture of alcanna, 50 per cent., stains resin a cinnamon red. A solution of equal parts methyl-violet, fuchsin, and alcohol (Hanstein) produces a blue, or clear green, or dirty green color.

The Alkaloids and Glucosides, microscopically, are more of a hope than a reality in practical work, for in their natural condition they are difficult if not impossible to recognize. Micro-chemically, however, much can be done in their determination, but the work is for the advanced student rather than the tyro, and to undertake it one should consult the works already noted.

(The first installment of Prof. L. E. Sayre's paper on Materia Medica and Therapeutics will be presented next week.)

AGAR-AGAR AS A BASE IN GLYCERIN SUPPOSITORIES.*

By Frank G. Ryan.

Some months ago E. Lomuller published in Il Giornale di Farmacia a formula directing the use of agar-agar in the preparation of glycerin suppositories.

It was claimed that this substance produced a more satisfactory product than did gelatin, and, on that account, no doubt, the proposed formula has been reprinted in a number of American and foreign journals. But, as no comparison was made between the qualities of the suppositories made with agar-agar and with sodium stearate, which is so largely used in this country, the writer decided to investigate the matter.

Agar-agar is a substance obtained from several species of algæ. It is known also as Japanese isinglass.

The formula published was as follows:

Agar-agar.. ... 10 grams
Distilled water..200 cubic centimeters
Glycerin .. ...200 grams

Dissolve the agar-agar in the water by the aid of heat, constantly stirring, add the glycerin, and strain while hot.

Following these directions, the writer prepared a sample of suppositories from the given quantities. The suppositories, therefore, contained 50 per cent. of glycerin. They were very elastic, and had not sufficient firmness to admit of being easily introduced into the rectum. Such an article would hardly be received with much favor by the physicians of this country. A sample of suppositories containing 75 per cent. of glycerin was then made. These were firmer than those containing 50 per cent., and could be used without much difficulty; how-

*Contribution from the Pharmaceutical Laboratory of the Philadelphia College of Pharmacy. Reprinted from Am. Jour. Phar.

ever they did not possess the firmness of those made with sodium stearate.

An attempt was made to produce suppositories stronger than 75 per cent., but it was without good results, as the glycerin had a tendency to separate from the mass upon cooling.

In making the suppository mass it was found better to change the manipulation somewhat. The agar-agar was first soaked somewhat with cold water, and the latter expressed. After calculating the amount of water retained, sufficient to supply the proper amount was added. The glycerin was then added, and the whole heated on a water-bath until the agar-agar was dissolved, after which the solution was strained.

The following formula may be used by these directions for a suppository mass containing 75 per cent. of glycerin:

Agar-agar.. .... 5 grams
Distilled water.. 45 cubic centimeters
Glycerin .....150 grams

On account of the smaller quantity of glycerin contained and the elasticity of the mass, I do not consider the product of this method one that could be used to replace the glycerin suppository now in common use.

The suppositories made with agar-agar have, however, these advantages: They easily leave the moulds, and are not affected to the same extent by exposure as are those containing sodium stearate.

No experiment was made to ascertain the value as a laxative of the suppositories made with agar-agar.

The Folly of Swimming Against the Stream.*

By Dr. S. C. Parsons, Savannah, Ga.

The depression of business for the past two years has brought many a heretofore prosperous "old-line" druggist face to face with a stern problem, that of stationary or decreasing sales, owing to the growing competition of the numerous department stores and the increasing tendency of physicians to furnish their own medicines. It is clear that we cannot largely increase the sales of present lines without offering special inducements to meet those of our competitors, for we have pushed those lines to the best of our ability. To make no change is to court commercial death, for the laws of business, like the laws of nature, are without mercy and without remorse.

The duty of every druggist is to try and be in touch with the peculiarities of his own people. Readjust your business, add new departments, select goods whose retail merits are the first consideration, become headquarters for all goods in your line, save money by buying in quantities whatever can be disposed of inside a reasonable length of time, so that the last article will not be less desirable when sold than the first, increase stock so as to be ready for all demands, patronize your local jobber, but ever remember that he is human, so don't expect him to supply your shorts and one-twelfth of a dozen the same as those buying in large quantities.

In your chemical department purchase the best, for it is none too good. Don't be too anxious to get in on the ground floor with some inferior pharmaceuticals, or try to educate the physicians about the National Formulary, for seeming unwillingness on your part to furnish proprietary articles simply increases the tendency for them to furnish their own medicines.

We should not forget those who supplied us with ready sellers, for such wares bring the people in. What a world of mercantile success in those words, "Bring the people in;" they contain the secret of every successful business. Personal popularity, handsome store, advantageous location and competent clerks will accomplish a great deal, but if you have ever dreamed of making a success of your business, there is nothing that equals printer's ink to "bring them in."

The world moves, and you must move with it. Don't always wait until the demand has been created before you lay in your supply, as your progressive neighbor has anticipated the same and caught the customers for the first calls. So if you want to succeed, you are obliged to take chances and not lapse into a sort of machine and simply sell what's called for until your stock gradually dwindles to one-twelfth of a dozen or none; for your customers will slowly drift away from you to the enterprising firms.

How to bring the people in should be our study. Some say, have a directory, a free telephone, keep stamps, furnish lounging room and entertain worn-out politicians and the gossips of the neighborhood, as that will make you popular; and anything you do not have in stock you can order, and thereby avoid taking any risk or having your money tied up in slow or dead stock.

The up-to-date man believes in expending a certain amount of the gross receipts in printer's ink, for the people require to be constantly reminded of your being in business and invited to call, as you are desirous of receiving their patronage.

It is evident that there are fewer merchants at present to the population than there were ten years ago, in consequence of goods being handled on smaller margins, and the logic of the present situation is: Those who were too blind to see the changing conditions of trade, or unable or unwilling to adapt themselves thereto, have been simply crowded out.

We must look upon advertising as a necessary expense, like rent, light or fuel; not expect success without persistent use of printer's ink, either in counter wrappers, folders, cards or the newspaper, which surpasses all other forms of advertising as a medium to bring people in; and then we must meet them at the door and demonstrate the fact that we have the stock, things that are called for and things that are not called for in new lines, so that we will be enabled to prove that we possess equally as much push, enterprise and business capacity as any other honorable calling. Let us turn over a new leaf.

*Proceedings of the Georgia Pharmaceutical Association.

ALCOHOL IN THE ARTS OF DAILY LIFE.

The uses of alcohol and the preparations made from it in pharmacy proper shrink into relatively small proportions when we compare them with its technical uses. Its direct application as a solvent and extracting medium in the preparation of varnishes and chemical preparations, such as vinegar, ether, chloroform, chloralhydrate, etc., is sufficiently well known.

Ether finds an immense field of usefulness as a solvent, and, as it were, a substitute for chloroform, the hydrocarbons, etc., as in the coal tar industries. A less pure ether is used for the preparation of an inferior collodion, used in the preparation of colors, lacs, varnishes for toys, etc. Pure collodion is used in photography to an enormous extent. A newer use for it is in making artificial silk, which is produced by two separate and distinct methods, in both of which ether is the solvent.

Formic ether (formic acid ethylester) is used in the preparation of artificial fruit flavors, essences, liquid flavors, artificial rum, arrack, cognac, etc.

Acetic ether, at present, is the essential agent in the production of smokeless gunpowder, in which only the purest ether can be used. It has numerous other uses in the arts.

Acetone finds its greatest usefulness in the preparation of chloroform and iodoform. It also plays a prominent part in the preparation of varnishes. Chemically pure it is used, in place of acetic ether, in the manufacture of smokeless powder.

Butyric ether is also used in large quantities in making fruit flavors, essences, etc. In Russia it is used to a surprising extent as an addition to the oil kept constantly burning in the churches and private residences.

Valerianic ether and spirit of nitrous ether are lagely used in manufacture of flavoring extracts. Benzoic ether, under the name of "Niobe oil," is extensively used in perfumery. Sebacylic ether is the principal ingredient in essence of quince. Œnanthic ether is known under the common name of oil of grape, and plays a heavy part in the manufacture of cordials, artificial liquors, etc., rum, arrack, etc.

Amylic alcohol has a thousand and one uses in the arts and industries, not only in its natural condition, but in its esters.

Formic amylester, as well as the other amylesters, is largely used in the manufacture of fruit essences, flavors, etc.

Acetic amylester acts as a solvent for gums and resins, also as an addition to varnishes, to which it imparts fluidity. Mixed with acetone it finds extensive use in celluloid manufacture and in making zapon varnishes.

Butyric amylester is an ingredient of many of the stomachic preparations, and in the manufacture of an alkaloidal valerianates.

This is only a partial list, as may be seen. It could be doubled in length without exhausting the various articles in use in the arts and manufactures which cannot be prepared without alcohol.—(Abs. by Nat. Dr. from Naturforch.-Versammlung.)

PHARMACY.

HYOSCYAMINE IN LETTUCE is announced by Dymond, who informs us it is present to the extent of .001 per cent. in the fresh leaves, and .02 in the extract.

PARSNIP OIL is distilled from the fruit and umbels of Pastinaca sativa, and is yielded to the extent of 1.17 per cent. It has a specific gravity of 0.878, an optical rotation of —0° 30′ at 16° C., and a saponification figure of 271. It closely resembles heracleum oil. Its chief constituent is octylbutyrate.

THE SOLUBILITY OF ANETHOL in alcohol of varying strengths at 20° C. is as follows, 1 liter of alcohol being understood in each case: 0.12 gm. in 20 per cent. alcohol; 0.20 gm. in 25 per cent.; 0.32 gm. in 30 per cent.; 0.86 gm. in 40 per cent., and 2.30 gm. in 50 per cent.

SYNTHETICAL WINTERGREEN OIL, in the opinion of Messrs. Schimmel & Co., has given a death blow to the natural article. Even the most bigoted opponents of synthetic preparations cannot deny that pure methyl salicylate is a perfect substitute for the natural oil, nor have all attempts to discredit it been able to prevent it from finding recognition and employment everywhere.

PARSLEY OIL.—The fact that the parsley oil of commerce, distilled from the seed of the plant, possesses in but slight degree the genuine odor and taste of parsley, led Schimmel & Co. to distil the green herb upon a somewhat large scale. A splendid oil, possessing the natural odor of fresh parsley, was obtained, yield 0.06 to 0.08 per cent. The oil has a thin consistency, greenish-yellow color, sp. gr. 0.923 at 15° C., and optical rotation + 3° 10′ at 28°.

OIL FROM CANNABIS INDICA.—Vignolo has distilled by means of steam from the flowering branches of Cannabis Indica an ethereal oil. It is a thin liquid of peculiar aromatic odor, not solidifying at —18°, boiling at 248° to 268°. By distillation over metallic sodium a fraction of constant boiling point was obtained, which by means of an elementary analysis and vapor density determination was proved to be a sesquiterpene. No crystalline hydrochloride could be obtained from it.—Schimmel's Bericht.

OXALIC ACID FROM TANNIN.—According to Fajana, tannin yields oxalic acid when oxidized with strong nitric acid. The reaction is at once very energetic and much heat is developed, and when allowed to cool, the liquid deposits fine crystals of oxalic acid. Tannin also yields oxalic acid by oxidation with HCl and $KClO_3$, whereas gallic acid, which yields oxalic acid with HNO_3, yields no oxalic, but isotrichlor-glyceric acid with HCl and $KClO_3$. Alkaline oxidizers, such as ferricyanide of potassium and KOH, or sodium peroxide, also decompose tannin with the formation of oxalic acid.—Zeit.-Ang. Chem.

BAYBERRY WAX.—Bayberries are now being gathered in large quantities for the manufacture of bayberry tallow, says the Hartford (Conn.) Courant. After the leaves are all off the bayberry bushes the picking of the berries begin. The berries are of a slate color, rather small in size. After being gathered they are put into large iron kettles, when they turn a black color and settle to the bottom of the kettle, and the tallow floats on top. It brings from 20 to 25 cents a pound and is used for making toilet soap, ointments and other articles.

TO DECOLORIZE PARAFFINS of all kinds, the best agent, according to Vehrigs, is powdered potter's clay. In two large German factories nothing else is used. The clay is ground to an impalpable powder and sieved. About half an hour before it is to be used the fine dust is heated in an enameled cast iron vessel over a fire that will bring it to about 400° C. at the end of half an hour. It thus loses its water by evaporation, and becomes a light mobile powder which can easily be stirred about with a rod. When the desiccation is complete the argile is cooled, but not lower than to 300° C., and mixed at this temperature with the melted paraffin. Paraffin bleached in this way filters quicker than with any other decolorizing agent, and the method has other advantages.

CORK CULTIVATION.—The Department of Agriculture will issue a bulletin before long on the subject of cork. It will advocate the culture of cork trees in this country, urging that forests of this species of oak could be established with great profit in the Southern States. Statistics show that $2,000,000 worth of cork is imported into the United States annually. It is steadily increasing in value, fetching now eleven times the price that was paid for it in 1790. The soil of California is particularly well adapted to the cork oak, which grows there with greater rapidity than in Europe. Already about 1,000 of the trees have been planted in the San Gabriel Valley. The University of California has distributed several bushels of the acorns, which, by the way, are very good to eat, tasting like chestnuts.

ORGANIC OR CHEMICAL ORIGIN OF PETROLEUM.—"The origin of petroleum is still a mystery," says Mr. G. T Baker in The Cosmopolitan. "It seems really incredible that animal or vegetable oil should so accumulate as to furnish the output of Baku; 100,000 right whales would be required to supply as much oil as Baku exports yearly. It is also very significant that the deposits follow a line of profound terrestial disturbance—that of the Caucasus. It was to account for these oil fields that Mendeleeff put forward his hypothesis. He supposes, on grounds which are by no means absurd, that there are vast masses of metallic iron within the earth, resembling meteoric iron and containing carbon. The action of acids on such iron produces hydrocarbons which are sometimes identical with those of Baku oil. If one accept the supposition of the existence of iron in great quantities within the earth, this theory leads to fewer difficulties than that of organic origin, and since such iron has been brought to the surface of the earth at a number of points by eruption the plausibility of the hypothesis is great."

TO DISTINGUISH BETWEEN BUTTER AND OLEOMARGARIN.—Rollfs (Pharm. Zeit.) publishes the following: A solution of 2 grams of potassium carbonate in 20 grams of water added to true butter quickly produces, upon working them together, a perfect white permanent emulsion. Shaking with an equal volume of ether the ethereal layer containing the butter separates clear at once, the layers being sharply defined. Pure oleomargarin (butterine) treated in the same manner yields neither an emulsion nor a clear ethereal stratum. Equal parts of butter and margarin also yield an emulsion, but on shaking with ether no line of demarkation is formed, but the lower stratum of the ether, which only clears up after some time, contains flocculent clouds. One part of butter mixed with three of margarin yields an imperfect emulsion only after considerable trituration, which is decomposed by the addition of 10 grams of water, while the other two emulsions named bear an addition of 20 grams of water. The ethereal layer in this case is filled with floccules throughout.

USE OF FOOD PRESERVATIVES.—The British Medical Journal condemns in no uncertain language the use of chemicals as food preservatives. It says that the growing use of antiseptics constitutes a possible danger to health. Persons with sound excretory organs have for years daily taken chemicals of the kind in their food without injury, yet it can be confidently predicted that other persons with damaged or weak kidneys will be affected by minute doses. It must also be remembered that digestion in the intestines is carried on to a great extent by what, outside of the intestines, would be recognized as a fermentative or putrefactive process. In short, just as the nourishment of a number of plants depends on the microbes around their rootlets, so the assimilation of our own nourishment depends to a large degree on the activity of hosts of colonies of microbes in the intestinal canal. All antiseptics, even in minute quantity, will inhibit the activity of these colonies or affect unequally various species, the net result in ordinary individuals being an impairment of digestion or an actual dyspepsia. The time has apparently come for some definite action with regard to antiseptics in foods and beverages. They should be absolutely prohibited unless a label be placed upon everything sold after being thus treated, stating the nature of the preservative in as large type as any other announcement. Then if the public like to take daily small doses of salicylic or boracic acid or of formaldehyd they can do so, but with the immense advantage of knowing what they are consuming.

SAVIN OIL.—Among the chemical constituents of savin oil the only one known is cadinene, which occurs in many essential oils. Wallach discovered in the oil small quantities of cadinene, which he characterized by its hydrochloride, melting at 118°. Schimmel & Co. have further investigated the oil, finding it to consist partly of the acetic ester of an alcohol, of which the nature has not yet been determined. To obtain this alcohol the oil was saponified and fractionated. The fraction which contained the bulk of the alcohol boiled at 210°— to 230°, and upon acetylation yielded 82.25 per cent. of an acetate with an odor like savin oil. The formula of the alcohol was estimated to be $C_{14}H_{18}O$. The acid-mixture separated from the saponification liquor consisted chiefly of acetic acid. Acids of high boiling points, insoluble in water, were present in small quantities. Savin oil contains 40.2 per cent. of ester, which is increased by boiling with acetic anhydride to 54.25 per cent., showing that the alcoholic body partly occurs in the oil in the free state. The oil also contains a large proportion of terpenes.

DISCOVERY OF GUM COPAL IN COLOMBIA.—The U. S. Consul at Carthagena, Colombia, describes the recent discovery of a large quantity of gum copal in the alluvial deposits of that country, and the arrangements which have been made to market the product in the United States. The deposits occur chiefly near Mazangua, Punta Barrila and Geleres, all on or near the San Jorge River. The discoverers have obtained a concession from the Colombian Government giving them the sole right to mine gum copal in Colombia for the next twenty years. In return for this grant the government will exact the sum of 1 dollar (Colombian) for every quintal (220.46 lb) of copal shipped from the country. The Columbian gum is said to compare favorably with the kauri gum of New Zealand, and the expense attached to the mining and shipping of the stuff will not exceed 10 cents per lb, landed in New York. The gum is found in large lumps in the soft alluvial soil at the foot of the algarroba tree, and as the labor of digging for it is comparatively light, native women may be employed for the purpose at a cost of 10 cents per diem.

PINE OIL.—In addition to the oils distilled from the needles of Pinus pumilio and the young cones of Abies excelsa, the only oil of any commercial importance is that of the Silver Fir (from needles and young twigs of Abies excelsa), which is justly preferred to the others for perfumery purposes. Schimmel's Report quotes from several papers relating to the oils of the Coniferæ, which have been published within the last half year. Umney describes an oil distilled by himself from young needles, cones of Pinus sylvestris. It has sp. gr. 0.8855, optical rotation —19°, and an ester-content, calculated on bornyl acetate, of 3.5 per cent. The fraction between 157 and 162° coasists in the author's opinion, of lævo-pinene, while the fractions between 171 and 175° C. are said to contain dipentene. Messrs. Schimmel state that a sample of the same oil prepared by themselves was dextro-rotatory, + 10°. Kremers prepared from the cones and twigs of Pinus nigra an oil exceedingly rich in bornyl-acetate, as high as 50 per cent., the highest percentage thus far obtained in any oil. He also discovered dextro-pinene in the oils obtained from the turpentine of Pinus palustris and Pinus Cubensis.

ORIGIN OF COLOR-BLINDNESS.—"A Frenchman, M. Dubois, has made an interesting suggestion as to the origin of color-blindness," says knowledge (Lit. Digest.) "This defect of vision almost invariably consists in inability to recognize red. Now a body cooling down from incandescence extends its spectrum toward the red end, or, in other words, the white-hot to violet-colored body becomes yellow and finally a dull red as it cools. A few stars such as Sirius are white-hot, many others like our sun are cooler and therefore yellow, while others are so cooled down as to shine with a dull red light. Primitive man, according to M. Dubois, lived when the sun was in either the Sirius or the pre-Sirius stage, that is, when the sun, which is the source of all color, was white-hot, and had no red component in its spectrum; he had, therefore, no power of recognizing red. Color-blindness, therefore, says M. Dubois, is merely atavism or degeneration to the primitive type. The objection to this ingenious theory is that we have no reason whatever for supposing that primitive man was contemporary with a white-hot sun: further, all white-hot suns that we know of have some red at any rate in their spectrum. The intensity of particular components of the spectrum may vary, but the components are still there."

CHEMISTRY ADVANCED BY THE INDUSTRIES.—In showing how pure science had been promoted by industrial operations and requirements, which was the theme of his vice-presidential address before the American Association, Mr. William McMurtrie cited an interesting example from Hoffmann, who says: "It is not generally known that the theory of substitution owes its source to a soirée in the Tuileries." Dumas had been called upon by his father-in-law, Alexandre Brongniart, who was director of the Sèvres porcelain works, and, as Hoffmann says, in a measure a member of the royal household, to examine into the cause of the irritating vapors from candles burned in the ballroom, a demand to which Dumas readily acceded, because he had already done some work upon the examination of wax which could not be bleached and was therefore unmerchantable. He was readily led to the conclusion that the candles used in the palace had been made with wax that had been bleached with chlorine, and that the vapors were hydrochloric acid generated in the burning of the candles. But examination of the wax of the candles showed that the quantity of chlorine found was greater than could be accounted for by its presence as a mechanical impurity, and from it Dumas was led to experiments which showed that many organic substances when heated with chlorine have the power to fix it, and from these results he was in turn led to the further generalization concerning the law of substitution. It was an incident similar to that already described that brought Dumas to the reaction whereby hydrogen sulphide may be oxidized to sulphuric acid. He found the walls of one of the bathrooms at Aix-les-Bains covered with crystals of calcium sulphate, which could have no other source than the vapors liberated from the hot water.

Essences, Sicilian and Calabrian.

The following general review of the Italian essential oil market is given in Schimmel's October Report, as information obtained from Consul Edward Jacob, in Messina: "In my March report I suggested the probability of an all-round advance in the price of essential oils. This view was based upon the knowledge that the existing stocks were smaller than in the preceding seasons and that, therefore, the possible prospect of a poor crop might affect the position more seriously than would be the case under a normal state of things. Even at that time it seemed likely that the coming crop would be deficient in quantity, inasmuch as owing to the low prices of fruit the orange and lemon gardens had not been cultivated with the care and expenditure necessary to produce a full and rich crop. These views have received confirmation, if not immediately, in course of time. The low prices have greatly stimulated exportation, and we are now face to face with smaller stocks than have been known for many years. In sympathy with this state of things prices have advanced rapidly within the past few weeks, and under these circumstances the eyes of all persons concerned with the essential oil trade are turned towards the coming crop, which, in the absence of important stocks from previous seasons, will be practically the sole source of supply. A market position analogous to the present one, which, by the way, is pretty much the same for all varieties of oils, has not existed for several years.

It may be inferred from the considerations set forth above that the average price of all varieties of Italian essential oils must be higher next season than it has been during the two past years. It is as yet quite impossible, however, to form an opinion of the probable extent of the difference, because the market conditions are quite abnormal and such as have not existed for a long time. But the opinion may be expressed that the increase in price ought to be a considerable one, in view of the fact that the existing old stock is scarcely worth taking into account, and that the coming output will presumably be small. It may also be doubted whether the financial distress of Italy in general, and of Sicily in particular, will be able seriously to counterbalance the forces that are making for a rise. In any case we are approaching a season full of difficulties and one in which the sophistication of essential oils, which had been less prominent in the past two years than formerly, is likely again to assume formidable proportions."

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(W. L.) See rules at the head of this department.

Formula Wanted.

(F. W. B.) Dorsey's Mixture.

Solubility of Cocoanut Oil in Alcohol.

(W. N. F.) In further reply to your query in the Oct. 17, 1895, Era, page 495, Lewkowitsch ("Chemical Analysis of Oils, Fats, Waxes, etc.") states that 1 volume of cocoanut oil is soluble in 2 volumes of 90 per cent. alcohol at 60° C.

Works on Perfumery.

(Perfume.) Three good books on the subject are: Sawer's "Odorographia," an English work published in two series, price, first series, $4.50; second series, $5; Askinson, "Perfumes and Their Prepation," $3; Deite, "Manufacture of Perfumery," $3. Any or all of these books may be obtained through this office.

Restoring Bleached Hair to Its Natural Color.

(F. H. B.) Hair which has been bleached by peroxide of hydrogen ceases to be a living tissue and therefore, about the only thing you can do toward restoring it to its natural color is to await the development of a new growth. However, it may be dyed almost any shade you desire by the use of some suitable preparation. Formulas for several "hair dyes" may be found in reply to another correspondent in this department.

Catarrh Cure.

(G. F. N.) We cannot give you a formula for the proprietary article. However, the following is a formula for a preparation which has been used for a similar complaint:

Potassium iodide ... 1 dram
Compound tincture of cardamom ..... 4 fl. ounces
Compound tincture of gentian .....12 fl. ounces

Formulas for various other catarrh remedies are given in the May 30, 1895, Era, page 687.

Peroxide of Hydrogen and Fluid Hydrastis.

(S. L. H.) In the prescription you submit

Peroxide of hydrogen. 16 grams
Fluid hydrastis ..... 8 grams
Saturated solution boric acid ..... 32 grams
Cinnamon water, enough to make .....128 grams

a reaction takes place between the peroxide of hydrogen and the vegetable matters of the fluid hydrastis, the former acting as an oxidizing agent upon the latter. Just what constituents of hydrastis are thus decomposed can only be approximately determined by chemical analysis.

Ammonium Carbonate and Salicylic Acid.

(J. M. C.) When the prescription

Salicylic acid .....2 drams
Ammonium carbonate ...3 drams
Peppermint water, enough to make .....4 ounces

is compounded a reaction takes place between the ammonium carbonate and salicylic acid, ammonium salicylate being formed, with liberation of carbon dioxide. Solutions of salicylic acid and its salts are not easily preserved, and acquire color upon standing. The color change reported by you may be due to a trace of iron.

Insolubility of Calcium and Iron Phosphates.

(J. J. P.) wants to know if a clear solution can be dispensed from the following:

Strychine sulphate ....2 grains
Tribasic phosphate of calcium .....
Tribasic phosphate of iron, of each .....3 drams
Dilute phosphoric acid
Tincture of quassia, of each .....4 ounces

No, the phosphates of calcium and iron are insoluble in the liquids of the mixture.

He Reads the Prescripton.

J. Pfeiffer, Brooklyn, N. Y., sends in the following rendition of the prescription appearing on page 694, Nov. 28, 1895, Era:

For Hospital.

℞
Acidi borici.....
Mentholis .....aa.....ʒj
Fluid hydrastis (colorless).....ʒj
Spirit vini rect.....
Aquæ q. s. .....ad... ʒxvj
M. et S. Spray.

He also makes the comment that some of the menthol will be precipitated.

Stereotypers' Powder.

(S. H. G.) Various mineral matters are mixed with stereotypers' paste, with the two-fold object of making the compressed parts of the mould more hard and stony than they would otherwise be and, therefore, less subject to blister or scale during drying or casting, and, to make the uncompressed parts of the "flong" more spongy and uniform in texture. Whiting, litharge, white lead, kaolin, other clays, Paris white, zinc white, etc., have been recommended, but it is said by practical workmen that whiting is the most satisfactory substance for this purpose. If you will give us a full description of your process and state the exact manner in which you expect to employ the "powder," we will try and further help you.

Malakin.

(L. R. D.) Malakin is one of the "new" remedies manufactured by Die Gesellschaft für Chemische Industrie in Basel (Switzerland), and is recommended as an antipyretic, antirheumatic and antineuralgic. It is said to be closely related to phenacetin (acetphenetidine) and the dose is given as 1 gram. It is insoluble in water, cold alcohol and alkaline carbonates, but soluble in solutions of soda and in boiling alcohol. According to a writer in the Pharm. Ztg., it is readily absorbed, being decomposed in the stomach into phenetidine and salicyl aldehyde; the latter is oxidized and voided as salicylic acid and can be detected in the urine twenty minutes after the introduction of the remedy. It is listed by Lehn & Fink, of this city, at $1.50 per ounce package.

What "Fire Eaters" Use.

(C. H. B.) We are unable to tell you definitely what "fire jugglers" use to protect their hands from being burned in handling hot iron, although we have seen it stated that some of them use an application of tincture of benzoin or liquid storax. Many of these feats are undoubtedly mere tricks, or illusions, produced by sleight of hand, while others are capable of scientific explanation. It is well known that the tongue, or the hand, dipped in water, may be rubbed against a white-hot bar of iron, the layer of vapor developed between the hot metal and the skin preventing intimate contact and producing coolness. A scientific explanation of this may be found in almost any work on natural philosophy or physics under the subject "spheroidal condition of liquids."

He Thinks it a Case of Spontaneous Combustion.

(W. O. N.) relates the following peculiar experience he had recently with a barrel of alcohol: Two weeks ago he received a barrel of alcohol which was leaking around the bung. He drew out the bung, put a piece of cloth under it and drove it in again. The barrel did not leak any more, and it was left standing near the door over night. The next day it was put upon the rack with the bung against the wall. Yesterday, while in the cellar he noticed a small light behind the barrel, and, upon investigation, he found the barrel to be on fire in the neighborhood of the bung. He put it out, and upon examination found a hole burned clear through the barrel large enough to admit his arm, and the alcohol all gone as far down as the bung. The fire did not go below the bung, and there is every indication to show that it started there and burned upward, consuming the alcohol as fast as it leaked out. He wants to know why the barrel did not explode. May be some one of our readers can give W. O. N. an explanation of this peculiar circumstance.

Constituents of Cascara Sagrada.

(J. A. L.) Maisch's "Organic Materia Medica," sixth edition, recently published, states the constituents of cascara sagrada to be tannin, white sublimable principle, yellow crystalline principle (resembling frangulin, but probably not identical with it), and three resins (one is colored brown by potassa, another purple by the same reagent, and the third red-brown by sulphuric acid). The composition probably changes on keeping; 0.05 per cent. emodin was found in bark about a year old (Schwabe, 1888).

In 1892 M. Le Prince (Pharm. Journ. & Trans.) working on the bark of Rhamnus Purshiana with a view to studying the alkaloid described by Dr. R. C.

Eccles under the name rhamnine, found in the course of his investigations, a new body which he isolated and which he regards as the active principle of the plant. For this substance he proposed the name cascarine. It is obtained from the filtrate left on treating an alkaline decoction of the bark with acid and removing the deposited matter. On evaporating this filtrate a further deposit is formed. This is a complex mixture of cascarine and various substances insoluble in alcohol. After treatment with acetone and sulphuric acid a definite principle is isolated which, after purification, occurs in the form of microscopic, prismatic needles, of an orange-yellow color. The tint varies with the degree of hydration. The crystals are inodorous, tasteless and soluble in potash and other alkaline solutions, to which they impart a dark reddish-purple coloration. They are insoluble in water, soluble in alcohol, alcohol ether, but less so in chloroform. Dried at 50° over sulphuric acid, they gave on analysis figures according with the formula $C_{12}H_{16}O_5$. See also last editions of the dispensatories.

Hair Dye.

(J. D N.) We cannot give a formula for the proprietary preparation. Here are, however, two or three typical formulas in which a mordant is employed:

1.) Nitrate of silver .....½ ounce
Distilled water ..... 3 ounces

Mordant:
Sulphuret of potassium. ½ ounce
Distilled water ..... 3 ounces

2.)
(a) Nitrate of silver (crystal) ..... 1½ ounces
Distilled water .....12 ounces
Ammonia water, sufficient to make a clear solution.

Dissolve the nitrate of silver in the water and add the ammonia water until the precipitate is re-dissolved.

(b) Pyrogallic acid .....2 drams
Gallic acid .....2 drams
Cologne water .....2 ounces
Distilled water .....4 ounces

3.) Nitrate of silver .....20 grains
Sulphate of copper.... 2 grains
Ammonia, q. s.

Dissolve the salts in ½ ounce of water and add ammonia until the precipitate which is formed is re-dissolved. Then make up to 1 ounce with water. Apply to the hair with a brush. This solution slowly gives a brown shade. For darker shades, apply a second solution, composed of

Yellow sulphide ammonium .....2 drams
Solution of ammonia....1 dram
Distilled water .....1 ounce

Spruce Gum Syrup.

(Perfume.) The following formula has been published as producing a satisfactory preparation:

Tincture of red spruce gum..... 2 fl. ounces
Sugar .....26 av. ounces
Water ..... 1 pint
Caramel ..... 1 dram
Fuller's earth..... 2 drams

Mix two ounces of the sugar with the tincture of spruce and Fuller's earth, rub well and add the water in divided portions; then filter, returning the filtrate until it comes through clear; add the caramel and sugar, which dissolve with a gentle heat, and strain while warm. A syrup of a different and richer appearance may be made by mixing equal parts of the syrup prepared as above and syrup of wild cherry of the U. S. Pharmacopœia. The tincture of red spruce gum directed for use in the above is best prepared as follows:

Red spruce gum (in fine powder) .....2 ounces
Alcohol, q. s.....1 pint

Macerate until dissolved and filter.

As regards putting a preparation of this character upon the market, we would say that the trade name "Syrup of Red Spruce" has been decreed by the United States Circuit Court for the district of Massachusetts to be a valid trade-mark (Kerry et al. vs. Toupin), the judge sitting at that trial ordering an injunction issued perpetually restraining the defendant from dealing in an artificial medicinal preparation under that name or any translation thereof. The courts have uniformly held that where the name or title of an article is proprietary, it is not allowed to another to imitate by a slight change not easily noticed or made with intent to mislead, and that such use will make the imitator liable in damages.

Fall, "Law of the Apothecary," quotes the following paragraphs, which covers the questions you ask: "If one person has adopted a certain label by which his article is recognizable, another person cannot imitate it by using a form of printed words, figures, hints and devices so similar that any one exercising the ordinary care and observation of the public generally, would mistake one for the other. To this extent only, even where the names of the two manufacturers are identical, and the article itself has no proprietary name, the label is protected. This protection is not so much for the purpose of guaranteeing the original manufacturer to the exclusive right of the label, but for the purpose of protecting the public from imposition."

It is well to remember, however, that not every word or term can be appropriated as a distinctive label, or brand, so as to prevent any other person from using it. To quote from the authority cited: "The name adopted for a specific remedy, which is to exclude the use of the name elsewhere, must not be generic. That is, it must not be merely descriptive of an article of trade, of its qualities, ingredients, or characteristics. The exclusive right to use names of vendible commodities, which necessarily belong to general descriptions, will never be allowed."

Books to Read up on Pharmacy.

(W. W.) Your query, in one form or another, has been often answered in these columns. The best methods of posting yourself cannot be decided by us. It remains for you to choose books and processes. If you wish to gain a thorough knowledge of pharmacy and one which would fit you to pass a board of pharmacy, the study must be undertaken systematically and in earnest. To begin with, in your preparation for the practice of pharmacy as a profession you should carefully lay a sound and thorough foundation of general education. You should have proper equipment in the knowledge imparted by the ordinary grammar and high schools. Having this equipment your next step, if you cannot attend a college of pharmacy, will be to map out, in a systematic manner, a course of reading and then follow methodically to its completion. Desultory and unconnected reading is but of little benefit to any one in acquiring an education. And right here we would say that no better outline for a student in your position has ever been presented than that now running through the Era. You can do no better than to carefully read these papers, supplementing them, wherever necessary, by systematic study and reading of text-books and works of reference, and by practical experiment and trial of the various operations described. Besides this course, we can offer you no better advice than for you to follow this tabulated course of reading and plan of study, prepared by Dr. A. B. Prescott:

1. General Chemistry, First Principles; Attfield (first 128 pages), or Shepard.
2. Study of Inorganic Chemicals in the Store—referring to the U. S. P.
3. Operative Pharmacy; Remington's Part I.
4. Botany; Gray.
5. Organic Chemistry; Attfield or Remsen.
6. Practice in the conversion of weights, volumes and chemical proportions. Reference reading.
7. Study of the Crude Drugs of the store, their constituents and products. Doses. Reference reading.
8. The poisonous effects of medicines. Doses.
9. Extemporaneous Pharmacy; Prescription Difficulties; Language of prescriptions, and practice in their interpretation. (Remington's, Part V.; Gerrish on Latinity. Reference reading.)
10. General Pharmacognosy and Pharmacy. A Study of the Drugs, Preparations, and Operations of the store. Reading by Reference to the Books already named, the dispensatories, etc. Reference reading of the Periodical Literature.

About three years ago we ascertained the ideas of many leading pharmacists regarding the books indispensable in the drug store. The following is a typical list:

U. S. Pharmacopœia.
A Dispensatory.
National Formulary.
Era Formulary.
German Pharmacopœia.
British Pharmacopœia, or Squire's Companion.
Attfield's or Fowne's Chemistry.
Latin Dictionary.
Era Dose Book and Reference Tables.
Reference works advised are:
Maisch's Materia Medica.
Pharmacographia.
Watt's Dictionary of Chemistry.
A work on Urinalysis, Hoffmann's is good.
King's Dispensatory, by Lloyd.
Remington's Pharmacy.
The Pharmaceutical Era.
Another live pharmaceutical journal of national importance.

If there is a local journal devoted to pharmacy you want that.

Gray's Botany.
A Medical Lexicon, Thomas' is good.

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BOX AND CARTAGE IN OTHER TRADES.

"What reception will the restoration of box and cartage charges meet in the East?" is a question that is puzzling the heads of the jobbers who have signed the agreement put forward by the Western delegation of druggists.

It will not surprise these gentlemen much to know that the retail druggists are already in advance of any formal adoption of the plan, giving it the cold shoulder and writing letters to people in the trade here in which they declare their opposition to the scheme in strong terms. They do not favor a change from the present way of doing business, and they see no good reason for the restoration of charges.

There is another point, too, that is interesting. If the jobbers are able to make the system a success they will do better than the grocery, stationery and other trades are able to do. The Era is told by men in those trades that the box and cartage charge system is run on the principle of "get it if you can, if you can't all right." One gentleman said: "We have a scale of prices for the various sizes of boxes. Thus for a small box we charge 2 cents, and from that price up to 25 cents. For a sugar barrel we ask 6 cents, for a syrup barrel 15 cents, for coffee bags 4 cents and so on. Do we have many complaints? Well, I should say so, every day."

"Is the charge strictly maintained?" was asked.

"If you will not quote me, I will say that I never lose a good customer by forcing a box or cartage charge on him. Speaking about complaints, we not only get them on the question of such charges in the abstract, but those on the concrete charges are innumerable. The box charges are not itemized of course, but are added as a total. Thus for six boxes and three bags the charge might be 24 cents. We would simply add the charge of 24 cents to the bill. The retail dealers keep a close watch on their boxes, etc., and we hear from it if there has been a mistake."

Another firm gives out its cartage to any freight line as anywhere from 50 cents to 2 cents, according to size or weight of packages. A big house that does little outside of the suburbs of New York does not charge box and cartage, but the manager said he supposed the firm ought to.

In the stationery line the box and cartage system seems to be in a very bad condition. The Era man was told that that if he could devise any plan by which the charges could be maintained strictly he would be called a benefactor by the trade. "Why," said one dealer, "I can't afford to charge such items when my next door neighbor doesn't. It is one of our bids for trade to offer box free or cartage free, and I would be a pretty business man to neglect to make such offers. The consequence is we get box and cartage if we can, if we can't we don't ask it."

When told what the drug trade jobbers were doing in the matter the stationery manufacturers asked what reason the jobbers had to make such charges—and laughed sarcastically at the answer.

In the paint trade the Era is informed that the merchants have for years made no charge for either box or cartage, and that they could not afford to restore such a system. One gentleman said: "I have heard that the jobbing druggists propose to restore those charges, but in my opinion it is an unwise thing to do. The fact that Western men in that trade do charge for box and cartage only bears out my idea of Western business men, who are smart in almost all lines, but who are behind the times on some. We tradespeople here in the East have for years believed that the retailer should not have to pay an added charge like that for boxing. We must make our prices on goods cover all our expenses and leave us a profit margin. If we attempted to charge for boxes, we should simply drive away trade. If the Eastern drug jobbers charge box and cartage, they will be taking a step backward. Freight charges, of course, are different. The retailer expects to pay those.

"I know that dry goods houses do business the same way we do. They have great supplies of boxes always on hand, and deliver them to freight stations free."

A hardware merchant says the trade charges box, but seldom cartage. "I paid $3 yesterday for a box in which an order of goods came. How do I regard such charges? They're perfectly legitimate. We have always paid them and always expect to. I think the reason for such a charge in our line is that the prices on hardware are kept down to the smallest degree that will leave a profit, and the wholesale dealer cannot afford to give away such substantial boxes as are used in our business."

In the cigar trade there is no charge either for box or cartage, probably owing to the cheapness of the material used in making cases. If an order is sent to Tampa, Fla., for a box of cigars the price is fixed for delivery in New York or not, according to the purchaser's desire.

The retail dry goods people say they generally stipulate on an order for goods that they shall be delivered at the store.

In other lines the practice is to box and cart free to freight stations.

Box and Cartage in Philadelphia.

Philadelphia, Dec. 8, 1895.—Considerable satisfaction is expressed among the large wholesalers in this city, that the long-agitated and vexed question of boxing and carting charges has at last been satisfactorily settled. Although great secrecy as to the exact nature of the arrangement recently ratified by the leaders of the trade has been maintained, yet it is authoritatively stated that the circular containing the schedule of prices will be ready for distribution among the retailers Jan. 1. In speaking of the new departure, Mr. Kline, of the Smith, Kline & French Co., said that the charges for boxing and carting agreed upon, were of such a moderate amount that he felt sure no customer would object to its payment. While some of those engaged in the wholesale trade had discontinued this item from their regular statements, for the purpose of influencing trade, Mr. Kline believed that the wrangling and dissension caused thereby would now cease, and matters would again run smoothly. The circular has been signed by all of the prominent houses.

In Baltimore.

Baltimore, Dec. 6.—As might be expected, a majority of retail druggists are far from enthusiastic over the determination of the jobbers to resume the practice abandoned ten or twelve years ago, of charging separately for boxes and cartage. Some of the principal retailers in this city take decided ground against the proposed change and express the opinion that it will prove harmful to the interests of the jobbers. Said Mr. John B. Thomas, of Thomas & Thompson, Light and Baltimore streets:

"I am decidedly opposed to the change. The retailers are obliged to meet the closest competition and if compelled to pay for boxing and cartage profits will disappear altogether, and druggists might as well go out of business. Of course, if the jobbers all unite and insist on charging additionally for the item mentioned the retailers must pay. But what is to hinder them from combining and appointing some one to buy in large quantities direct from the manufacturers, ignoring entirely the jobber? Anybody can purchase goods in quantities and secure the jobber's discount for cash. There is nothing to prevent direct dealing. The wholesalers insist strongly upon manufacturers not selling to the retail trade, but manufacturers are not easily dissuaded. In the first place no one feels disposed to reject a cash order regardless of where it comes from. If one refuses to sell another will, and the

element of rivalry serves to frustrate open combinations. But it is perhaps needless to apprehend that the proposed plan will be successful. Competition among jobbers led to the abrogation of the system of charging for boxes and cartage, and competition can be depended upon to prevent a return to it. In any event it will make small difference to city druggists. They have their goods delivered free by the wagon service, which every wholesale house maintains."

Mr. Alonzo Lilly, senior member of Lilly, Rogers & Co., takes a different view. "I think it is entirely fair that wholesale druggists should charge extra for boxing and cartage. It constitutes an important item of expense, which the jobber can ill afford to bear. I see no reason why the plan could not be carried out. It only needs a few of the larger and most important houses to lead the way and the others will follow suit."

Mr. Oscar E. Ross, whose pharmacy is on North avenue, near Charles street, and who commands a large trade, sides with Mr. Thomas. "I for one am not disposed to pay for boxing and cartage," he said. "The drug trade is now exposed to such fierce competition that every pharmacist must content himself with the smallest of margins. For him to pay 25 or 50 cents on an order would mean a serious reduction of his profits in the course of a year. I do not believe that a combination can be effected which will accomplish the desired result."

In Chicago.

Chicago, Dec. 7.—Retailers here do not take very much interest in the box and cartage matter. They say that inasmuch as it affects only out-of-town druggists, the opinions of those whom the matter does not affect is ex parte. This view was taken by one gentleman connected with a drug journal of this city, that, from the retailer's standpoint the shippers should stand the expense of cartage to the point of departure and that if the containers were capable of being returned intact and without damage no charge should be made for them. It would be fair, however, to charge for containers not capable of being used several times without damage.

The $250 Liquor Tax.

Chicago, Dec. 7.—The druggists held a largely attended meeting at the Tremont House to devise ways and means to defeat the proposed ordinance imposing a $250 liquor tax on druggists. All the druggists were unanimous in saying they could not afford to pay such a tax. One druggist said he had not sold $25 worth of liquor in a year.

It was informally agreed they would not take out a license if the ordinance became a law. It would be less costly to discontinue the sale of liquor except on a doctor's prescription. As a revenue measure the tax would be of no value, as no licenses would be taken out.

FREE ALCOHOL.

The only business done at the meeting of the drug trade section of the Board of Trade and Transportation last Thursday was in reference to the free alcohol question. A resolution was passed that everybody in all branches of trade in which alcohol is used in the arts or in medicine, should be asked to communicate with the Committee on Legislation of the section giving their reasons for retaining free alcohol on the statute books and for making the present law more precise and operative. The Committee on Legislation was also authorized to go to Washington on the matter and their expenses will be paid by the section.

The special committee of the section appointed in the matter of fire insurance rates held a meeting on Thursday and organized by the selection of Albert Plant as chairman. They will soon confer with the Rate Committee.

At the meeting of the section on the third Thursday in this month the box and cartage question will come up. A large attendance is assured.

DRUGGISTS IN POLITICS.

Boston, Dec. 7.—There have been held in many of the cities in this part of the commonwealth in the last week elections of municipal officers for 1896, and in some places druggists have had considerable prominence. Take, for instance, the case of Somerville. Here some dissatisfied citizens nominated for mayor an ex-druggist, Albion A. Perry, and, after the hottest campaign ever seen in that growing city, this gentleman triumphed, though few impartial observers supposed that it would be possible for an "independent" to win. On the announcement of the result cannon boomed, red fire blazed and the mayor-elect was drawn through the streets in an open carriage by a long line of enthusiastic supporters. Mr. Perry is a native of Standish, Me., being born there in 1851. For ten years he was engaged in the drug trade. He has held many city offices.

In the neighboring city of Malden the druggists were conspicuous on account of the abuse heaped upon them. A paper was published during the campaign, largely devoted to denouncing druggists. There were warnings given that they were "willing to deliver Malden over to be a rum city," and mean insinuations of "an unholy alliance with the wholesale liquor trade of Boston to curse Malden with the open saloon." But in spite of the extraordinary efforts made by the temperance folk the vote for license was reduced by only twenty, out of a total vote of 4,400. Still, the city, as usual, went for prohibition by a large majority—exactly as it would have done without all the falsifying by the opponents of license.

In still another way one druggist has been forced into public view through politics. In the Municipal Court yesterday the case of A. E. Lynch, the Cambridge druggist, who is accused of filing nomination papers which he knew to be fraudulent, was called, but errors of so vital a character were discovered that a new complaint had to be drawn. Mr. Lynch was immediately re-arrested and will have a hearing in about ten days. He was released on bail.

In the city of Everett, where an election will be held next week one candidate for the mayoralty has had the courage to say that he thinks the druggists have some rights which have not heretofore been respected, and his attitude has aroused all the prohibitionists to oppose him in a vigorous manner. However, there is a chance that he may be elected, after all. Everett is one of those peculiar cities where it is considered to be wicked to open a drug store on Sunday—that is to say, some of the folks so view the matter, and druggists have been in trouble for selling soda on that day.

Standard Drug Co. Goes Out of Business.

Cincinnati, O., Dec. 8, 1895.—The Standard Drug Co., which went into voluntary liquidation several months ago (last July), has sold almost all of its stock, and expects to dispose of the small amount remaining before Christmas. Its employees have gone into other lines of business. The secretary, Robert E. Doisy, yesterday entered the employ of Hale, Justis & Co. He will look after the old customers of the Standard for his new employers, but his duties will be mostly in the line of office work. S. A. Robinson, salesman, has gone to A. Kiefer, of Indianapolis. C. G. Wood, another salesman, is with Stein-Vogeler. The Standard Co. will give up its store Jan. 1. It holds a five-year lease on the place, which will expire in about twenty months. Until then the house will be let to Stanage & Co., stationers.

C. P. Calvert has bought the dye house of Leroy H. Brooks outright, and will enter into possession of his new property on the beginning of the year. His plans embody the enlarging of the scope of the business, and he is very hopeful of success. Mr. Brooks will have an office in the building, but will have no share in the concern. He will devote his attention entirely to his prussiate of potash manufactory in Columbia.

Mr. Otto Rauchfuss, Mr. Calvert's partner in the Standard, will build on several of his lots in the suburbs and enter into the real estate business. He will also give some attention to the Cable Road Drug Store, in Walnut Hills, of which he is the proprietor.

Missouri's Patent Medicine Tax

St. Louis, Dec. 5.—The question as to whether patent medicine venders in this State are obliged to pay a license tax of $25 for each county canvassed, is now under consideration by Judge Valliant, of the St. Louis Circuit Court, and a decision is looked for in the near future. The question, it will be remembered, hinges on the constitutionality of the "Yeater law," which was passed by the last Legislature and which seeks to levy a succession tax on all collateral inheritances and also on patent medicine vend-

ers for the purpose of providing free scholarships at the State University a number of scholarships, to depend on the amount of money collected. There are are now fifty students at the State University being educated free as a result of this law. A short time ago the drug companies of St. Louis combined for the purpose of testing the validity of this act, and headed by the Dr. Simmons Medicine Co., got out an injunction to restrain the City Collector from proceeding with the collection of tax, which is regarded as a species of direct taxation resulting from class legislation. The closing arguments in the case were heard yesterday. Col. D. P. Dyer appeared for the different medicine companies, City Counsellor Marshall for the city and F. N. Judson, as special counsel for the State University. Col. Dyer made a forcible argument as to why the law should not be allowed to remain on the statute books. It was clearly a case of class legislation, he contended, which is an unfair discrimination and against the constitution of the State. Besides the real purpose of the law was not contained in the title head and few, if any, of the medicine companies of the State knew of the existence of the bill, which was accordingly slipped through without opposition. As stated Judge Valliant took the matter under advisement, but the drug companies are confident of getting a favorable decision.

Dr. Cornwall and the "New Woman" Again.

St. Louis, Dec. 9, 1895.—Dr. John Cornwall, the proprietary medicine man, whose experience with the "new woman" was related in the last issue of the Era, has, through his attorney, made a flank movement on Miss Carrol, who, it will be remembered, was acting as referee in the suit now pending between the McFarland Real Estate Co. and himself, and left her without jurisdiction. This was done by getting out an injunction to restrain the McFarland Real Estate Co. from prosecuting its suit against Dr. Cornwall, on the ground that exactly the same issues are involved in the doctor's suit against it. The taking of depositions has been stopped and the doctor will not have to answer.

Suicide of a Drug Man.

Cincinnati, O., Dec. 8.—Otto Frank, aged thirty-five, living at 522 Walnut street, went into a saloon at Liberty and Vine streets last Monday night, and, pouring a strychnine powder into a glass of beer, drank it off. He died soon afterward. Frank, up to within a year and a half ago, had been in the employ of the Standard Drug Co. Later he sold paints and oils on commission. He was addicted to drink, and was supposed to have become despondent at his loss of position and friends. He left his valise in Miller's drug store, at Hamilton Pike and Chase streets, before he committed suicide.

When Coroner Haerr came to the saloon Tuesday he found a jolly crew gathered around an object displayed on the bar. Pushing his way through the crowd the coroner saw an inverted glass on the counter tied with crape and bearing a tag with the following inscription: "The fatal glass. This glass is not used on account of the death of Otto Frank, Dec. 2, 1895, 10:45 P. M. Cause, despondency. Route, strychnine." The glass was immediately removed by the coroner.

Trying to Stop Druggists from Giving Prizes.

Providence, R. I., Dec. 6.—An agent of the watch and ward society of Boston came here to-day and began a campaign against the druggists of this city who have been giving prizes away with purchases. The agent was requested to come here by persons who claim that the practice is carried on in direct violation of the anti-lottery laws. The agent decided that those apothecaries giving prizes should be prosecuted. The druggists deny that their business is carried on in violation of the law. They declare that they give full value for the money, and that all prizes are actually given away. Purchasers may take them or leave them, just as they please. The druggists will resist any attempt made to abolish the system.

St. Louis Druggist Assigns.

St. Louis, Dec. 7.—U. S. Boone, the well known druggist at Twelfth and Olive streets, has succumbed to the effects of the recent general business depression and assigned Friday to Frank H. Haskins, trustee for creditors. The assets are valued at $1,500; the liabilities are not given. The store which has a good appearance and admirable location, will, it is understood, be bought in by one of the large wholesale drug concerns.

A Chemical Company Triumph.

Providence, R. I., Dec. 6.—In the appelate division of the Supreme Court Chief Justice Matterson has given the opinion that the tax assessment on $700,000 worth of persoual property of the Rumford Chemical Works is void. The case came into court on proceedings instituted by Hon. Ellery H. Wilson, a large stockholder in the company, who claimed that the assessment was illegal, and meant a tax payment by the concern of $8,400 over any previous year, though the works have been located in East Providence for many years.

Trade-Mark Decision on Tobacco Cures.

In the case of the Sterling Remedy Co., Chicago, manufacturers of "No-To-Bac," to restrain the Eureka Chemical and Mfg. Co., Lacrosse, Wis., manufacturers of "Baco-Curo," from infringing trade-mark, Judge Bunn, of the United States Circuit Court for the Western District of Wisconsin, on Nov. 25 refused the application of the plaintiffs for an injunction, and dismissed the bill with costs in favor of the defendants. The judge held that there was not enough similarity in name, package or label to deceive persons who exercised ordinary care and prudence in purchasing a tobacco cure, and thought that the fact that the plaintiff's label instructed the user to discontinue the use of tobacco, while that of the defendants advised the user to keep right on, and warned purchasers against all tobacco cures which required a voluntary cessation of the habit, was evidence that the defendants were not endeavoring to convey the impression that Baco-Curo was No-To-Bac.

Burdick's Annual Spread.

The Era has received an invitation to some gustatory doing down in the Cochiti Gold Mining District, New Mexico, the exact location being the town of Bland, and the host, Dr. T. D. Burdick. The menu which accompanies the invitation is the biggest temptation which we were ever called upon to withstand. We are unfortunately compelled to plead "circumstances over which we have no control prevent us, etc.," and this in spite of the fact that an annual pass over "any railway," subject to conditions printed on the back, said conditions being that we "buy a ticket or pay fare," was thoughtfully inclosed by the doctor. To show what a New Mexico "spread" means we will quote from the menu a few items, such as roast wild turkey, venison, bear steak, grouse pie, noodle soup, pumpkin pie, fruit, etc., etc. We are sorry that we are not going to be able to compare this with some of our Delmonico's best efforts.

Cincinnati Notes.

—Joseph J. Beck, formerly of Springfield, O., has bought the pharmacy of Charles Belt, at Batavia, O.

—Judge Amos Dye, the attorney of the Food Commission, is engaged to be married to Miss Ida Schaetzel, of Cincinnati.

—W. F. Hartzel & Co., doing business as the Cincinnati Cork Co., have assigned to R. M. Ochiltree. Assets and liabilities, $4,000.

—Mrs. Mary P. Judkins, widow of the late Dr. William Judkins, died at noon, Dec. 7, at the Presbyterian Hospital of old age. She was eighty-one.

—Roosa & Ratcliff, drug manufacturers, will remove from their present quarters on Walnut and Canal streets next Jan. 1, to a larger building at 28 East Pearl street.

—The courts have decided that the Cincinnati College of Dental Surgery is a regularly constituted institution of learning, and as such its $12,000 worth of property is exempt from taxation.

—Dr. Cranston, of Avondale, set his valise down in Davis' drug store, at Fourth and Central avenue, last Friday afternoon, and a thief marched off with it. It contained clothing and toilet articles.

—C. G. Lloyd, of Lloyd Bros., wholesale druggists, will sail for the Barbadoes on Dec. 14. He will spend three months in a botanizing tour among the islands and along the northern coast of South America.

—Hale, Justis & Co. have engaged a ware room at 28 East Pearl street. They do not intend to remove from their present location, but need more storage room. Part of their stock is now stored in the Standard rooms.

—Assignee Otto Pfleger, of M.

Schroeder & Co., soap manufacturers, at 37 and 39 Race street, reported the sale of the plant of the Modoc Soap Co. for $1,000, the highest bid. The plant cost nearly $18,000 for machinery, chemical experiments, etc.

——In 1890, the date of the last official report, there were eighteen drug, chemical and glycerin firms in Cincinnati, with a cash capital of $816,759. The value of real estate occupied by them was $459,600. Altogether they employ 213 hands, and the value of their products was $1,952,745 annually.

Sifted at St. Paul.

St. Paul, Minn., Dec. 6, 1895.—So-called friends are common enough, but you will not often find one willing to prove his loyalty by going to jail for you. A. L. Woolsey, a druggist of Merriam Park, one of St. Paul's suburbs, has a friend like this in the person of Ed. A. Paradis, editor of the Midway News, a weekly paper. Mr. Paradis, whose office is over Woolsey's drug store, has, through his paper, been waging a crusade against illicit liquor selling ("blind pigging" and "bootlegging" we call it out West), which has been going on at Merriam Park, that village being within the prohibition section of St. Paul's corporate limits. The grand jury took up the matter, and the editor was one of the first witnesses called before it. He was asked, among other questions, whether he had ever bought liquor at his friend's drug store. He refused to answer, and the result was that Judge Kelley of the district court sent him to jail for contempt. Mr. Paradis didn't remain there long, however. He was liberated for a few days at the intercession of friends, but still remained in the custody of the Sheriff. Then Mr. Woolsey urged him to waive all personal consideration and answer the grand jury's question. Mr. Paradis consented, and being thus honorably released from the trammels of conscience, purged himself of contempt by telling the grand jury that he had bought liquor of the druggist. Paradis is a born fighter, and would have rotted in the bastile rather than yield to the law's behest unless at the solicitation of the friend for whom he had thus sacrificed himself. Meanwhile Druggist Woolsey is in no danger of any severe punishment for selling the "tanglefoot." Too many of the people at the Park, who say, in the language of the poet: "It comes high, but we must have it."

——A. B. Hermann's drug store, Second avenue, S and Fourth street, Minneapolis, was the scene of considerable excitement the other night. Two sneak thieves entered the store, and while one engaged the proprietor in conversation, the other took two boxes of cigars and placed them under his coat. Hermann saw the act, and started after the thief, who dashed out of the door. The proprietor, however, held on to the man who had been talking with him, and he was taken to the central police station.

——Judging from advices received here, "the Detroit plan" is getting along swimmingly, and its general adoption is expected by wholesalers of the Twin Cities.

——B. F. Witte, of East Seventh street, St. Paul, is removing his stock to the neighboring city of Anoka.

——Dr. Omich, of Northwood, N. D., has returned to the Twin Cities, and is negotiating (with every prospect of getting it) for the Masonic Temple drug store, one of the best locations in Minneapolis. The doctor, like most Dakota men, is a "rustler," and will be apt to make a success of it, as he has of every previous venture of his.

Denver News.

——John O'Leary is again with the Parlor drug store.

——E. L. Scholtz recently made a hurried visit to Chicago and St. Louis.

——Several important changes in managers and clerks are talked of for Jan. 1.

——Grebe & Taggart, of Seventeenth and Curtis streets, have moved to Colorado Springs.

——General trade is starting out much better this month than last, and the outlook for a fair Xmas business is good.

——The Hunter Drug Co. have bought the Palace drug store, at the corner of Sixteenth and Curtis streets. Mr. Hunter was formerly of Pueblo, and is a well-known and go-ahead business man.

——Druggist Chas. E. Ward, Eighth avenue and Broadway, has just returned from a trip to his old home, Raleigh, N. C., where he attended a family reunion. He took in Kansas City, Memphis, St. Louis, Birmingham, Atlanta and several smaller cities en route, and is loaded to the gunwales on the cut-rate problem.

——The liquor cases against Denver druggists were all dropped a few days ago. Once in so often the city fathers seek to annoy the industrious and painstaking pharmacist in this one particular branch of his business by having him appear at the bar of justice to answer some imaginary charge of violation of the law.

——Wm. Roberts, the clerk who presides over the prescription counter at Ward's pharmacy, recently made a trip to the City of (the Latter Day Saints) Salt Lake. Mr. Roberts, with his usual modesty, remarked upon his return that he did not think he could conscientiously become a Mormon, at least, not to the extent of having more than two or three wives.

——W. L. Clowes, druggist at Hugo, Col., was in the city last week. Your correspondent rode with him for about one hundred miles on our way to Denver, and was very highly entertained by his conversation. Mr. Clowes has been a reader of the Era for years, and says "it is without a question the very best and most useful journal published, and the up-to-date druggist can't keep store without it."

——The mining camps of Colorado are booming, and well they may, as they have q. s. of the golden metal to back up their pretensions with. Druggists are but human, after all—and the fever of mining and the desire to be in the field among the rest of the seekers after a short road to wealth has caused many of our craft to change their place of business. Russell & Co., of Twenty-second and Humboldt streets, have moved to Cripple Creek to try their luck in that prosperous gold camp. O. J. Allan has purchased some ground in the same camp, and will soon put up a building, after which he will move his store from South Ninth and Tenth avenue to Cripple Creek, and occupy his new block. He will still retain his Denver store at South Eleventh and Eighth avenue.

To Sell J. N. Hegeman's Stores.

The Era understands that the four stores owned by J. N. Hegeman & Co., the head of which was the late J. Niven Hegeman, are offered for sale by Samuel W. Fairchild, of Fairchild Bros. & Foster, acting for the trustee of the estate, Chauncey M. Depew.

The property consists of four stores—two on Broadway, one on Fifty-ninth street and one on Third avenue—and the name, trade-marks and formulas of the corporation All the stores are paying.

There will be no splitting up of the property, all going to one purchaser. An inventory of the stock, fixtures, etc., is now being made by Mr. Fairchild, to whom all prospective buyers should apply. All the stores are in excellent condition, due to the extreme care Mr. Hegeman took in keeping them up-to-date in every particular.

Will Sue for $25,000.

The notice of the result of the Hopkins-Dietz suit, mention of which was made in last week's Era, led to quite a series of interesting incidents. In the first place the Hopkins matter was one which did not involve the Dietz Drug Co. at all, but simply Mr. Dietz, who is manager of that company. It appears that he owes a bill, approaching $3,000, to a German drug merchant. The latter's lawyers here, attorneys in fact as well as law, had some time ago secured Mr. Dietz's signature to a paper which gave them, in certain contingencies, the whole stock of the concern. When they heard of the result of the Hopkins-Dietz suit they immediately went to the office of the Dietz Drug Co. with a sheriff, and securing a key, locked up one of the upstairs rooms. Then it was explained to them that Mr. Ditez had no authority to sign a paper which would turn over the property to the German merchant's attorneys, and a padlock was also put on the door upstairs, so the attorneys could not get in either.

Then a motion was made in the Supreme Court in Brooklyn, before Judge Gaynor, for an injunction against the attorneys, and it was granted. A receiver was appointed, and the Dietz Co. got back the key and is doing business as usual. They inform the Era that a suit for $25,000 damages will be brought against the German drug merchant for the alleged illegal acts of his representatives at the Dietz office.

——A new drug store has been opened at Exeter and Fayette streets, Baltimore, Md., by A. G. Freedom.

NEW YORK AND VICINITY.

——F. J. Todd, of Stevens & Todd, Detroit, was in town on Dec. 5.

——A fire last week in Malone, N. Y., destroyed the drug store of Mrs. R. McC. Miller.

——G. H. Martin, Eastern salesman for Merck & Co., is in town for a week or ten days.

——C. J. Ellison has resigned his position at Hegeman & Co.'s on account of his health.

——By a fire in Ridgefield, Conn., last Sunday night, the drug store of H. B. Bissell was destroyed.

——Isidore Freid, N. Y. C. P., '94, is to leave his position with A. S. Friedlander at 189 East Broadway.

——A. J. McGrath, formerly with the Low Art Tile Co.'s New York staff, is now connected with the office of J. W. Tufts.

——A. R. Johnson has left the position he has held for some time at the pharmacy of J. S. Van Derveer, Woodhaven, L. I., to secure a city clerkship.

——James Carter, N. Y. C. P., '95, has just returned to this city from Newport, R. I., where he spent the summer in the pharmacy of Caswell, Massey & Co.

——Curt W. Knape, formerly in the drug business at Rutherford, N. J., has accepted a position with E. Merck & Co. He is a graduate of the College of Pharmacy of New York.

——The Chemical Society of the Brooklyn Polytechnic Institute held a general meeting last Tuesday night, at which Prof. Samuel Sheldon lectured on Ostwald's theory of solution.

——S. Livingston has given up his position at the Rhinelander Pharmacy, corner of Sixty-fifth street and Second avenue, in this city, to have more time to devote to his college studies.

——The case of Lehn & Fink against Druggist Sautter, of Brooklyn, is on the calendar for trial, but may not come up for some time. It now stands as a simple suit for payment for merchandise.

——Among the out-of-town visitors last week were Messrs. Higgins, of the Higgins Drug Company, of Rutland, Vt., and Stearns, of R. B. Stearns & Co., of Burlington, Vt. Both were seeking holiday goods.

——Judgment has been entered against William H. Riker, who formerly owned the drug store at 353 Sixth avenue, for $793.47, in favor of Stuart Hunter, on a series of six notes made in 1887 and 1891. Mr. Riker failed in 1892.

——One of the girls employed by Johnson & Johnson at their New Brunswick factory was seized with a fit the other day and before she could be restrained she had bitten three of her shopmates. None of their injuries is serious.

——William H. Kahrs has sold his store at Ninety-ninth street and the Boulevard to F. I. Congleton. Both Mr. Kahrs and Mr. Congleton were graduated at the College of Pharmacy in this city in 1891 and Mr. Congleton has recently been employed by F. T. Dall & Co., at Columbus avenue and Seventy-eighth street.

——William T. Case, who travels all over the United States for C. F. Boehringer & Soehne, is in town until the holidays are over and is calling on his numerous friends in this and nearby cities.

——It is a sure thing that the entertainment end of the next N. W. D. A. convention will be well looked after, with Harry McIlvaine and Harry Gilpin as members of the committee.

——Burglars broke into a drug store in Sharon, Conn., recently, took all they wanted and drove away with their booty, while ten armed citizens who had been warned of the coming of the burglars, stood across the street and were too scared to open their mouths.

——Not satisfied with flim-flamming Brooklyn druggists, at which they appear to be very successful, thieves now make way with the directories in Brooklyn pharmacies. Two men were arrested last week for that theft from the store at 511 Atlantic avenue.

——Druggist T. B. Breen, of 2300 Seventh avenue, returned last week with Mrs. Breen from their wedding trip to Washington. He is receiving the congratulations of hundreds of friends. Breen & Froatz have just completed the addition of new furnishings to their store.

——There was such an exciting dog fight on Harlem's favorite avenue the other day that the spectators had to call on Druggist Albert B. Baltzly to separate the animals. He did it with neatness by applying a bottle of ether to the nose of one dog. The other was dead by that time.

——Samuel W. Fairchild was one of the Board of Trade Committee appointed to go to Washington last Monday for the purpose of securing the Republican National Convention for this city. At the last moment he was compelled to give up the trip because of an important business engagement.

——C. A. Buchbinder has resigned his position with C. F. Jensen, corner of Charlton and Varick streets, this city, to take a clerkship with Messrs. Kiehl & Co., Third avenue and Thirteenth street.

——Prof. Charles F. Chandler, of the New York College of Pharmacy, sailed for Europe two weeks ago and will be absent until after the holidays.

——A queer tangle in regard to the estate of the late Gustave J. Brenz, a chemical manufacturer of 47 Fulton street, has just been unraveled in court. Letters of administration had been granted to a woman who claimed to be his widow. The heirs at law, a nephew and niece, produced the woman's real husband in court and her letters of administration will be revoked.

——John R. Moeschel, who kept a drug store at 587 Grand street, Jersey City, disappeared in the latter part of October, and was supposed to have gone to Europe. He has not returned, and Mrs. Moeschel, who owned the store, has sold it to H. Samuels and H. Jashun, of New York. Mr. Jashun was formerly with Druggist Oscar Wagner, at 276 Newark avenue, Jersey City. It is believed that Moeschel is living in New York City.

——The bowling games last Saturday were interesting, W. W. Tamlyn, of the Whitall, Tatum & Co. team scoring 232 and Powers & Weightman making a score of 701 in one game. The results were: Powers & Weightman, 701, Max Zeller, 699; Merck & Co., 691, Max Zeller, 669; Merck & Co., 564; Powers & Weightman, 484; Whitall, Tatum & Co., 689, R. W. Robinson & Son, 671; R. W. Robinson & Son, 773, McKesson & Robbins, 634; McKesson & Robbins, 687, Whitall, Tatum & Co., 638.

——James McBride, the druggist at 660 Fifth avenue, Brooklyn, was fined $25 by Justice Walsh last week for having conducted a lottery. The complaint was made by Anthony Comstock and his assistant, George Oram. They said they detected McBride in the act of disposing of three pieces of furniture at a public drawing. McBride said that he gave the tickets to customers without charge and that he had previously "chanced off" a sewing machine and a ticket to Niagara Falls. He had been advised by a policeman that there was nothing illegal about the scheme. Comstock insisted that the druggist should be punished.

——Serious charges are made against the supply purchaser of the New York fire department by an expert who was appointed to investigate purchases. The expert's report says that prices were paid for chemicals that were far above the market value. On 21,514 pounds of blue vitriol alone $273.97 more than the market price was paid and the total of the alleged unnecessary expenses in this line foots up to $1,013.37. It is also asked why an obscure druggist should be selected to furnish important supplies instead of such firms as McKesson & Robbins, Schieffelin & Co., Kalbfleisch & Co., or any other of the well-known standard houses. The purchasing agent through counsel said he had always secured the best in the market and that the expert had probably based his prices on those of inferior chemicals.

——Thomas B. Hughes, a druggist at 281 Tenth avenue, had just been released from a 3-months' term in the penitentiary on Dec. 4, when he was arrested by a detective from the District Attorney's office on the charge of criminal libel preferred by Henry Seibenborn, druggist at 274 Tenth avenue. On Sept. 5 last Hughes was convicted in the Court of Special Sessions for having counterfeited the trade mark of Carter's Little Liver Pills. The day after he was taken to the penitentiary the grand jury indicted him for libel. Seibenborn had been charged by Hughes with selling a substitute for Carter's pills and with counterfeiting the trade mark. This Seibenborn says was done to cast suspicion on him and to exonerate Hughes. The latter pleaded not guilty to the charge and was committed to the Tombs in default of bail.

——James E. Scott, a druggist of Norfolk, Va., has assigned, with liabilities of $3,200. His store is at 254 Church street.

HERE AND THERE.

——John Riley, proprietor of the "Beaver Drug Store," at Lewiston, Me., died on Nov. 28.

——Burglars attempted to enter Hoppe's drug store in Louisville, but were frightened away by the proprietor.

——Burglars attempted to enter the drug store of Herman Hoppe, Columbus, O., Dec. 1, but were frightened away.

——Fire in the buildings of the Norwich, Conn., bleaching and dyeing company on the night of Dec. 5 caused a loss of more than $10,000.

——The drug store of Melville Bros. and the jewelry store of Bassinger & Co. were wrecked by an explosion of natural gas at Lima, O.

——Dr. A. L. Preston, of Haughville, Ind., has been chosen physician and J. H. Alexander, druggist of the Marion County, Ind., Asylum.

——Burglars entered John Rauschkolb's drug store, Columbus, O., on Dec. 6 and searched all through the place, but did not carry away much of value.

——C. W. Kindner, a druggist in Newton, Mass., has been ordered to appear before the aldermen on Dec. 16 to show cause why his liquor license should not be revoked.

——The well known retail store of J. F. Hayes, at Broad and Walnut streets, Philadelphia, has been closed and is offered for sale. Business depression is given as the cause.

——Ed. Dever, druggist at Fredericktown, O., has disposed of his stock to Messrs. Wyker and Hossack of that place, who have divided it between them. The store will be discontinued.

——John S. Roberts, a druggist of Columbus, O., died Dec. 3, from the effects of an overdose of morphine which he took to relieve pain. He measured the dose in the dark and got too much.

——J. E. Gamble, of Louisville, last week sued the Too-Lip Gum Company, L. H. Morgan and C. W. Banta, to recover $1,500 alleged to be due on two mutilated shares of stock in the defendant company.

——Clarence F. Moore, who has for some time conducted the pharmacy of J. Faris Moore, at 730 North Howard street, Baltimore, Md., has made an assignment, with George Whitelock and John Hinkley as trustees. They gave a bond of $2,000.

——William D. Bedow, of Sunbury, O., arested by Food Inspector Sells, was fined $25 in Columbus by Magistrate Roach for selling an imitation of wild cherry phosphate. Bedow confessed. Another charge of violation of the pure food laws is pending against him.

——A defective flue caused a fire in the pharmacy of Thomas J. Ifft, 467 Florida avenue, Washington, D. C., on the night of Dec. 3, badly damaging the stock. The loss is estimated at $2,000, covered by insurance. Pedestrians who noticed that the roof was in a blaze gave the alarm.

——Henry C. Mercer, a young pharmacist who is taking a classical course at the University of Pennsylvania, in company with a companion has just completed an exploration of the recently discovered cave at Carpenterville. He has brought back a large number of valuable geological specimens.

——The druggists of Mount Vernon, O., are happy, as the mayor of that city has revoked the Sunday cigar selling ordinance. The druggists will, however, open their stores only at certain hours on that day. Tomlison & Loper dissolved partnership Dec. 2, Mr. Tomlison retiring. Mr. Loper expects to dispose of the business soon to John D. Loper.

——The fire which partially destroyed the white metal plant of the Hero Fruit Jar Co. at Philadelphia, Nov. 22, caused a loss of about $20,000. It has seriously interfered with the filling of their orders, as this is their busiest season. They went right to work on a new building and have now nearly recovered from the confusion into which this branch of their business was thrown.

——Charles F. Dunbar, manager of the pharmacy attached to the United Charities Hospital of Jeffersonville, Ind., has resigned. He has been at the head of the pharmacy ever since its establishment seven years ago. John F. Platt has been appointed to succeed him. Mr. Dunbar has organized the Dunbar Drug Company, which will open at Ninth and Spring streets, Louisville, Ky.

——The elopement of Dr. G. A. McCandless and druggist E. R. Vining with Alice Miller and Nancy Ward brought the following indignant protest from the citizens of Waverly, Neb., where the elopers live: "The English language does not contain words sufficiently condemnatory of the act committed, and some punishment commensurate to the crime should be meted out." A hall was hired for the purpose of assembling enough citizens to make the adoption of this resolution a noteworthy matter.

——W. H. Galbraith, the proprietor of a fine retail store in Philadelphia, has decided to retire from business. He bought the store a few months ago, and having received a fair offer to buy the store from J. McCartney he completed the sale the early part of the week. Mr. McCartney is favorably known as a former clerk at Long & Neally's, Twelfth and Chestnut streets. The new owner, who has already taken possession, intends making many improvements in the interior arrangement of his new acquisition.

——Considerable confusion exists concerning the disposition of the cases against two physicians and three druggists charged with violating the local option law in Talbot County, Md., the former by being too liberal in the matter of writing prescriptions for whisky, the latter by selling liquor without prescriptions. It was supposed that all the cases had ended in acquittal. This is, however, not so. Dr. J. B. Merritt and druggists Lewis K. Edgell and W. J. Biery were absent during the sessions of the court. They returned to Easton after the November term had expired and gave bail for their appearance at the May term. A. N. Coale, the third of the druggists indicted, was, as already reported, arrested in Baltimore, taken back to Easton, and there held.

ASSOCIATIONS,
CLUBS, SOCIETIES.

German Apothecaries Society.

The regular monthly meeting of this society was held on Thursday evening, Dec. 5, Vice-President Schleussner presiding, President Ramsperger being absent from the city. The minutes of the regular monthly meeting of Nov. 7, and of the special meeting of Nov. 21, were read and approved after several unimportant alterations.

The Business Committee reported that a proposed new pharmacy law, adopted at the special meeting of Nov. 21, had been printed and would be distributed among the press and the various pharmaceutical organizations of the State.

The special committee instituted for the purpose of conferring with the Brooklyn German Apothecaries' Society reported progress and was directed to have another conference in order to further the object in view.

Two new members were elected, viz., Mr. Wilkins, of Long Island City, and Mr. Dittmar, of New York. Mr. T. Deissig and Mr. F. W. Kattmann, both of Brooklyn, were proposed for membership.

The society's annual ball will be held, as usual, in Schneider's Teutonia Assembly Rooms. The Committee of Amusements was particularly instructed to insist that only good wine of a designated brand should be furnished on that occasion, there having been complaints on former occasions upon this score.

Routine business all being disposed of, the Committee of Publication again tendered its resignation and the officers of the society recommended that it be accepted. Upon the chairman of the committee giving the society the explicit assurance that the society should not be held liable in any manner whatsoever for the failure of the committee to continue the publication, the resignation, after being put to a vote, was accepted. No members having offered themselves, in response to the president's circular calling for volunteers to form a new Committee of Publication, the society decided to drop the publication entirely. Thus ends the Monatsblatt, which from its inception and during its brief, ephemeral existence shook the society to its very foundations. "De mortui nil nisi bene," therefore: "requiescat in pace."

A motion was made to change the bylaws in so far as to admit as members pharmacists who do not speak German. No action could be taken in the matter, however, the bylaws requiring the motion to lay over until the following regular meeting.

The meeting adjourned at a late hour.

——At the meeting of the Boston Oil Trade Association, on the evening of Dec. 2, H. T. Schaefer was chosen as a delegate to the Associated Board of Trade, and F. W. Gregory as a delegate to the State Board of Trade. It appeared to be the general opinion of the members that the outlook for the coming year is very promising.

American Chemical Society, New York Section.

The New York Section of the American Chemical Society met Dec. 6 in the chemistry lecture room of the College of the City of New York. Prof. P. T. Austen, of the Brooklyn Polytechnic Institute, presided. It was the first meeting of the society in the College of the City of New York and suitable reference was made by President Austen to Gen. Webb's kindness in granting the section the use of the room. Prof. Doremus, on behalf of Gen. Webb and of himself, as the usual lecturer in the room, welcomed the members of the society. About forty members were present.

The first paper was that of Dr. P. R. Moale, chemist to the New York and Boston Dyewood Co., entitled "A Brief History of Naphthalene." This brief history proved to be an exhaustive statement of the progress of the development of naphthalene from its first separation by Garden in 1820 from the scale of the condensing vessels used in the distillation of coal tar, believing it to be camphor or something similar thereto, through the work of Faraday, begun in 1862, Reichenbach, in 1831, to the later work of Dumas, Liebig, Wöhler, Stas, Mitscherlich and Laurent, De Saussure and others.

The second paper was that of Dr. T. B. Osborne, of the Agricultural Experiment Station at New Haven, Conn., on "Vegetable Proteids." He reviewed first the earlier investigations of these compounds, particularly those of Einhof, Berzelius, Dumas and Cahours, Ritthausen, Weyl and Liebig, setting forth the state of our knowledge of the subject at the time of taking up his own study of it, and showing the tendency of professional opinion to the effect that a very close relation exists between the proteids of seeds and those of the animal system.

The third and last paper on the programme was that of Dr. J. H. Wainwright, of the United States Laboratory, in this city, on "The Determination of Solid Fats in Artificial Mixtures of Vegetable and Animal Fats." His method consists in subjecting the mixture to pressure at the ordinary temperature of the laboratory, about 70° F. Much lower or much higher temperatures he finds detrimental to accuracy, as at 60° considerable of the higher melting point constituents are retained, while at 80° F. and above much of the low melting point constituent is removed. The method was devised particularly for the separation of compound lards containing cottonseed oil, lard and stearine, with the special object of determining the percentage of oleo stearine, which, in the presence of lard, could not be satisfactorily done by the ordinary methods where the information was obtained from the iodine number and other constants.

The next and twelfth general meeting of the society will take place on Dec. 30 and 31 at Cleveland.

The next meeting of the New York Section will be on Jan. 10.

What the Maryland Pharmaceutical Association Proposes to Do.

Baltimore, Dec. 5.—That President Henry P. Hynson, of the Maryland State Pharmaceutical Association, is taking his position seriously and means to redeem the pledges made of working earnestly to advance the interests of the society is evidenced by the promptness with which he has started the legislative committee on its labor of preparing for the session of the General Assembly in January. It is hoped to obtain from this body an extention of the pharmacy law, which applies now only to Baltimore, all over the State, with such modifications as the varying conditions may render necessary. The committee met last night at the College of Pharmacy. Besides Mr. Hynson there were present J. E. Henry, who presided; Robert S. McKinney, who acted as secretary; A. J. Corning and Dr. H. R. Slack. The present pharmacy law was discussed at considerable length and Chairman McKinney was instructed to formulate plans for the advancement of the profession.

There exists a widely diffused sentiment among pharmacists here that some steps should be taken to surround the practice of pharmacy with provisions calculated to make its pursuit more independent of the vicissitudes of commercial life than it now is. Colleges are steadily raising their standards and young men are obliged to spend four years in acquiring a knowledge of the profession, only to find afterward that in the matter of salary they are hardly on a par with a dry goods clerk, who has undergone no preparation. Exposure to unlimited competition has had a tendency to force druggists into the commercial class in the eyes of the people rather than assign them a rank among the professions. Mr. John B. Thomas, of Thomas & Thompson, retail druggists at Light and Baltimore streets, in speaking of this aspect of the question, referred to the recent extension of the pharmacy law in Illinois, which embraces not alone drug stores, but requires every department store which sells patent medicines or standard remedies to employ a licensed drug clerk who is subject to all the regulations which govern the dispensing of medicines by apothecaries. The law has not been in force long enough to demonstrate what its practical effect will be, but Mr. Thomas is disposed to regard the idea as a good one.

—The New York branch of the Interstate Retail Druggists' League held its regular monthly meeting at Mott Memorial Hall Dec. 6. C. S. Erb was appointed secretary pro tem. in the absence of Secretary Morrison. A communication from the Emerson Drug Company, of Baltimore, Md., concerning the bond it had given to the branch a year ago was read and discussed. The subject was ordered to be laid on the table until the next meeting. Meantime Attorney Leo was directed to ask the Emerson Drug Company to renew the contract to such time as the "bromo" controversy may be decided by the courts. The committee on legislation was directed to call upon the New York County Medical Association at its next session and submit a copy of the proposed poison law drafted by the league. After some further discussion on the selling of poisons and buying upon the co-operative plan the league adjourned, to meet Jan. 3, 1896.

The St. Louis Drug Clerks' Society will hold an important meeting Thursday evening, Dec. 12, and a full attendance is desired. At this meeting nominations are to be made for the election of officers, which occurs in January. Only those who are nominated at this meeting can be voted for. The leading clerks mentioned for the presidency are Charles Milne, Samuel G. Livingston and Rudolph S. Vitt. It is also stated that the president, C. W. Tritschler, is soon to be married and the members are determined that the event shall be properly celebrated.

— The committee on arrangements and entertainment, which will provide for the accommodation of the delegates to the next annual meeting of the National Wholesale Druggists' Association in Philadelphia, is now complete. It consists of H. C. McIlvaine, Philadelphia, chairman; A. M. Hance and F. H. Rosengaren, Philadelphia; F. B. Perry, Chicago; C. G. Stone, Boston, and H. B. Gilpin, Baltimore.

—The Kentucky Pharmaceutical Association is investigating the registration books in that State to ascertain who are practicing pharmacy without being registered as pharmacists. It is stated that in Lexington only thirteen out of a large number of druggists doing business have registered as required by law. The law requires all druggists to register on or before the 1st of February each year.

—The regular meeting of the Board of Trustees of the Philadelphia College of Pharmacy took place on Dec. 3. Only routine matters were brought before the board. Miss Case, secretary of the Zeta Phi Society, has received a large number of names of those desiring to engage in the contest, as representative of the class, at the commencement exercises next April.

—The installation of the officers of the Philadelphia Druggists' Union will take place at the regular meeting Dec. 12. As the union is composed of 178 of the leading members of the trade, a great deal of friendly electioneering is anticipated.

—A special meeting of the College of Pharmacy of the City of New York was held at the college rooms on Monday evening, Dec. 9, for the purpose of electing a secretary in place of J. Niven Hegeman, deceased. Alfred H. Mason was the only candidate nominated, and his election was made unanimous. As the meeting was held for the special purpose of electing a secretary, no other business was transacted, and the election of an assistant secretary to fill the position formerly occupied by Mr. Mason will receive attention at some future meeting. The propriety of taking action relative to revision or amendment of the poison laws was discussed in an informal way, and that matter will also receive attention at some future meeting.

BOARDS OF PHARMACY.

The Illinois Board Means Business.

Chicago, Dec. 7, 1895.—On Dec. 5 about forty Chicago druggists appeared at the State's Attorney's office upon request of that gentleman, and received words of wholesome advice from him and from Mr. Schmidt of the State Board of Pharmacy.

Inasmuch as it is not the desire of the board to make the law an engine of persecution, it was thought to be desirable to call together those druggists guilty of minor violations of the act, remind them of the error of their ways and impress upon them the fact that the officers whose duty it is to see that the law is enforced are thoroughly in earnest and mean business. The violations were in minor particulars such as not exposing certificates, not having the name of the manager over the door of the store, etc.

There are, however, about sixty cases of a more serious nature, such as not having a registered pharmacist in charge of the store, or for leaving the store without a registered pharmacist in charge. These cases will be taken up as soon as the State's Attorney has had time to prepare them, which will probably be in about two or three weeks.

The violators of the minor provisions of the law were called together for the moral effect such action would be likely to have. If now any druggist shall be found culpable in these matters he will have to accept the consequences.

It is asserted that druggists are careless in the sale of poisons, and recent suicide cases are cited. That is true as to a few, no doubt, but as a prominent druggist once said to me, "I do not conceive that laws regulating the sale of poisons are laws to prevent people from committing suicide. If a man or a woman wants to 'shuffle off this mortal coil' a way will be found for doing it, whether poison can be procured or not. Any one can buy a revolver or get a shock from a trolley wire. The object of poison laws is to prevent the careless handling of poisons and to protect the innocent from the designs of evil-disposed persons."

Pennsylvania Board Active.

Philadelphia, Dec. 8.—The State Board of Pharmacy has again taken up the prosecution of druggists filling physicians' prescriptions without legal authority. On Thursday last Dr. Love, who keeps a neat little store at Fourth and Monroe streets, and J. T. Holliday, a clerk in a drug store at 2314 South Twelfth street, were arraigned before Magistrate Devlin charged with this offense. T. A. Boericke of the State Board of Pharmacy examiners, appeared as prosecutor. It was shown that the prisoners had failed to comply with the legal requirements of the State and therefore did not possess the proper qualifications to act as pharmacists. The defendants attempted to disprove this assertion, but the magistrate stated that sufficient evidence had been presented to warrant him in holding them for trial in the Court of Quarter Sessions. They were subsequently admitted to bail in $300.

A Massachusetts Druggist's License Revoked.

Boston, Dec. 7.—F. W. Aldrich and T. D. Pelton, two prominent druggists in partnership in Fitchburg, were summoned to this city yesterday, by the State Pharmacy Board and questioned about their business. The hearing resulted in the revocation of their license, and to-day the people in Fitchburg were astonished to find the store door locked; their first intimation of what had happened.

——The Washington Board of Pharmacy met at Spokane, Nov. 18. C. A. Neyland, Davenport, and W. H. Stowell, of Spokane, were granted certificates as registered pharmacists; registered assistants; Nal Brasch, Spokane, and Ernest Leeson, Davenport. Joseph R. Watson, Seattle, received a certificate under the head of registered by graduation, while Oscar C. Gonder and Charles R. Graham were awarded certificates from having certificates of registration from Massachusetts and Michigan, respectively. Next meeting, Tacoma, Feb. 23 and 24, 1896.

——The Iowa Pharmacy Commission, through its secretary, S. J. Spaulding, has just filed its annual report. There are 1,639 registered pharmacists in the State and 1,750 drug store proprietors, the drug stores numbering 1,450. Seven hundred and fifty permits to sell liquor have been issued, an increase of 10 per cent. over the previous year.

——William H. Spelder and Walter M. Collett, Buffalo druggists, have been indicted by the grand jury for violating the pharmacy act in conducting drug stores without a druggist's license. Upon arraignment the court held them to bail in the sum of $500.

——Quite a little excitement resulted among the students of the Chicago College of Pharmacy when Professor Goodman announced that of the class of ninety-six students recently examined by him in materia medica, one-half had been marked down below the passing point after his examination of the papers, the reason for this action on his part being the inattention of students at his regular lectures. Twenty-two of the students immediately left the lecture room and refused to attend any more of the professor's lectures, stating that he had marked them down in order to make them attend school another year. A class meeting was called and a committee of five appointed to wait on the faculty of Northwestern University College of Pharmacy, to ascertain if the entire class could not enter that school. The ill-feeling was further increased by the dismissal of a senior student who was an assistant in the laboratory. The breeze blew over, however, and the ringleaders in the "revolt" made suitable apologies for their conduct.

COLLEGES AND SCHOOLS OF PHARMACY.

BURNING QUESTIONS.

Chicago, Dec. 6.—Mr. Wilhelm Bodemann gave a talk on the "Burning Questions in Pharmacy" yesterday to the students of the Chicago College of Pharmacy. The speaker was introduced by Mr. Ebert. Mr. Bodemann said:

"Without having any specific advice from the management of the evening lectures I take my text from what I noticed in the journals as being alloted to me for to-night's informal talk, 'The Burning Questions of Pharmacy.' The great trouble is that there are so many burning questions and all are burning so briskly that I don't know where to direct my fire extinguisher first.

"There are a great many practical burning questions, and as many theoretical questions. As this course is intended mainly for the practical questions I shall not go deeply into theory, although the theoretical part I could talk about the longest, because I know so very little about it, and we generally talk the most about things concerning which we know the least. I shall start with the burning question of Pharmaceutical Titles, and, taking the practical view, I say to you candidates for titles, don't for a moment think that your title means as much as the professor of pharmacy may lead you to imagine. I don't blame the professors much for this leaning toward titles—that is their business; they make their living on theory and titles—but practically titles are of minor importance. The present Emperor of Germany offered Bismarck a long-winded title, Duke of Lauenburg, I believe. Bismarck respectfully declined, saying that he had no use for the title except when he wanted to travel incognito. Indeed, Bismarck does not go much on titles and theory, but the very name of Bismarck stands for results, accomplished facts, and for giving unity and strength to the former weak and dismantled Germany. Would that pharmacy would produce such a Bismarck, uniting all our forces into one grand, influential body that could point to results and accomplished facts! Gladstone, my friends, swings no titles, not even a "Sir," and I think that even the men in England who need a cart in which to lug around their titles envy Gladstone for the one title history gives him, the "Grand Old Man."

"The statute books of Great Britain, recording Gladstone's work, are his proudest titles. Dr. Julian Sherman said once in a valedictory to medical graduates, 'Making a doctor out of a student does not make him a gentleman. Be a gentleman first, doctor next.' So with you, prospective graduates, no matter whether you swing the title Ph. D., Ph. G., Ph. C., or B. A., be careful and vigilant that there is an O. K. behind your name and not an N. G. Be gentlemen, men of your word, good, law-abiding citizens over and above your titles. Be truthful in your dealings with the medical profession and your patrons, and if, on starting out in business, you find you can't

get along without lying, follow the good old advice of carrying a little book with you and make a note every time you indulge, so you won't get mixed and contradict yourself. Don't go too heavy on theory, although your professors would have it that way. Take it all in, saw wood, and in practice study nature, or all your theory will avail you nothing. Goethe said, "Gray, my friend, is all theory, but ever young and green is the golden tree of life." You undoubtedly have all heard of Marshal Blücher, the hero of the Napoleonic wars. Johannes Scherr, in his admirable work on Blücher's Times, says of him: 'It is said of our Marshal Blücher that he never read a book through in his life, but he could and did read as few others can, the great book called Nature and Life.' Follow his example, don't start out in life with a desire to accumulate a bushel full of titles, secretary of this, chairman of that, corresponding member of this, managing genius of that, but join the local, State and national pharmaceutical associations, and contribute your mite, humble as it may be. Make it a practice if you have some point of practical interest, to write it up and send it to your favorite pharmaceutical journal.

"Boerne says: 'Every man can be a writer if he only writes as he thinks,' and as a rule the best part of the journals of to-day is what the editors do not write, but what the practical pharmacists send in, written in their plain, everyday way of thinking. Follow Lincoln's advice and write and speak so that people must understand you. Do not attempt to fly too high; stay on the earth; write plain facts in plain language. Anybody can write a deep and learned article that nobody but the writer can understand, but a little practice will soon overcome this trouble, and you can then write so that everybody will understand you and profit by your contributions. Let me conclude my remarks on titles with an earnest appeal to you not to cease studying after you graduate. Do not content yourselves with the title, Ph. G., but lead such a life that you will earn the title of U. S. P., and let the U. S. P. stand for United States Pharmacopœia Pharmacist, United States Pharmacist and United States Pharmacal Company Pharmacist. I presume you all know what the last means, but for those who do not know what will be the coming feature in pharmacy, I may add. Don't begin life with the traditional mistake of the old school pharmacists. I am frank to admit that we older pharmacists have all started out wrong, and forged the chains ourselves that we are now trying to throw off. We have been the peddlers of the patent medicine fake almanacs and handbills only to be left without help at the mercy of the cutter and calico druggist. Only recently did we reform, but for years I have relegated patent medicines to the backroom shelves to be sold when called for, under protest, as it were. Finally, the different State associations have taken up the question of manufacturing a line of domestic remedies. Our Illinois association has made the most aggressive movement in this respect, and you may justly be proud of the fact that one of your most active ex-presidents and your present president are among the prime movers in this grand and noble fight. When you start out for yourselves the appeals of the U. S. P. Company will reach you in due time. Do not allow the appeal to go by the board. Be volunteers in the Grand Army of Fighters against the Patent Nostrum Fake Monstrosity. Nothing in the world will bring these sharks to reason but hard blows in this very direction. If there is one thing certain it is this, that the patent nostrum venders could have protected the druggists of the United States had they honestly intended to do so. Where there is a will there is a way. But they have excelled each other in hypocrisy and untruthfulness. Of all the many plans that have seen the light of day to prevent cutting, any one of the lot would have done the work if carried out honestly, fearlessly and truthfully. Don't waste any energy on new or old plans. Fight it out on the line of the U. S. P. Company, and the victory will be ours.

"I started out with titles and I finally landed on the shores of the new world of the U. S. P. Company. That goes to show what a vague theme 'Burning Questions' is. The fire leans ahead of me and before I notice it I am on the north side, while I started to fight the fire on the south side. So will I leave for the next fire and take up National Legislation.

"After many unsuccessful attempts the A. Ph. A. has finally listened to the oft-repeated attacks of the Chicago retail druggists and taken up officially the agitation for national legislation. We need it badly. I am very glad to be able to state to you that the Chicago Retail Druggists' Association Committee and the A. Ph. A. Committee on National Legislation have met within the last few weeks and formulated a plan for our grand fight. What we want is a change in the patent, trade-mark and copyright laws as far as relates to medicine. The present laws are a barrier against new discoveries instead of a stimulation to original research. Take the many new chemicals made and sold in Germany at about 25 cents per ounce. Here the pharmacist has to pay from $1 to $1.50 per ounce. Why? Because the name of the chemical is trade-marked, and the process of manufacture and the finished product are protected by patents. If you should discover a new process for manufacturing these chemicals the patent laws would prohibit you from making them. And if you should bring such an article from Germany to this country, if only 1 ounce, the sole lessee would stop you from selling, giving away, or taking this article within the boundaries of the United States without paying a royalty to His Majesty, the sole lessee. No other country on the face of the globe making claims to civilization, has such an outrage legalized. No country, not even Russia, grants such protection to highway robbers dealing in remedies that the sick, poor or rich, must buy. In olden times the highway robber had to have at least great personal courage to hold up the freight team of the merchant. The highway robber of this day travels in a Pullman car and is shielded and protected by the strong arm of the patent laws. I do not make war on the genuine and true discoverer. If you or I get up a good thing and create a market for the same, we should be protected. But never should any other discoverer be barred out of going us one better, if he can find a new way of making a better product. Furthermore, we ask the energetic co-operation of every pharmacist in the land—and you are among this class—to appeal to Congress for the establishment of a new department in our Government, the Department of Health, embracing medicine, pharmacy, hygiene, etc., and we want a national pharmacy law based on the statute of Illinois, regulating apprenticeship and the question of who shall sell medicine—the uneducated, unregistered wholesaler, be he wholesale druggist or wholesale dry goods man, or the educated, licensed retail pharmacist. The Chicago Retail Druggists' Association Committee wants the abolition of the $25 United States liquor license—and there, my friends, when you go out in the world let this be your keynote. Don't drink liquor, don't sell it by the drink. If you want to be a saloon-keeper, take out your license and be a gin-slinger; you need no college education for that and the roll of honor of your school doesn't want barkeepers among the names of the honor-bearers. Let no personal, medical, or other friend persuade you ever to allow barroom practices in your pharmacy. If you allow it once the gates are open for always.

"The next burning question is the deadbeat. You will meet him everywhere. How are you going to handle him? My advice is, Be courteous if you can, but don't creep on your abdomen before him. During the discussions of the telephone slot machine we met with the view that we must put up with this nuisance and expense to hold our trade—to keep doctors from dispensing. This sort of rot is excruciatingly tiresome. We have furnished the doctors blanks, free 'phones, run their errands, yet the medical dispenser is on the increase.

"Why is it that so many retailers have changed their opinions lately? Heretofore they have borne the free telephone with suppressed groans. Lately they have watched this thing, and what do they find? Everybody finds that the dear public considers the local druggist just good enough to be utilized for everything that he offers free, and when they want a dozen Apollinaris and find that the local druggist charges 5 cents more per dozen than a downtown grocer or calico druggist, they patronize his free 'phone and order a dozen Apollinaris or Hoff's Malt from downtown—all for the difference of a nickel. Whether you graduate with four or six years' experience, including your college terms, the

profound study of the deadbeat in pharmacy is not a study that can be measured with the yardstick—it must come with matured judgment and observation. But you can't begin too early. You must decide at the start whether you will run the deadbeat or whether you will allow him to run you. A few burning questions I can only allude to as parliamentarians say, by title. One is the trained nurse. A good trained nurse is a godsend, but kind Providence relieve you of the fraud—the half-educated nurse. She knows everything better than the physician, finds fault with the looks and smell of the prepared medicines, fills the family with prejudice against the overcharging druggist, because she knows the price and does not think of the time when she will hand her bill to the family at the rate of $25 per week.

"The next burning cinder is the drummer. What shall you do with him? If you offer him a cake he takes the whole bakery. If you buy of every 'commis voyageur' that comes along you will soon find your stock long and your cash short. In some cases you may learn from a traveling price list and sample case, but very, very seldom. My advice is, Keep temper, tell the persistent bore that you are well supplied, and bid him an affectionate but plain farewell. One of the most aggravating burning questions in pharmacy to-day is, What can we do with goods returned by our patrons? Foutain syringes, fever thermometers, water bags, bed pans, are too often sent back when they have outlived their purpose. . Even apparently decent and well-to-do people have the audacity to ask you to take these goods back. I have had breastpumps and atomizers used in diphtheria returned to me. If you want to do business on the plan of a second-hand shop, allow people to return goods to you, but be prepared soon to have the reputation of a junk shop." (Here Mr. Bodemann read a printed slip to his patrons enumerating what he could not take back.)

"One of the most venerable chestnuts among pharmaceutical mossbacks is the ownership of prescriptions. Use common sense in each case, and whether you keep the prescription on file or give it back to the patient, you have a bushelful of Supreme Court decisions to back your action. The same principle of common sense applies to giving or not giving a copy. Sometimes I do, sometimes I don't—it depends on circumstances and parties. Along the line of prescriptions comes a question which deserves the name of a burning shame, more than a burning question, and that is the percentage to doctors. I know of a young pharmacist who started out with a young doctor on the percentage plan. Soon the doctor wanted a larger percentage and the pharmacist lost trade because he had to charge too much. He made a clean sweep, shut down on percentages forever, and the doctor is alive yet and respects him all the more for the experience.

"The next question is membership in pharmaceutical associations. A great many are in doubt whether or not it is of any benefit to join these associations. Join by all means, and if it is not run to suit you, do what you can to change it. Oppose wherever you can the predominating influence of the one man power. Do what you can to introduce new questions, practical questions to the forum of the convention. As soon as you join an association you will observe that different members are attracted from different motives. Some theoretical enthusiasts, and some hypocrites go there with the avowed purpose of raising the standard. The great mass goes there to raise hell, and very few go there for the purpose of discussing the question, How to Raise a Living. Swell the ranks of the latter minority. Go there and insist on the great lesson of the day, How to Raise a Living.

"I started out with a warning against too much theory, and will close my remarks with a repetition of this warning. Justus von Liebig once invited a lot of artists and scientists to a garden festival in the charming vicinity of Munich. The party passed a big glass globe in the park, put there for the amusement of the passersby who gazed at their reflections in the globe in all sorts of caricatures. It was on a hot summer day at sunset time, and it was found that the globe was intensely hot on the east side. The scientists at once advanced all sorts of theories as to why the glass was so hot on the side that was not touched by the rays of the sun. But one of these learned visitors was not satisfied with any of the explanations advanced. He called the gardener to the scene, and asked: 'John, can you explain why this globe is hottest on the side turned from the light?' John replied: 'Certainly I can. I passed by here a few minutes ago and found the globe so terribly hot toward the west that I thought best to give it a twist.' Liebig laughed, quoting Goethe, 'Gray is all theory, and green the everlasting tree of life.' So, my friends, study life!

"If I have succeeded in firing a few burning questions it remains for you to keep the fire ablazing, or to put it out. But whatever you do, keep the true interests of practical pharmacy at heart, and you will not have lived and worked in vain."

Prof. James M. Good on Alcohol.

St. Louis, Dec. 5, 1895.—Prof. James M. Good, president of the American Pharmaceutical Association, delivered an interesting and instructive lecture on the subject "Alcohol," before a large attendance of the Alumni Association of the St. Louis College of Pharmacy, Wednesday evening. Professor Good is also the dean of the college, and his lecture was one of a series to be given throughout the year. The speaker discussed his subject briefly from a chemical standpoint, which included alcohols in general. Some time was devoted to an explanation of the generation and rectification of ethyl alcohol, which is of especial interest to pharmacists. The generation of alcohol, said the speaker, meant the consideration of the subject fermentation and the production of crude whisky. Allusion was made to the strict and admirable system of supervision which the government has over the distilleries of the country and the revenue it collects on whisky and alcohol. Attention was also called to the various sources of alcohol other than crude whisky, such as rum, ale, beer, cider and the various wines, and their use as beverages and their frequent abuse as intoxicants. The professor closed his lecture by a dissertation on the purified article which is recognized by the Pharmacopœia.

The students showed great interest in the lecture and gave the closest attention throughout.

——At a recent meeting of the Omega Phi Society of the St. Louis College of Pharmacy, Mr. Charles Roth was elected valedictorian for the class which is to graduate next April.

University of Texas School of Pharmacy.

Galveston, Nov. 30.—The Texas School of Pharmacy has four young ladies in the junior class, two of whom are nuns from St. Mary's Infirmary, and their presence causes a stillness never before known in laboratory work.

The apparatus for the chemical laboratory, delayed at sea, has arrived and that department is now in good running order.

The dispensing department has been refitted and henceforth all the prescriptions from outdoor clinics and those from Sealey Hospital will be dispensed by the students as part of the course. Each class is divided into sections and work under their respective leader. This arrangement will give each student a good insight into prescription work, and, at the same time, enable him to apply the things taught in the lecture room.

Buffalo College of Pharmacy Notes.

The advanced course, by which the degree of Phar. M. will be granted, is in successful operation.

Students of all the departments of the University of Buffalo attended the Star Theater in a body, led by the Seventy-fourth Regiment Band, on the occasion of their annual theater party, Tuesday evening, Dec. 19.

The usual rush between the freshmen medics and pharmics to determine the possession of certain seats in the amphitheater, resulted in the pharmics retaining the coveted position, notwithstanding they were outnumbered six to one.

It has been found necessary to order additional microscopes for the microscopical laboratory, owing to the large classes.

——Mrs. Sarah Ellen Durkin, alias Mme. Sterling, alias Mme. Freda, who caused such a sensation in court at Cleveland by confessing that she was the wife of Frank Embse, a wealthy young druggist of Sandusky, has disappeared and nothing can be learned of her whereabouts. The supposition is that Mrs. Durkin left town by the first train to escape arrest on the charge of bigamy and perjury.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

COLORADO.

Denver.—O. J. Allan, will remove his store from S. 9th and 10th ave., to Cripple Creek.
Grebe & Taggart, removed to Colorado Springs.
Russell & Co., removed to Cripple Creek.

FLORIDA.

Arcadia.—C. B. Hill, deceased.
Kendrick.—Norwood & McLeod, dissolved.
Milton.—O. L. Johnston, sold to C. S Stewart.
Sanford.—M. E. Bishop, sold to J. R. Holson & Co.
Tampa.—Dr. P. Burgas, deceased.
Winter Park.—J. L. B. Eager, discontinued. J. R. Maxon, has store here now.

ILLINOIS.

Casey.—J. F. Brown, deceased.
Chicago.—W. Burda, has branch at 658 N. Ashland ave.
C. E. Mathews, 201 Halsted, sold to G. Thornhill.
S. S. Nonamaker, moved to 1211 W. California ave.
Grays Lake.—Thomson Bros., new store.
Oswego.—Scott Cutter, discontinued.

INDIANA.

Chili.—Mrs. George Awalt, damaged by fire.
Cynthiana.—Jos. L. Blase, new store.
Columbia City.—G. A. Pontius, now G. A. Pontius & Co.
Fort Wayne.—R. P. Bischoff & Co., 120 Barr, now Rehling & Bischoff.
M. Witzigreuter, removed to 170 W. Main.
John Neufer & Co., now John F. Neufer, and address changed to 55 S. Calhoun.
Indianapolis.—O. C. Chambers & Bro., now Chambers Bros.
Ward Bros., wholesale druggists, burned out; insured.
Silver Lake.—H. T. Sarber, sold out.

INDIAN TERRITORY.

Bartlesville.—Spencer & Crane, sold to F. M. Overlees.

IOWA.

Boone.—D. Mallory, is now at Boonesboro, Ia.
Des Moines.—E. F. Tobey, receiver applied for.
A. G. Hammer, 506 E. Locust, removed to 335 E. 5th.
Early.—Rowe, Hirons & Co., sold to Early Drug and Grocery Co.
Fairfield.—A. C. Petty, will open new store.
A. C. & C. A. Jones, sold out; was bought by William Jones.
Lyons.—J. R. Adams, sold out.
Pomeroy.—J. H. Wilts, slightly damaged by fire.

KANSAS.

Alta Vista.—Mrs. E. W. Eldridge, succeeded by L. Eldridge.
Topeka.—M. A. Winnie & Co., sold to Chas. Kohl.

KENTUCKY.

Adairsville.—R. P. Townsend, sold out.

LOUISIANA.

New Orleans.—Bruce Vredenburgh, 841 Bourbondt st., new store.
Voelker's pharmacy, 2410 Bienville, new store.
John Fourment, now at 703 Dublin.

MAINE.

Blue Hill.—W. I. Partridge, burned out.
Lewiston.—John Riley, proprietor of the Beaver Drug Store, deceased.
Livermore Falls.—H. L. Hersey, new store.
Old Orchard.—John J. Dooley, discontinued.

MARYLAND.

Baltimore.—A. M. Brown deceased.
Charles Davis, 1000 N. Eutaw, receiver appointed.

MASSACHUSETTS.

Malden.—M. G. Croscombe, deceased
Frederick Reed (Central Square Pharmacy), sold to I. W. Lyman.
Russell.—Thomas Farrell, new store.
Salem.—F. E. Flint, has bought out W. J. Gearon.

MICHIGAN.

Bay City.—G. L. F. Von Walthausen, removed to 1011 Madison ave.
Cedar Springs.—Cochrane & Co., have opened new store.
Hillsdale.—Charles E. Payne, new store.
Newaygo.—Mrs. S. S. Watrous, now Watrous & Grundy.
Plymouth.—Chaffee, Hunter & Lauffer, sold to Hunter & Parks.
Port Huron.—F. E. Sweetzer, succeeded by J. Loeunstoefer.
Ransom.—F. C. Mason, sold to A. Z. Nichols.

MINNESOTA.

Fulda.—Reewalt & King, recently reported as new store, succeeded B. E. Dailey.
Hancock.—L. T. Tollifson & Co., dissolved.
Little Falls.—J. W. Close, discontinued.
Mapleton.—F. W. Holton, new store.
Two Harbors.—Theo. Tennyson, sold to F. F. James.
Wadena.—John Knight, sold to R. F. C. Ellis.
Waterville.—C. F. Rohde, sold to A. G. Laack & Co.
Zumbrota.—Howard & Co., will open new store.

MISSISSIPPI.

Amory.—J. L. Loughridge, new store.
Como Depot.—S. W. Clayton, new store.
Cumberland.—O. B. Cooke, new store.
Durant.—Dr. W. T. Gresham, new store.
Iuka.—Carmack & Alexander, succeeded by J. E. McKinney & Bro.
Lexington.—H. A. Perham, succeeded by C. C. Sweeny & Co.
Lula.—Lula Drug Co., new store.
Oakland.—Byrd Bros., new store.
Pass Christian.—Thornton Bros., new store.
J. E. Hanson, succeeded by S. L. Taylor.
Rolling Fork.—W. E. Stevenson, succeeded Crockett & Stevenson.
Tchula.—Mrs. F. H. Winkler, succeeded by Henry Christmas.
West.—Howard & Hastings, new store.
Youngs.—B. B. Sayle, new store.

MISSOURI.

Bancroft.—Ward & Harman, sold to R. S. Steward & Son.
Barnard.—Phillips & Co., succeeded by W. C. Jobe & Son.
Bethany.—Newburn & Co., succeeded by Fuller, Church & Co.
Craig.—D. D. Perkins & Co., sold to E. O. Phillips.
Dalton.—H. Scharmann, new store.
Eolia.—J. R. Brown, new store.
Fillmore.—C. W. Spicer, sold to E. W. Davis.
Harris.—J. T. Triplett & Co., now The J. W. Triplett Co.
Kansas City.—S. E. Himoe, will open new store, style Himoe's pharmacy, at 14th and Broadway.
Kirksville.—Ward & Finley, new store.
Lee's Summit.—A Gueck, sold to J. W. Embrey & Co.
Lockwood.—Dr. F. P. Adams & Son, sold to Moody Drug Co.
Maryville.—Montgomery & Blackman, succeeded by T. H. Blackman, who also bought out Byers & Co.
H. E. Moss, who bought out G. A. Taylor, trades as Maryville Drug Co.
Pleasant Hope.—A. E. Headler, new store.
Pattonsburg.—W. A Lowary, new store.
Republic.—O. L. Fulbright, new store.
St. Joseph.—B. F. Binswanger & Co., sold to S. M. Carson.
St. Louis.—Boston Drug Co., removed to Cor. 12th and Franklin.
Scholten.—A. M. Hilton & Co., new store.
Sikeston.—J. H. Kready, new store.
Springfield.—J. C. Squibb Drug Co., succeeded by Headley Squibb Drug Co.
Steelville.—Gibson & Sons, now A. Gibson & Son.
Stoutsville.—J. W. Watson & Son, discontinued.
Sue City.—Mitchell & Perry, new store.
Sweet Springs.—V. H. Tisdale, new store.
Unionville.—Monroe Drug Co., succeeded by E. N. Monroe.
Wainwright.—F. M. Stokes, new store.
Warren.—A. N. Gary, now Fitzpatrick & Campbell.
Weston.—J. C. Parr, succeeded by Hughes & Hillix.
Whitesville.—Fisher & Co., sold to J. J. McDaniel & Co.

MONTANA.

Miles City.—John Wright, sold to W. P. Waters

NEBRASKA.

Monroe.—R. A. Vickers, sold to S. L. Humphrey.

NEW HAMPSHIRE.

Wolfeboro.—C. W. Hicks, insolvent; liabilities, $8,000.

NEW JERSEY.

Flemington.—E. B. Allen, succeeded by Jas. A. Manning.

NEW MEXICO.

Socorro.—W. H. Driscoll, burned out; partially insured.

NEW YORK.

Corning.—William E. Bryan, removed to Painted Post, N. Y.
Malone.—Shillinglaw & McNulty, sold to J. W. Barnes, Jr., & Co.
N. Y. City.—Hamburger & Co., removed to 20 W. 3d st.
J. B. Lawrence, 221 E. 32d, new store.
Oneonta.—C. D. Sewell, sold to H. B. Gildersleeve.
Penn Yan.—Hammondsport Vintage Co., wine dealers, sold out.

NORTH CAROLINA.

West Durham.—Blacknall & Sons, new store.

NORTH DAKOTA.

Cando.—Johnson & Ulm, succeeded by Johnson & Co.
Casselton.—C. R. Meredith, now C. R. Meredith & Co.
La Moure.—B. W. Boyd, new store.

OHIO.

Cleveland.—Jos. Albrecht, 455 Quincy, removed to 1339 Central.
C. E. Rennecka, 1296 Euclid, removed to 2267 Euclid.
Covington.—William Ratcliffe, sold out.
Columbus.—J. E. Volk, 17th and Mt. Vernon, closed by creditors.
Wapakoneta.—Moser & Kayser, dissolved.
Worthington.—Hill & Leasure, dissolved.

OKLAHOMA.

Osborn.—T. W. Hannegan, new store.

OREGON.

Grass Valley.—T. Brownhill, sold out.
Portland.—Watts & Co., now Watts & Mathien.
R. A. Wilson, 40 E. Morrison, removed to 133 Grand ave.

PENNSYLVANIA.

Conneaut Lake.—S. Bligh, who succeeded S. H. Hill, assigned; style now J. M. Martin, assignee.
Corry.—George Blair & Son, sold to S. H. Hill.
Harrisburg.—G. H. Weigle, 3d and Main, sold to J. B. Foltz.

RHODE ISLAND.

Providence.—W. A. Wheaton, sold out.

SOUTH DAKOTA.

Webster.—Mrs. Thomas Brigham, sold to M. Thul.

TEXAS.

Alice.—L. F. Layton, has store here.
Austin.—F. H. Raymond, failed, and discontinued.
J. J. Tobin, failed, and discontinued.
Berclair.—H. P. Lister, discontinued.
Buda.—R. J. Jameson, discontinued.
J. T. Gilpin, new store.
Carrizo Springs.—J. C. Owens, succeeded by J. C. W. Ingram.
Center Point.—M. L. Blatherwick, has store here.
Colmesneil.—J. P. Haynes, discontinued.
Conroe.—Gilbert & Knight, sold to A. E. Gilbert.
Cotulla.—Williams & Landrum, succeeded by J. M. Williams.
Devine.—J. D. Crawley, discontinued.
Duffau.—W. D. Joyner, sold to E. S. Neal.
Edna.—Burns & White, succeeded by F. A. Burns.
Flatonia.—Cadwell Bros., burned out; no insurance.
Fort Davis.—W. P. Overby, discontinued.
Granger.—S. McDaniel, discontinued.
Harwood.—H. F. Walker, discontinued.

UTAH.

Spanish Fork.—Smoot Drug Co., of Provo, Utah, open branch here.
Spring City.—L. Burdock, new store.

VERMONT.

Townshend.—Miss A. E. Barber, new store.

VIRGINIA.

Norfolk.—J. E. Scott, assigned.
Richmond.—Jefferson Hotel Pharmacy, T. A. Miller, manager, has been opened.

WISCONSIN.

Kenosha.—Leach & Lamb, dissolved.
Milwaukee.—Sykes Medicine Co., incorporated.
Scandinavia.—H. B. Poppe, discontinued.

BRITISH COLUMBIA.

Victoria.—Dean & Cryderman, dissolved F. M. Cryderman retiring.

ONTARIO.

Kingston.—George W. Mahood, new store.
Toronto.—R. D. Turquand, sold to J. Lucas.
J. A. McLarty, discontinued.

PATENTS
TRADE MARKS, DESIGNS, ETC.

PATENTS.

Issued Dec. 3d, 1895.

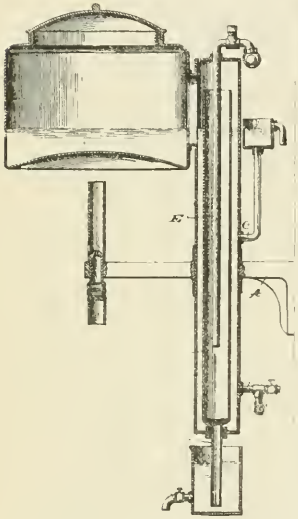
550,628—James F. Lester, assignor of one-half to A. Riccio, Atlanta, Ga.—Apparatus for separating oleaginous matter from solvents.

550,712—Carl D. Ekman, London, England.—Obtaining adhesive from sulphite liquors.

550,716—Herman Frasch, assignor to Cleveland Linseed Oil Co., Cleveland, O.—Purifying solvent-extracted oils.

550,747—Henry L. DeZeng, Jr., Geneva, N. Y.—Refractometer.

550,849—Theodore G. Springer, Chicago, Ill.—Apparatus for distilling water.



Claim.—In a water distilling apparatus the combination with the boiler, of the condenser, an air pipe discharging in the lower part of the condenser provided with a pressure regulated inlet valve, the condenser outlet and a receiver provided with a draw-off cock located to maintain a water seal for said outlet.

The combination with the supply pipe, the boiler and the condenser, of the overflow pipe, for maintaining the liquid in the apparatus at a certain level, of an air inlet pipe extending within the condenser below the connection of the overflow pipe with the supply pipe, the condenser and the pressure regulated inlet valve for said air pipe.

550,869—Johannis J. Van Hest, Amsterdam, Netherlands.—Filtering stopper for bottles.

TRADE MARKS.

Registered Dec. 3d, 1895.

27,383.—Cough Drops, Stick Candy and French Mixtures. John F. Birkmeyer & Sons, Baltimore, Md. The letters and character "J. F. B. & S.," in white script on a red background.

27,384.—Liquid Medicine, Medicated Tablets, Pills and Chewing Gum. Mary C. Wilson and J. Frank Yealy, Philadelphia, Pa. The word "Dyspepton," in conjunction with the name "Dr. Wilson's."

27,385.—Remedy for Catarrh. Harry Jillson, Chicago, Ill. A representation of a capsule in outline inclosing the letters and character "C. S. & A. S. T.," associated with the words "Capsules Sanitaires."

27,386.—Remedies for General Debility, Malaria and Throat and Lung Troubles. Magdalene G. Bischoff, New Orleans, La. The abbreviation and the words "St. Roch's Perfect Cure."

27,387.—Certain Named Medicines. Van Vleet-Mansfield Drug Co., Memphis, Tenn. A representation of a druggist's mortar and pestle with an eagle on one side and the head of a lion on the other.

27,388.—Soporifics. The firm of E. Merck, Darmstadt, Germany. The word "Stypticin."

27,389.—Soporifics. The firm of E. Merck, Darmstadt, Germany. The word "Triphenin."

27,390.—Antiseptic Preparations. James W. Wood, Poughkeepsie, N. Y. The word "Thycaiol."

27,391.—Chemical Products and Colors for Use as Disinfectants. Hartmann & Hauers, Hanover, Germany. The interlocked letters or characters "HH" arranged on the side of a crucible-like vessel.

27,392.—Perfumery, Toilet Articles and Preparations. Richard Hudnut, New York, N. Y. The word "Indianotis."

27,393.—Disinfecting Soap for Washing Animals. Lucien N. Brunswig, New Orleans, La. The name symbol "Buchanan's" and the numerical symbol "No. 111."

27,394.—Gymnastic Apparatus and Medical Appliances. Aktiebolaget Goransssons, Mekaniska Verkstäd, Ltd., Stockholm, Sweden. The name "G. Zander.

27,395.—Manufactured Chemicals. The H. W. Jayne Chemical Co., Philadelphia, Pa. A diamond shaped figure with the initial letters of the corporation, "H. W. J. C. Co." within it.

27,399.—Wines. Frederick William Fletcher, London, England. The word "Vibrona."

27,401.—Koji, Moyashi, Diastase, Ferments of Yeast and Converting Agents. Jokichi Takamine, Chicago, Ill. The word "Taka."

——J. C. Hardman, at Riverside, Cal., has just opened what he looks upon as the attainment of his ideal in the way of a drug store. All that plate glass, elaborate and costly fixtures, delicate decorations and up-to-date conveniences can contribute to this result have been used unsparingly, but with taste and judgment.

——At Rocky Mount, N. C., on Nov. 29, a serious accident occurred in the Kyser Company's drug store. In handling a large wood box filled with giant torpedoes, Theodore Coker, one of the company's clerks, let it fall to the floor. This caused the contents to explode with tremendous force. Mr. Coker was knocked down and senseless and badly bruised and scratched about his body and face. The explosion shook the large brick building from foundation to top and was heard all over the town. While Mr. Coker is not fatally hurt, it is feared his eyesight will be impaired.

——At Winterset, Iowa, H. D. Adams, a prominent druggist, has sued Samuel Kosier, the leading dry goods merchant, for $20,000 damages for alienating his wife's affections. Adams is thirty-five, and his wife a petite blonde of twenty-seven. They were married in 1890. Kosier is fifty and has a wife and several children. He is said to be worth $150,000. Last summer Mrs. Kosier and the children went on an extended Eastern trip and Adams says that during their absence Kosier has led Mrs. Adams astray. Since then Mrs. Adams has left her husband.

Pamphlets, Price Lists, etc., Received.

Price Lists: New York Quinine and Chemical Works, New York. Rosengarten & Sons, Philadelphia. Dodge & Olcott, New York. Fritzsche Bros., New York. Mallinckrodt Chemical Works, St. Louis. Schoelkopf, Hartford, and Macalagn, New York. Powers & Weightman, Philadelphia.

Pamphlets: "How to Disinfect," by American and Continental Sanitas Co., New York. "Business," by Kittredge Co., New York.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

THE TRAVELLING SALESMAN.

New York, Dec. 4, 1895.

To the Editor:

So much has already been said in your valuable journal concerning the traveling man and his relation to the drug trade, that to add one word more might be considered redundancy. But as the many expressions, both favorable and unfavorable, emanated only from the employers, it may not be amiss to have also the observations of one of those misrepresented, yet beneficent and indispensible factors in commerce—the traveling salesman.

Almost with every recurring phase of the new moon, some wholesaler, usually one whose trade is purely local, and of consequent insignificance, becomes envious of his successful rivals. He wants to do a larger business, wants to "boom" trade, so to speak; but, owing to the fact that he is possessed of perhaps only mediocre capacity, and possibly lacking entirely in the essentials that characterize the successful merchant, he does not reap the harvest that he might wish. Such a man is not willing to admit his incapacity, but his failure is saddled on his traveling men. They are the cause of his trials, according to his mind, and should be done away with. So he goes to work to do without them, and instead sends out postals and specious advertisements, designed to reflect on the traveling salesmen. He condemns the good and the bad; indeed, he can see no good at all in them.

Now, in contrast to the above, it is pleasing to note, is the stand taken by the representative houses, whose names are familiar to every druggist in the country; names which are synonymous with energy and original enterprise. They recognize the commercial value of their true and tried travelers. To them the traveling man is not "a necessary evil" only to be "tolerated," (phrases we hear ad nauseam), but a hustling, intelligent, and conscientious co-worker, imbued with the same spirit of commercial conquest which they themselves evince, and deserving of the same respect and consideration that they enjoy. Their interests are mutual, and both work for the same end. It is true there are poor salesmen; it is also true that there are poor merchants. Either will have to go to the wall. But the hustling, wide-awake traveler, and the up-to-date, energetic merchant make a combination that is well nigh invincible. When a firm come out with the statement that a traveling salesman is "a necessary evil," it pretty nearly proves that they are not doing any business to speak of, and that there is something radically wrong in the management. The firms that keep in direct touch with a staff of capable travelers, keeping them well informed as to the

market, and aiding them by precept and example, are bound to be successful. Such firms are not heard railing against the traveling man. And this holds especially good when the heads of the concern have experienced the "bitter and sweets" of road life themselves.

Within a month or so another concern in New York has decided that their traveling men were an "evil," and should be dispensed with. The fact was heralded to the trade with trumpet notes. The journals took it up, and now it has become the sport of the winds. And what is the result? Neither the wholesale nor the retail trade believes they are sincere. The druggists fail to believe so for the reason that, notwithstanding their advertisement, they still keep men on the road. Is the object of their ad. then, only a trick to catch the unwary? Is it consonant with sound business principles? The answer is easy and patent to every one. Yours very truly,

ROBERT R. LAMPA.

THE OTHER SIDE.

Morganville, Kan., Dec. 2, 1895.

To the Editor:

You have given considerable space to describing the efforts of a committee of Western jobbers to induce the Eastern fellows to enter the combine on the box and dray question, also giving opinions of Eastern jobbers. So far you have presented but one side. Your remarks indicate your sympathy with the movement, as we read them. Pray tell us, why not also advocate a separate and distinct charge for the packer's time on each order? We believe in all business the cost of carrying on said business is figured in along with the cost of the goods proper. This being the case, why give one item such prominence. The stationery, dry goods, grocery, and perhaps some other lines of jobbers make no charge on the bills for box and cartage. We note that on nearly all our bills the dray item is charged way in excess, and all out of proportion to railway charges. We also not that we are charged for second-hand patent medicine boxes, and other old boxes. Not long since we were charged 10 cents for a Castoria box, 30 cents for an old mineral water barrel, in which but two 2-gallon jugs were packed, nothing more. When all the jobbers unite in this matter, this abuse will gradually increase, and the imposed-on class will be powerless to stop it. You say "kick"; that's easy, but won't do any good; the writer has tried it, but nary a cent ever came off the bill. The jobbers, from whom we are compelled to buy, by reason of location, all do alike in this matter. All charge all the traffic will bear, and but scant courtesy your complaint will receive from any one of them. The city brother gets his goods delivered free, and by reason of the brevity and frequency of his orders, escapes paying 20 cents for a Hood's sarsaparilla box, or 10 cents for a Castoria box, but the country cousin, who orders in liberal quantities, sees both charges in plain figures.

Another thing. We are now compelled to buy one-quarter dozen of a kind of any patent to get it at the published wholesale price; in less quantities, we must pay more. The reason given for this is that city druggists so often order but one bottle of a kind, and it was done to stop this. This is an arbitrary rule, the result of combination, having neither sense nor reason behind it. It is a late innovation, and probably but the forerunner of many equally iniquitous rules when the combine becomes national in its extent. If you are editing a journal for the benefit of the drug jobbers, 'tis well to advocate such measures; but if you are the friend of the retail druggist, as you claim to be, your duty plainly lies in exposing such combines, and doing what you can to circumvent their consummation.

S. S. McINTIRE.

Liquor Tax on Chicago Druggists.

To the Editor:

Chicago, Dec. 2, 1895.

Permit me to call attention to the manner in which the Liquor Dealers State Protective Association, through the assistance of the Collector's office, are endeavoring to compel the retail druggists of Chicago to pay a liquor license of $250.

Ostensibly for the purpose of showing why such a license fee should be charged a list of violators of the present ordinance appeared under the caption of "Much Money in Winks," in the Times-Herald of Nov. 16. This list gave the names of seventeen grocers and one druggist.

This list (the paper stated) was furnished by the Liquor Dealers' State Protective Association, and Collector Smith states, according to the article, that upon investigation by his sleuths he finds it to be correct. This really looks bad for the seventeen grocers, but what have the grocers to do with making the retail druggists pay $250 license?

I do not deny that in many stores this law is violated, in so many, in fact, that it would be a simple matter to compile a list of one druggist and seventeen grocers without involving men like the druggist named, who is acknowledged by the residents and his competitors to be conducting his business in a manner most satisfactory to the law and the citizens of his community.

How much longer the retail druggists of Chicago are going to allow themselves to be stood up and knocked down by the Liquor Dealers' Protective Association is a question that will remain unsettled until they are themselves equally well organized and as a whole take more interest in public matters, especially as they pertain to their own profession. We find in our city councils representatives of the gas companies, the electric companies, the gamblers, the liquor dealers, why not the druggist?

Not that I would suggest bribing city officials to do your work for you, but go forth yourself and stop the abuses so frequent in your trade. This cannot be done by sticking in your store when you are asked to attend a meeting of your trade, because it is the clerk's day off, because the weather is bad, because its too far, because—because—well, really because you don't want to go.

FRANK E. TAFT.

TRADE NOTES.

From information furnished by manufacturers and dealers in regard to their products.)

Stearn's Electric Paste for exterminating rats, mice, etc., is an article which the druggist can sell every day, and the profit is a good one 100 per cent. and upward. All jobbers have it, and your next order should include it.

The next time you order Licorice Tablets, write "Huyler's" after the item. Your customers will know that you have a good article, as most of them know how Huyler's goods taste, and his name is familiar through much advertising.

The physician is a very proper person to remember with a Christmas present. One which the druggist might think of is the leather cover for prescription blanks or the duplicate blanks with carbon paper for pocket or office use. Write to J. B. Burr & Co., Hartford, Conn., about these.

Quartz and Flint especially prepared for the use of chemists and extract manufacturers is a frequent necessity. The F. E. Belden Mica Mining Co., 12 Broad street, Boston, make it, and their address should be in the book of every manufacturing chemist for ready reference.

The Searle & Hereth Co., of Chicago, have issued under date of Nov. 22 a supplementary price sheet to their list of May, 1895. Some new preparations and specialties are listed on this supplement, prominent among which are "Q. T. Cachous," which have all the indications of success as big sellers.

The Theodore Metcalf Company's Sachet Powders are such good sellers the year round that ordering an extra large supply for holiday trade will not result in what is usually meant by "overstocking." The customer who starts the new year with Metcalf's Sachet Powders will want that kind the next time.

All jobbers can supply McCready's XXXX brand of corks. This brand is made especially for homeopathic and fine prescription use. Every cork is perfect, as the culling is done before they reach the druggist. Write the R. W. McCready Cork Co., Chicago, for price list of this brand.

With the catalogue of the A. P. W. Paper Co., of Albany, N. Y., before him the druggist can select a line of toilet papers, embracing all qualities, which all his customers, rich and poor, can buy. Their family cases containing several rolls are especially salable, and there is a good profit in retailing these small lots at one sale.

If there is to be a change in your soda water apparatus next summer it is a good idea to do the figuring and investigating now. The Hartt Mfg. Co., Chicago, are ready with some new designs for next season, and their tilting syrup cans, coolers and other improvements should receive attention. Write for illustrations and prices.

Anhydrous fats, not liable to oxidize, white, odorless and creamy, are what every pharmacist needs in the preparation of ointments, etc. The Snyder Pharmacal Co., 89 World Building, New York, offer a line of these in 5, 10, 25, 50 and 400-pound lots, including Anhydrous Leaf Lard, Beef Suet and Mutton Suet. Write for their price list.

Emulsion of Cod Liver Oil and Syrup of Tar, Tolu and Wild Cherry are two seasonable articles to be pushed now, but there should be some profit in them to pay for the pushing. C. B. Smith & Co., wholesale druggists, Newark, N. J., put up two non-secrets of this class, which have a good profit in them for the retail druggist. Get their price list.

If you will send a list of your customers to the Harter Medicine Co., Dayton, O., these customers will ask for Harter's Little Liver Pills, as the manufacturers will send a sample dose and advertising matter bearing your imprint to each one whose name you send in. There is an actual sales profit and an advertising profit in this transaction.

A five-cent box of licorice pastilles is something which people with coughs, colds, hoarseness or sore throat are now looking for. Heide's Licorice Pastilles will suit all these. The handsome box in which they are put up will attract attention, and the price is right. For prices address Henry Heide, 179 Franklin street, New York, and for the goods address your jobber.

Midy's Effervescent Granules of Piperazine is a new French preparation which has achieved great popularity as a remedy for the uric acid diathesis, rheumatism, gout, etc. E. Fougera & Co., 26 North William street, New York, are American agents, and the literature which they can supply regarding the new preparation will interest the pharmacist.

Faultless Pepsin Chips—"the gum that's round"—has passed the introductory stage, and people are now pretty well acquainted with it. They want to keep up the acquaintance, and are quite apt to patronize the druggist who has it in stock. Pepsin Chips are the latest novelty in chewing gum, and it is the novelties which attract the chewing gum public.

"Increasing from Day to Day".

D. W. Hyde, Pittsfield, Ill., says: "The demand for Humphreys' Specifics is increasing from day to day. When I get a customer for the Specifics they seldom leave me. No matter what the physicians say, "Oh! There's nothing in those homeopathic medicines." But they know there is, for they have tried them, and no one can convince them to the contrary. I had a severe attack of La Grippe this season and it was accompanied by a severe cough, kind of asthmatic. I used Humphreys' Specifics with perfect success. I have recommended them to others with like results." Write to the Humphreys' Company, New York, for their liberal terms on the first stock.

There are many sore or slightly irritated throats just now that need a mild, not a stimulating application. For such Roworth's Glycerine Jujubes are just the thing. They are put up in finely decorated tin boxes, make a very handsome display package, and are of the right size to carry in the pocket. Send for prices to Roworth Mfg. Co., New York. All jobbers have the goods.

John Phillips & Co., Detroit, Mich.:

Gentlemen—In answer to your inquiry about the Silent Salesman Cigar Case we bought of you, we can safely say that it increased our cigar trade 100 per cent. inside of two months. It adds greatly to the appearance of our store and is perfectly satisfactory in every way. Yours truly,

BALDWIN & BLACKMER,
Pharmacists, Washington C. H., O.

The readers of the popular literary and ladies' magazines are noticing Milk Weed Cream, a new skin food made by F. F. Ingram & Co., Detroit. It is being introduced so effectively that it is a good one for the druggist to notice. It costs $3.50 per dozen and retails at 50 cents. It is attractively put up in two-ounce jars, and the manufacturers furnish samples and advertising matter to push it.

Every druggist who needs new scales should consider the special offer made by Robert Stevenson & Co., Chicago, on the "Dearborn" scales. They offer a box prescription scale with one set coin grain and dram weights and one pair glass scale pans, and one counter scale with nickel-plated block weights, 1 pound to ¼ ounce, for $20 net. These scales are warranted to be perfect in every particular.

If distance and freight rates have heretofore prevented you from buying in New York, C. G. Bacon & Co., 218 Greenwich street, invite you to figure upon their Weekly Price List System, with a view of saving money in spite of distance and transportation charges. Their Weekly Price List, which they will send upon application, may show some advantages in buying, which mean a better profit on what you sell.

The retail price of Seidlitz powders is pretty well established, and any increased profit for the druggist lies in making or buying them cheaper. Figure up your cost for making them, and then write to Charles R. Doane, 22 Meserole street, Brooklyn, N. Y., for his prices. He makes them by machinery, guarantees the weights and quality of the chemicals, and his packages are ornamented and attractive.

If there is one thing more than another about which the pharmacist should be particular it is his opium preparations. Gilpin, Langdon & Co., Baltimore, Md., offer an assayed granulated opium for percolation, which is guaranteed to give a strictly correct product, with the least anxiety and trouble. Send for their price list, which includes a full line of powders for percolation, and a valuable formulary.

The use of a regularly issued publication to advertise a drug store is a very effective method when the publication is of an interesting character, and presents the many articles found in the drug store in a truly attractive manner. F. H. Smith & Co., East Orange, N. J., publish papers of this character, which they supply to one druggist in a town only, and they will be pleased to send sample copies and full particulars upon application.

Perfumes have to be put up in attractive packages to induce people to buy them the first time, and then there has to be good quality in them to induce a second purchase. These features characterize the goods of Seely, the American perfumer, Detroit, Mich. His elegant catalogue is the best first argument which he can produce to convince the druggist of these points. He invites you to let him know that you would like to see his catalogue.

The time spent in looking through city directories for the names and addresses of physicians whom the traveler wishes to visit amounts to quite an item of expense. In the case of Cleveland, O., this difficulty is obviated by the little Physicians' Directory, price $1, published by The Mayell-Hopp Co., of that city. It shows the location of all the doctors, by streets, a method of arrangement making it extremely valuable to detail men.

The F. Hammar Company, St. Louis, solicit correspondence from Eastern jobbers regarding their Combination Lead. It is put up in the best kegs obtainable, varnished outside and glued inside, the packages ranging in weight from 12½ to 100 pounds. They will duplicate present stencil or make new ones, and supply as many samples as may be desired for traveling salesmen. They deliver freight prepaid and offer liberal terms. Write for quotations.

Many physicians want a medical battery, but object to the expense, price and inconvenience of the cumbersome chemical batteries which require constant attention to preserve their efficiency. Such physicians can be interested in the Standard Medical Battery, with dry cells, made by E. G. Bernard & Co., Troy, N. Y. The manufacturers of this battery will allow the druggist a good profit on each one he sells. Write to them for trade prices.

Permanent and Reliable.

A letter from Dr. Policarpo Diaz, of Guanajuato, Mexico, to Scott & Bowne, says that, in 1889, he purchased twenty bottles of Scott's Emulsion. At that time he was "suffering from a terrible attack of tuberculosis." He says he does not now have the slighest symptom of that disease, and is in the best of health. He adds that, at the time of writing, April, 1895, he has one of these twenty bottles on hand, and, "although enough time has certainly elapsed for the Emulsion to separate, yet it is in perfect and unchanged condition."

Keep right on selling paint all winter, and keep on telling people about paint, so that they will think of it the first thing in the spring. You can do this if you have Lucas' paint, and the extra nice Lucas way of keeping up interest in painting by suggesting harmonious combinations and describing little paint novelties which can be sold the year round. Send for samples of the Lucas way of advertising paints, addressing John Lucas & Co., Philadelphia.

A Torsion Balance is an important factor in making your trial balance show results in your favor. It is a perfectly good asset for years after its purchase, and can be carried longer on the annual inventory at its full purchase price than any other scale. It lasts longer, as it has no knife edges to wear, corrode, become crushed or clogged with dirt. Then it weighs correctly—a most important thing when the pharmacist's success depends upon weighing just right.

The accompanying illustration shows a trademark which when found upon a package of corks will signify to the pharmacist that he has the best that can purchased. The Fox Head Brand are "the cream of the cream," longer than extra long and smooth at both ends. A good cork is a better advertisement for the pharmacist than a good bottle.

The next time you order tooth brushes you might as well try Fredricks' Sanitary Brush. It costs the same and sells the same as other good brushes, but it has an ivory tongue cleaner attachment which makes it preferred to all others. This little "extra" attachment sells the brush, as people always take extras when the price isn't affected. A sample will be sent upon receipt of 15 cents by Hamburger & Co., selling agents, 20 West Third street, New York.

Smith's Improved Menthol Inhaler is a new and efficient apparatus useful in all diseases of the air passages where the inhalation of this drug is beneficial. It costs $2 per dozen and retails at 25 cents, a price which will allow everybody to buy one. It is put up in a neat nickel case, handy to carry in the pocket, and is displayed upon a handsome enameled stand. Carter, Carter & Kilham, Boston, are agents for the New England States and McKesson & Robbins, New York, for the rest of the United States.

Quinine is an everyday seller, of course, but just now it is extra seasonable, and sells several times per day. People seem to take it best in pill form, therefore if there is any way of making this pill business more attractive it should be adopted. The Upjohn Pill and Granule Company, Kalamazoo, Mich., have a way of doing this with their box holding 12 pills, each pill by itself. Price $4.50 per gross of filled boxes, or $ 2[illegible] in five-gross lots. Remember the Up[illegible] quinine pill and box next time you order from your jobber.

Hunt's English Pleated Paper Bottle Caps cost from 25 to 50 cents per gross according to size, and the druggist who uses them gets his money back, and a great deal more by increasing the selling chances for his goods, and pleasing his customers. A bottle cap is a small thing, but customers, if given a choice, always choose the bottle with a cap on it. Send for samples to McKesson & Robbins, New York, put them on a bottle, and then see if you wouldn't make the same choice.

If there is any business to be done in your neighborhood in the elastic hosiery line you might as well do it. You can do it most satisfactorily with the goods and methods of I. B. Seeley & Co., Philadelphia. They furnish blank diagrams for taking measurements—a great convenience for both patients and physicians, eliminating all embarrassment which customers might have in purchasing such articles. Full particulars regarding the business will be furnished upon application to the manufacturers.

"Endorsed by physicians" is a very common term used in connection with many proprietary remedies, and it has been so abused that it signifies little to the druggist. There are exceptions, however, where the statements are bona fide, and those made by Fred W. Stewart, Oswego, N. Y., regarding his Gipsy Pile Ointment belong to this excepted class. This ointment has been tried and endorsed by over 1,000 physicians, and it is one which the druggist can sell and endorse. Send for printed matter describing it.

Walter Baker & Co., Ltd., Dorchester, Mass., the well known manufacturers of Breakfast Cocoa and other Cocoa and Chocolate preparations, have an extraordinary collection of medals and diplomas awarded at the great international and other exhibitions in Europe and America. The house has had uninterrupted prosperity for nearly a century and a quarter, and is now not only the oldest but the largest establishment of the kind on this continent. The high degree of perfection which the company has attained in its manufactured products is the result of long experience combined with an intelligent use of the new forces which are constantly being introduced to increase the power and improve the quality of production, and cheapen the cost to the consumer. The full strength and the exquisite natural flavor of the raw material are preserved unimpaired in all of Walter Baker & Co.'s preparations; so that their products may truly be said to form the standard for purity and excellence. In view of the many imitations of the name, labels and wrappers on their goods dealers should specify and be sure that they get the genuine articles made at Dorchester, Mass.

—The Zielman glass factory at North Baltimore, O., burned Dec. 2. A gas meter exploded and started the blaze. Loss, $60,000, partly insured. Andrew Beal, a workman, was burned to death.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Curaçoa Aloes, Gum Tragacanth, Oils: Citronella, Anise, Lemongrass and Sassafras.

Declined: Acetanilid, Cacao Butter, Caffeine, Artificial Oil Wintergreen, Cumin, Fennel and German Rape Seeds.

New York, Dec. 10, 1895.

The attention of buyers during the period under review has been devoted chiefly to the various commodities which legitimately come within the scope of druggist's "holiday stock," and continued activity in the movement of such articles is, perhaps, the leading feature of the general market. The advent of colder weather, particularly in the West, has stimulated the demand for cough remedies, and an increased inquiry is also noted for the crude drugs which enter into the composition of innumerable proprietary medicines, usually seasonable during the winter and spring months. Purchases, however, continue to be made with a degree of caution entirely consistent with the well-defined conservative policy which has governed the operations of buyers for the past year or two, and only such quantities as are needed to meet existing requirements are finding an outlet. This method has made it comparatively easy for operators to keep within reasonable certainty of meeting financial obligations promptly, and the indications are that when annual settlements are made the results, from a monetary standpoint, will be satisfactory to all concerned.

Stocks at interior distributing centers are gradually but steadily being reduced, and after the turn of the year replenishing will be necessary. Traveling salesmen who have returned to spend the coming holidays at home, will again go over their accustomed routes, and the outlook is favorable to an early revival of general activity, after the stock-taking period is passed. The market retains a decidedly steady undertone, and prices of many leading articles are strong and tending upward. The principal change this week is in citronella oil, which is 25 per cent. higher than when our last report was issued. The improvement is wholly due to scarcity in all markets, as well as in the producing country.

OPIUM.—There is a continued absence of new features in the market for this article, and very little interest seems to be manifest on the part of either holders or consumers. Purchases during the week have been limited to actual necessities, which have been very light, and all are apparently waiting for fresh developments in the primary markets. The latest advices from Smyrna show a slight decline in quotations, but no important increase in the volume of business, and continued uncertainty regarding the future has a tendency to check any proposed movement on the part of large operators. Values here are unchanged and the prevailing feeling is

fully in accord with the situation abroad.

MORPHINE.—The current movement is of about the average volume, but there is nothing to inspire confidence among buyers, and only immediate wants are considered. Manufacturers quotations are unchanged.

QUININE.—Regular legitimate consuming channels are absorbing considerable stock, and the market continues fairly active. The excitement occasioned by the report of unexpected competition from a new manufacturer in England has subsided, and the older makers seem to be satisfied with the result of their investigation. It is claimed that the new competitor is in no sense an important factor in the market, and that the reports concerning the extent of the new "plant," etc., are rather mythical. Some are yet looking for an advance in manufacturers' prices on the first of the coming year, but others are of the opinion that no change is contemplated.

ACETANILID.—Competition between domestic manufacturers and importers of foreign is very keen, notwithstanding that fact that crude material has been advanced nearly 50 per cent., and former prices can be shaded fully 1c. per lb.

ACIDS.—There have been no changes in values of any description, and the general market has ruled steady with a continued fair jobbing trade in seasonable varieties.

ALCOHOL.—The market for grain is moderately active, with the demand principally from perfumers, but former prices are still current, and there are no new features of noteworthy importance.

BALSAMS.—Values of all varieties show considerable steadiness, but aside from a good jobbing inquiry for copaiba there is nothing to report in the way of business.

CACAO BUTTER.—The market is easier in tone and values have reacted somewhat from the recent advance, sellers shading former quotations about 1c. per lb. The decline is wholly due to lower prices at the last London and Amsterdam auction sales.

CAFFEINE.—Supplies are again ample, and the moderate sales reported show a decline of 25c. per lb.

COD LIVER OIL.—No further change has occurred in values, and the condition of the market is about the same as last noted. Dealers are not anxious concerning the future, but many of them are willing to meet the outside competition when their regular customers are in want of supplies. Foreign markets are reported stronger with stocks further reduced.

CITRONELLA OIL.—This article is very scarce both here and abroad, and the limited stock in this market is becoming closely concentrated. Values are fully 10c. per lb higher, and the indifference with which offerings are made indicate that holders anticipate further improvement.

ANISE OIL.—The market is firmer, and prices show a further advance of 10c. per lb.

LEMONGRASS OIL.—Higher foreign markets have stimulated a firmer feeling here, and holders have marked up their quotations 5@10c. per lb for ordinary, and 10@15c. for re-distilled.

SASSAFRAS OIL.—Natural is very scarce and prices are 2c. per lb higher. Artificial is firmer, in sympathy, and 1c. higher.

WINTERGREEN OIL.—Artificial is 5@10c. lower, owing to competition between manufacturers, but there is no change in natural.

ALOES.—The market for Curacoa is firmer with values about ½c. per lb higher. The improvement is due to reduced spot stocks and an increased demand for export.

GUM TRAGACANTH.—All grades are about 3c. per lb higher, owing to increasing scarcity and advancing markets abroad.

GLYCERIN.—Is without further quotable change, but strong at the advance noted in our last issue, and the position of crude abroad continues favorable to holders.

CUMIN SEED—Is meeting with a good demand for export to South America, but prices are easier and show a decline of ½c. per lb.

FENNEL SEED—Is ½c. per lb lower, and the market lacks animation.

RAPE SEED.—English is unchanged, but German has declined ⅛c. per lb.

WAX.—Japan has met with an active inquiry, and the stock of dealers has been materially reduced, which imparts a strong tone to the market, and holders offer sparingly. Carnauba is easier under free offerings of new crop, to arrive, at a considerable shading of spot quotations.

CARMINE.—The market is very much unsettled with prices considerably lower and irregular. The agreement between the various manufacturers to maintain a uniform scale of prices expired on the 1st inst., and one maker immediately issued a circular announcing a reduction of 75c. per lb for ounce bottles. Others are meeting the cut, and show a disposition to make further concessions, while some adhere to the old schedule. It is intimated that efforts are being made to again bring manufacturers together and restore a uniform basis of values.

London Market Report.

London, Nov. 30, 1895.

A very fair business has been done this week, but the drug sales on Thursday were very small, although they passed off with good competition.

ACETANILID—Has at last taken a turn for the better, and business has been done at constantly rising prices. One maker to-day asks 1s. 5d. per lb, but 1s. 3d. would still be taken by second hand holders.

ACID CARBOLIC—Is firming up, 34 to 35°; crystals, 5½d.

ACID CHRYSOPHANIC—Is exceedingly scarce owing to scarcity of Goa Powder, for which the high price of 4s. per lb has this week been paid for medium quality. The acid has been sold at 17s. but 20s. is now the lowest quotation.

ACID TANNIC—Is dearer.

ALOES—Cape is rather dearer at 22s. 6d. to 23s. for good hard bright. Curaçao—The high prices are drawing shipments from the New York markets, some of which of fine livery quality realized 50s. per cwt. Socotrine—A rather poor lot sold "without reserve" at 57s. 6d. to 62s. 6d.; good is held for 90s., and fine for 120s.

AMBERGRIS.—Slow of sale, and rather easier in price.

BUCHU LEAVES.—Lower, fair light, green rounds selling at 4½d. for your market; fine green held for 6d. per lb.

CAFFEINE.—Quiet but steady, although makers have plenty of raw material; they are delivering against contracts rather slowly.

CAMPHOR.—Crude is firmer; 5 cases China offered in auction were taken by the syndicate at 190s.

CARDAMOMS.—Supply at auctions small; decorticated sold at 2s. 2d. for good.

COLOCYNTH.—2s. 6d. per lb paid in sales for good Turkey apple, while broken realized 2s.; Spanish of broken and seedy quality partly sold at 1s.

DRAGONS' BLOOD.—Six cases of old import and rather poor quality reeds sold without reserve at £6 to £6. 5s. Part of this shipment realized £11 when it first arrived. A new arrival of 15 cases probably caused this drop; it is, however, held for £10 10s.. Good lump sold at £8 17s. 6d.

GLYCERIN.—Refined is again dearer at from 70s. to 77s. 6d. per cwt. from makers, and 66s. to 68s. from second hands.

OIL (Cod Liver).—Fine brands of non-freezing Norwegian sell slowly at 180s.

OILS (Essential).—Star Anise was rather dull at the beginning of the week, but American buyers came in and secured a good quantity at low figures, causing prices to advance to 10s. 3d. Cassia is strong at 10s. for fine. Citronella is also dearer. Eucalyptus—A fair business passing in good qualities.

ORRIS ROOT—Is lower at 64s. for good sorts and 69s. for picked.

QUINCE SEED.—American buyers have now cleared this market at 1s. 3d. per lb.

QUININE.—Very quiet at 1s.1⅛d. per oz. for German in bulk.

Retail Druggists Take Note.

The counterfeiter has been at work, but the Chichester Chemical Co., of Philadelphia, have taken him in hand and the U. S. Circuit Court of Northern Illinois has granted a perpetual injunction against the Winchester Chemical Co. et al. of Chicago, forbidding them from imitating, counterfeiting, selling or having in their possession any imitation of the Chichester English Red Cross Diamond Brand Pennyroyal Pills. Chichester's advertisement appears in this issue, and it will pay every druggist to send for the copy of the injunction and decree, as well as particulars regarding special offers to the trade on orders for one and two dozen of the Genuine Chichester Pennyroyal Pills.

THE PHARMACEUTICAL ERA.

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A NEW BOTANY.

The articles upon Botany in the Era's "Study of Pharmacy" course, by Professors Rusby and Jelliffe, have met with such popular acceptance, and furnish such an excellent means for the study of structural botany, both in the classroom and by the home student, that they have been reprinted in book form.

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D. O. HAYNES & CO., Publishers,
New York.

"A MERRY CHRISTMAS. GOD SAVE YOU."

Greetings which come too late, good wishes which are belated, lose much of their savor and value and are not received with that fullness of appreciation which their earnestness and sincerity should demand. Lest this fate befall the Christmas compliments which the editor and publishers of the Era would extend to all its readers (and which would be the result were they deferred till next week, arriving on the 26th, when the riches of the stockings have been disclosed, the plum pudding eaten, the game of snap-dragon played out, and the popcorn, cider and apples devoured), these holiday sentiments are expressed a week in advance, in the belief, however, that they will not lose in warmth, but rather will be received with an increased confidence in their sincerity. The Era is grateful for the appreciation and support which have so generously fallen to its share during the twelve months just closing. This period has been an important and eventful one in the history of this paper, noting its change to a weekly drug journal, a departure which never before in the history of drug journalism in this country had met with success. That success has rewarded us is in great measure due to that cordial recognition by the drug trade which we are here trying to acknowledge. Let us once more ask you to receive as warmly and honestly as we extend them the expressions of that spirit which is so apparent at this season.

But the close of the year is not devoted solely to the exchange of holiday courtesies. It is a period which finds most of us looking back over the past and forward into the future. It is the time for the annual stock taking, and the joyful estimation of the year's profits or the lugubrious count of losses. It falls to the lot of the drug paper to take an inventory of that rather intangible thing called Progress. Has 1895 seen any material progress in matters pharmaceutical? We think it has. It is hard to lay a finger on this and say, here is advancement; and on that and say, here is retrogression, and thus draw up a balance sheet of total result. Every professional and mercantile abuse has not been done away with, by any means. The cutter and the patent medicine are always with us. There are still too many drug stores. The prescribing druggist and the dispensing doctor have not yet entered into that close relation which we all hope will some day cause fraternization between the lion and the lamb. There are still tablet triturates and physicians' supply houses. The department stores continue to have a strong grasp upon the sundry business and seem disposed to retain it. All these and many other indications that the drug business is in a bad condition make it difficult to discover any material progress, yet, notwithstanding, we believe there is a balance on the credit side.

1895 has witnessed the development of a very strong and constantly increasing sentiment in favor of a higher professional standard, and movements along numerous lines to effect this end have been inaugurated. There is a demand for better educational qualification, more logical and thorough college education. There is a visible disposition to make the whisky-selling druggist so odious that he cannot exist; the enforcement of pharmacy, pure food and drug, poison and liquor laws is advocated, and in many ways it is plain that the "tone" of the trade is to be improved. Is not all this progress, and of the best kind?

It may be necessary eventually to divorce the commercial from the professional entirely, but pharmacy as a profession, irrespective of trade complications, is undoubtedly achieving some advancement, and it is just along those lines which have been instanced, all combining into the demand for better qualification.

The druggist has taken stock of his business affairs, let him inquire whether in the higher and broader functions of his calling he has not some cause for good cheer.

THE DRUGGIST AS A FACTOTUM.

Among the hot, sizzling questions touched upon by Mr. W. Bodemann in his address, reported in the Era last week, to the students of the Chicago College of Pharmacy, is that of handling the dead beat. Every druggist realizes more or less the breadth and depth of this matter, and even those who are considering it as a minor affair, will before long find it in the major scale. It is entirely outside of the domain of courtesy, of which there are two kinds, that which is natural and is bestowed upon those who appreciate it, and that which is assumed for selfish reasons or trade purposes. The cultivation of the latter kind is something which must be commended, for without it no one can succeed in business, but there is such a thing as over-cultivation. The growth becomes too rank. This over-cultivation has apparently arisen from well-meant but mistaken notions

regarding methods of drawing trade, and in this the druggist is not entirely to blame, as the nature of his business is responsible to a certain extent. When he meets his brother druggists in convention or at the banquet table he usually refers to himself as a sort of good Samaritan, and it is just possible that the public is taking him at his word. He also belongs to that select coterie made up of the doctor, the lawyer, the clergyman and the schoolmaster, which in every community is given credit for the possession of much wisdom. He is known to possess a store of information regarding drugs, and incidentally some of therapeutics. The public knows that he is unable to sell this information as does the physician, and to prevent legal embarrassment they relieve him of portions of it upon all possible occasions without recompense. This entering wedge is driven in deeper, all the evils of indiscriminate charity follow as a natural consequence, and the druggist finally becomes the factotum of the neighborhood. The only relief from this disagreeable position seems to be in giving the public the impression that the druggist is more of a business man and means business. He has been trying to convey an impression of the importance of his professional ability, but commendable as this is, the public is slow to show its appreciation, especially where prices are concerned, and refuses to support professional attainments with its patronage when things can be procured cheaper elsewhere. When price is the magnet which draws trade, the druggist will fail to draw with his bait of doing odd jobs for nothing. The public will allow him to do as much as he pleases for nothing, but will persist in trading with the cut-rate man. The druggist has given an inch and his patrons have taken an ell, and when he looks at the latter he wants it all back on the moment. But this cannot be done; it must be reclaimed by inches. His indignation must be cooled down and the skill and finesse of the modern trader with his up-to-date business methods must be employed.

CHICAGO DRUGGISTS MUST WALK STRAIGHT.

The Era's readers have been advised of the proposition to levy a $250 liquor license tax upon the druggists of Chicago. On Dec. 9, at a meeting of the License Committee of the Common Council of that city it was unanimously voted to file the proposition without adoption. This result is due to the representations and opposition of the druggists whose case was most vigorously presented by the attorney for the Chicago Apothecaries' Society. This gentleman's argument was a gem of legal clearness and good, common, hard, horse sense. But, and this is a very significant and forceful "but," he pledged the support of the society in the prosecution of violations of the existing law, and the License Committee requested the authorities to enforce the regulations. Hereafter lawbreakers need not be surprised to be fined $200 or so for first offense, and for a second offense to have their licenses revoked. It ought not to be necessary to say this, but it is. In Chicago, in all cities throughout the trade generally, there are a few druggists who knowingly and wilfully violate the liquor law, and if caught, try to sneak out by pleading professional privileges. This sort of black sheep should be made to suffer severely and ignominiously for the discredit they bring upon an honorable class of business men. There is not a druggist living in this entire country who is ignorant of the fact that he has no legal or moral right to sell liquor as a beverage without a regular saloonkeeper's license. If the Chicago brethren can make it so hot for the few criminals among them that they will be driven out of the business it will be a good thing for the trade of that city and of the country generally.

LIQUOR PRESCRIPTIONS.

It is pretty generally understood that in a certain class of drug stores if a customer presents a prescription for liquor he gets it, no questions asked, and "refills" are quite a common occurrence. The result is that in prohibition localities, and on Sunday everywhere, there is a large increase in the number of sick people needing alcoholic relief, and the physicians who are most prone to prescribing this tonic and cheering treatment enjoy a steady practice. There seems to be sufficient evidence to justify the statement that some doctors make this their "specialty," just as there are similarly disreputable druggists who enjoy a reputation for willingness to practice this lucrative form of dispensing. (We make no mention of the still lower variety of druggist who requires no prescription.)

Because all these things are known and must be taken into account when considering the druggist's relation to the sale of liquor, and the special application of liquor regulations, a recent case in West Virginia becomes of interest, due to its particular bearing upon the points above noted. It relates to physicians giving prescriptions to persons to get whisky from drug stores under false pretenses. The opinion is in the case of the State against a physician who gave three prescriptions to a man who said he wanted the liquor for his aunt, who needed it for medicinal purposes. Each prescription was for one pint of whisky. Each and all the prescriptions were filled by the druggist one afternoon. (How sick the poor aunt must have been.) The syllabus of the Supreme Court is as follows:

"Under Section 7, Chapter 32, of the code, a physician gives a prescription to enable one to obtain liquor from a druggist as a medicine, either stating that it is or he believes that it is absolutely necessary as a medicine and not as a beverage. When he either knows or believes, or has reason to believe, it is not so necessary, or when he does not know it to be so necessary, he violates said statute and is guilty of the offense it creates. The physician must act in entirely good faith. It is his duty to examine and ascertain whether the liquor is absolutely necessary as medicine. An indictment prescribes a prescription as stating that the liquor is absolutely necessary as a medicine, whereas the prescription states that the physician believes it to be necessary. There is no variance between the indictment and the evidence because of the word 'believes' in the prescription. Such a prescription names A as a person needing such liquor when he does not need it, but A is getting it for the use of another. The statute is violated, though that other person may so need the liquor as a medicine. The prescription must name the person for whom the liquor is prescribed."

Of course, this interpretation of the law does not cover all phases of the liquor question, as it relates to doctors and druggists, but it does show that there are prescriptions and prescriptions, and that the druggist should be careful to discriminate between the varieties.

If this decision and the principle it involves were but lived up to, how quickly would the drug store liquor problem be solved, and the trade relieved of a reproach brought upon it by a few hypocritical, conscienceless money grubbers.

A PERCENTAGE-ON-PRESCRIPTIONS BARGAIN.

The Era's opinion is asked upon an incident related by a correspondent as follows:

"What unprofessional, contemptible and cheap tricks are nowadays employed by some over-greedy druggists and physicians to deprive their colleagues of their share of business was plainly illustrated the other day by the experience of a certain druggist. He was asked to put up a prescription by a physician calling for 'Mexican crystals' ʒ ii. Being ignorant of the existence of a chemical bearing such an imposing name, he reluctantly sought information by telephone from a druggist known to him as the favorite dispenser of this doctor's prescriptions. This second druggist stated that this was an article imported by him and that he would furnish the required amount. A clerk was accordingly dispatched, who soon returned with the precious article, which on inspection was easily recognized as the famous preparation of Dr. Glauber in its crude state, even the price of it having apparently remained the same as twenty years ago, namely 15 cents an ounce, and the information was given that he, as a rule, charged a customer only the comparatively moderate price of 25 cents an ounce."

Our opinion? Percentage agreement between druggist and doctor. Contemptible? So it is, but there are some druggists and some physicians who are beneath contempt.

DRUGGISTS' WINDOW DISPLAYS.

An old subject? Yes, perhaps a chestnut, but it is a sound one. Nothing particularly new can be said, but it is well to often call attention to it, for this factor in the druggists' advertising has attained an importance which absolutely forbids its retirement into innocuous desuetude. It will not down, but obtrudes itself whenever the question of profitable advertising is before the

house, and its obtrusion is with pertinacity and rapidly increasing vehemence until it receives recognition. It is too late in the day to deny the value of window advertising in all lines of trade, and in the drug business it is of particular service. Druggists are realizing this more and more every day, and there is abundant evidence that the matter is receiving its due meed of attention. The only object of this reminder is that we may urge druggists to help one another in this form of advertising by exchanging ideas and experiences, and these pages are freely offered for this use. Send us a description of your window exhibit, or better yet, have it photographed and mail the Era a print for reproduction. Such an interchange can be made and will be of service to a degree impossible to estimate.

THE TRAVELER.

The traveling salesman question bobs up about as often and as serenely as the patent medicine problem and the relations between pharmacists and physicians. The recent discussion in this journal relative to the real usefulness and value of the traveling man has stimulated a correspondence which has nearly flooded us. Says one retailer of the drummer, "I think his stock is going down. I hardly get a chance to make up my cash, hardly to go to my meals, and even at night I am besieged by drummers who offer me goods I don't want and don't need. I would patronize certain firms if their drummers did not bother me so."

This is only one man's opinion, be it understood. What the Era thinks it has not said, and it does not intend to.

In a recent interview on the condition of business a druggist told a representative of this paper that fully 40 per cent. of his prescriptions call for proprietary articles. To appreciate the significance and bearing of this statement one must know that this druggist is said to do the largest prescription business in the city of Chicago. Rather a sad commentary upon the ability and attainments of the medical fraternity, and, incidentally, one may be permitted to inquire, what of pharmacy, whither is it drifting? Will the druggist throw out patent medicines? Well, we guess not.

TOXICITY OF ACETYLENE.—In view of the probable increasing use of acetylene as an illuminating agent, the experiments of N. Gréhant possess considerable interest. The gas used in this investigation was prepared from calcium carbide supplied by M. Moissan, and the subjects of the experiments were dogs and rabbits. As a result it is stated that toxic effects are produced when acetylene is present in air to the extent of 40 to 79 per cent. The gas is, therefore, much less poisonous than ordinary illuminating gas. The risk of explosion when mixed with air is very great in either case.—(Comp. Rend., Phar. Jour.)

PRACTICAL HINTS.

——Never dip into the excipient jar the spatula you use to scrape the mass from the bottom and sides of the mortar in making pills. It is worse than sticking your paste brush into your inkstand.

——Marring of paint by the scratching of matches may be effectually prevented and old marks be made to gradually disappear by rubbing over the paint with a smal piece of woolen cloth a little petrolatum.

——Do not send your jobber an order and complaint about a former invoice of goods, or a claim, on the same paper. In all large concerns the business is divided into departments. Your complaint, if you have one, must go to the claim clerk for adjustment, while your order goes to an entirely different department. Write on separate sheets of paper.

——Perseverance is an attribute much needed in the "make-up" of a good salesman. Do not overdo the matter, however, by supposing that a constant dinging at a customer effects the sale. The average customer is intelligent and he probably knows pretty nearly what he wants; it is best, therefore, to allow him an opportunity to exercise his judgment. Sales are often ruined by talking too much.

——Always make a note in sending out goods of the containers you expect to be returned. Syphons, ginger ale bottles, and the like, are items of this character. Unless you know your customer, it is a good rule to demand a cash deposit for their value, with the understanding that it is to be returned to him when the containers are brought back. At any rate, charge their value to his account and he will make an extra effort to return them.

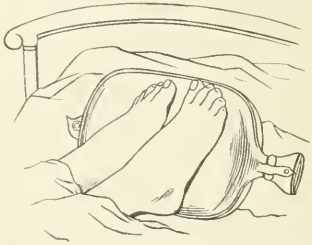
——In all of your business correspondence use paper upon which your name, address and business are printed. Further, don't forget to sign your name to all of your correspondence. Failure to affix your signature always causes annoyance and delay. In ordering goods be concise and specific. If you want powdered slippery elm bark, indicate it in your order. Do not write so that the jobber will have to guess at it. He may send you the ground bark, or the bark in large pieces.

NEW SOURCES OF ALCOHOL.—The possibility of obtaining pure ethylic alcohol from Asphodelus ramosus and Scilla maritima by fermentation, has occupied the attention of G. Riviere and M. Bailhache, who have experimented with pure cultivated wine yeasts. They have previously shown that, by the aid of such yeasts, it is possible to obtain alcohol of good flavor without rectification, from beet root juice or malted grain. The alcohol obtained from the asphodel and squill is described as being of equally good quality, and the investigators think its manufacture from those sources may constitute a profitable industry, especially in Algeria and Tunis, where both plants grow wild and in abundance.—(Comp. Rend., Phar. Jour.)

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

The enterprising druggist has, of course, been saying something in print about hot water bottles. If he has said it right, this cold weather will recall what he has said, and people with frigid feet can be depended upon to reimburse him for his expenditures of printer's ink. There are others, however, who made up their minds a month or two ago when the weather was comparatively comfortable, that they wouldn't need hot water bottles — not this winter anyway — and they refused to burden their minds with the matter. These people need a reminder right now, and we suggest one in our sample advertisement. In addition to newspaper advertising a window display of hot water bottles will help the trade in these articles wonderfully.

(No 44.)



WE don't "fill this prescription"—we simply furnish the bottle. It's a sure cure for one of the worst afflictions on earth, and we recommend it more strongly to give immediate relief than any medicine on our shelves.

Don't suffer with cold feet when we are selling Hot Water Bottles for 80 cents, $1 and $1.25.

KNIGHT & DAY, Druggists.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number.

ENJOYS IT MUCH.

W. C. Wade, Bloomington, Ill.—I enjoy the Era very much.

Edgar Coffey, Terre Haute, Ind.—Am well pleased with the Era. Could not do without it very well.

T. C. Mattison & Co., Berea, O.—We appreciate the advertising cuts very much and think everything of the Era.

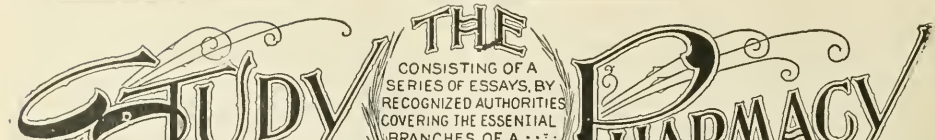
H. T. Brown, Greenfield, Ind.—The Era is the best paper I have ever taken. I can hardly wait from one week to the next to get our issue.

R. B. Henderson, Jr., New Albany, Miss.—I think the Era is the best journal published of its kind, and would not do without it for twice the price.

C. A. Heimer, Byesville, O.—I have been taking two or three drug journals, but came to the conclusion at last that the Era suited me the best.

C. H. Kerr, Independence, Kan.—The Era is in every way the most complete drug paper I have seen for a drug clerk. The examination questions you print are a great help to the assistant.

Wallace Proctor, Philadelphia, Pa. Such efforts to interest, encourage and educate the pharmacists of the country can have but one result, viz.: Success in making the Era the foremost exponent of pharmacy of the day, as practiced in the great Republic.



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[Continued from page 745, December 12.]

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PART XXVI. PHYSIOLOGY, MATERIA MEDICA AND THERAPEUTICS.

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PHYSIOLOGY DEFINED.

Physiology, taken in its broadest sense, expresses the sum of scientific knowledge concerning the functions of living things. Chemistry and physics have contributed much to explain the secrets of development, but these sciences, when applied to the phenomena of life, do not constitute all of physiology, as some even to-day would have us believe. The circulation, for example, is not a piece of applied hydrodynamics, nor breathing an application of the principles of pneumatics or aerodynamics; nor are the processes of chewing, sucking, swallowing, etc., merely the application of well-recognized principles of mechanics. Such views would be fallacious, because they do not recognize the important principle of vital force.

Chemistry, dealing with the constituents of the body, would be able to find in the principles which underlie that science, explanations of the multiform combinations of organic and inorganic materials found therein, and, in the test-tube would be able to imitate the chemical transformations which take place during digestion, respiration, circulation, etc. (a department of Physiological Chemistry). But chemistry, like physics, is merely an aid in the study of physiology. These two sciences bring nearer to the understanding that which is incomprehensible to the finite mind—the phenomenon of life. The physics and chemistry of the body are really that part of physiology which is accessible to us, and generally treated of in text books—it is the physical and chemical changes accompanying processes that we know and study, although in the profoundest ignorance of the why and wherefore of the vital processes themselves.

To the chemist and physicist matter is dead, it does not feel. The differences between living substances and dead substance, though difficult of comprehension, are very great: the ultimate object of physiology is to ascertain how it is that living substance can do what dead substance cannot—can renew its substance and replenish the energy which it is continually losing, and can, according to the nature of its surroundings, vary not only the amount but also the kind of energy it sets free.

The Scope of Physiology.

The problems with which physiology has to deal are numerous and varied. Foster, in his work on physiology, presents general problems, such as how the food, after its preparation and elaboration into blood, is built up into living substances of the several tissues; how the living substance breaks down into the dead waste; how the building up and breaking down differ in the modes—the muscular tissue contracting, the nerve tissue thrilling with the nervous impulse, the secreting tissue doing chemical work, and the like. To these general questions the answers which we can at present give are not answers at all.

There are also what may be called special problems, such as, what are the various steps by which the blood is kept replenished with food and oxygen, and kept free from an accumulation of waste, and how the activity of the digestive, respiratory and excretory organs which effect this, are regulated and adapted to the stress of circumstances? What are the details of the working of the vascular mechanism, by which each and every tissue is forever bathed with fresh blood, and how is that working delicately adapted to the varied changes of the body? And, compared with which all other special problems are insignificant and preparatory only: how do nervous impulses so flit to and fro within the nervous system as to issue in the movements which make up what we sometimes call the life of man?

The processes which accompany the phenomena of living beings are subjects of special study by the physiologist. These processes, though numerous and complicated, may be grouped under such heads as the following:

Physiological Processes.

NUTRITION supplies the material for the organisms of the body, from its embryonic state through its growth to maturity, and constantly renews the waste caused by tissue metamorphosis, the transformation of cells into energy. In a broad sense, however, nutrition includes a large number of processes beginning with the introduction of food into the body and ending only when the food materials have become real tissue.

The Blood is the circulatory fluid of the body, carrying the nutritive elements to all its parts. It is made up of two portions, the fluid portion or plasma—water holding in solution albumen, fibrin and salts—and the solid portion composed of the blood corpuscles, white and red, and blood plaques. The red blood cells act as oxygen carriers, and also carry the nutritive particles to the various parts of the system; the white corpuscles are larger, but much less abundant; they are supposed to migrate under certain conditions, forming new tissue, or repairing others. The blood is propelled through the arteries by means of the heart to the remotest portion of the system, and is returned through the veins, its flow being controlled by a system of valves. The nutritive value of the blood depends upon the food taken, after its preparation by the digestive organs. The food must be varied in character, to nourish all parts of the system. It must include, in proper proportions, nitrogenous substances, hydrocarbons, carbohydrates, water and salts. Different foods are acted upon by different digestive fluids. Thus, starchy and saccharine substances are digested by the saliva and the pancreatic and intestinal juices; albuminous foods by the gastric and pancreatic juices; and fats by secretions from the small intestines, pancreas and liver. Preliminary to the digestive process, however, are the processes of mastication, insalivation and deglutition. By these processes, and by the action of the digestive juices, the food is reduced to such a condition (emulsified) as to fit it for absorption by the lacteal vessels in the intestines; from these the absorbed food material is conveyed through the thoracic duct into the circulation.

SECRETION is the action of special glands in the body, elaborating elements for special purposes. Among the more important secretions of the body may be mentioned the various digestive juices, the synovial secretions which lubricate the joints, and the mucus, which keeps the air tubes and intestines moist.

EXCRETION is a glandular separation from the blood of effete products, such as perspiration and urine.

RESPIRATION is an involuntary act, combining the two processes, inhalation

of fresh air (inspiration), and exhaling of vitiated air (expiration). These processes are brought about by alternate expansion and contraction of the lungs. The inhaled air is relieved of a part of its oxygen by the vesicles of the lungs, the oxygen being then taken up by the red corpuscles; the nitrogen is expelled in the exhaled air along with carbonic acid gas and other impurities received from the venous blood.

Nervous System. By far the most delicate piece of mechanism which has to do in controlling physiological processes, not the least among which is the process of digestion, is the Nervous System. This is made up of two kinds of tissue, having different functions, the *gray* tissue, which is cellular, ganglionic (collected in enlargements, *ganglia*), originating force and receiving impressions; and the *white*, composed of fibers, transmitting motor stimulus from the brain to the muscles, or sensory impressions from the various parts of the body to the brain. The nervous system is divided by some authors into two divisions, the cerebro-spinal and the sympathetic. The first comprises the brain and its parts, the spinal cord, motor and sensory nerves, and the nerves of special sense. The brain controls the vital functions. It is put into communication with the remotest parts of the system through the spinal cord and its accessory motor and sensory fibers, and through the cranial nerves. These cranial nerves have no connection with the spinal nerve system, but proceed directly from the brain; part of them are nerves of special sense—sight, hearing, smell and taste; the facial nerve governs the expression of the face; the pneumogastric controls the action of the heart and respiration, and influences the digestive processes.

The sympathetic system is made up of ganglia lying on either side of the vertebræ, connected with one another by nerve trunks, and communicating by branches with the neighboring spinal nerves and some cranial nerves. Many of the sympathetic nerves finally end in the walls of the blood vessels of the different organs.

Special Senses, the action of which is so familiar, are explained (?) by physiologists as follows:

Speech is produced by movements of the larynx, tongue, teeth and lips. *Sight* is the impression made on the brain by the action of light-waves. These are transmitted through the optical media of the eye to the sensitive retina, with its optical nerve endings. *Hearing* is an impression produced on the brain by sound waves, acting on the tympanum, thence by a system of vesicles and resonant cavities to the auditory nerves, by which the impressions are carried to the brain.

THERAPEUTICS.

The study of physiology is as fundamental to the study of therapeutics as is the study of anatomy, chemistry and physics to physiology. It should precede and lay the foundation of therapeutics. It is well known, for example, that substances entering the blood, introduced into the body as drugs, may affect the heart beat by acting upon the muscular fibers or its nervous element, or both, and that, probably, in various ways, modifying in different direction the rhythm, the individual contractions, or both. The same may be said regarding metabolism; substances introduced into the system may on the one hand promote the constructive processes by enriching the red corpuscles, and thus restoring the quality of that tissue, while on the other hand the nutritive process may be so modified as to promote tissue waste. The function of the respiratory center may be exalted, quickened and deepened, or it may be depressed, rendering the respiration slow and shallow. But before one handles the "tools" which accomplish these results he should know well the mechanism and functions of the organs operated upon.

Therapeutical agents, as has been suggested, affect different parts of the body. As a science, therapeutics is built upon the well-established theory that under the influence of disease medicinal agents have certain effects in controlling and modifying, within well-defined limits, the different processes, and when these medicinal substances are skilfully applied they restore the process or processes from a diseased or abnormal condition to a normal or healthy condition. Therapeutics, therefore, is especially concerned with the application of medicinal substances and remedial agents to the treatment of diseased or morbid conditions of the human economy, with a view to its restoration to a normal and healthy condition. A person who undertakes such a responsibility without previous knowledge, theoretical and practical, of the sciences which apply thereto, as a preparation for such a sacred trust, is well characterized as a quack.

Remedial agents employed in the treatment of disease are known as therapeutical agents. A vast variety of these agents are furnished by our materia medica. They are usually classified by the therapeutist according to their physiological action, to designate which appropriate terms are used, e. g., astringents, narcotics, purgatives, etc. A classification which would embrace the physiological action of all the remedial agents—one that would be entirely satisfactory—is impossible, because of the great variety of effects of certain individual remedies. Various groupings, however, are well recognized, and a tabular arrangement of these may serve to bring to view a general survey of the various physiological actions of remedial agents that comprise our materia medica. ((See below.)

THERAPEUTIC AGENTS DEFINED.—In the order of the given tabulation the various therapeutic agents may briefly be defined as follows:

HÆMATICS restore the quality of the blood, exerting a direct influence on its composition, e. g., preparations of iron, of manganese, cod liver oil, etc.

ALKALIES act in the concentrated form as caustics (escharotics), but when diluted, as antacids; dilute alkalies if given before meals, however, will stimulate the production of the acid gastric juice, e. g., liquor potassæ, liquor sodæ, carbonate and bicarbonate of potassium, sodium, lithium and ammonium, etc., also preparations of the alkaline earths, such as lime water, mixtures of carbonate of magnesia and calcined magnesia, etc. Some have an indirect or remote antacid effect, becoming decomposed in the blood, and excreted as carbonates in the urine, lessening its acidity.

ACIDS affect nutrition in an opposite manner to that of the alkalies. In a concentrated form they, like the alkalies, act as escharotics destroying tissue. They neutralize (acidity), but if administered before a meal they check hyperacidity of the stomach by stimulating

Tabular View of Therapeutical Agents

I. Internal Remedies.					
Affecting nutrition.	Affecting the nervous and muscular systems.				
	The brain.	Spinal cord.	Nerve center and ganglionic system.	Heart and circulating system.	Excretories.
Hæmatics (blood tonics) Alkalies Acids Digestants Antipyretics Alteratives	Cerebral excitants Cerebral depressants Narcotics Hypnotics Analgesics Anæsthetics	Motor excitants Motor depressants	Antispasmodics Tonics (Antiperiodics)	Cardiac stimulants Cardiac sedatives Vascular stimulants Vascular sedatives	Diuretics Renal depressants Vesical tonics and sedatives Urinary sedatives Diaphoretics and sudorifics Anhidrotics (Antilithics)
	Affecting special organs, partly through the nervous system.				
	Organs of respiration.	Alimentary canal.	The liver.	Generative system.	Eyes (ciliary muscle).
	Expectorants Pulmonary sedatives Errhines Sternutatories	Sialagogues Emetics Purgatives Astringents Stomachics	Hepatic stimulants (Cholagogues) Hepatic depressants	Ecbolics or oxytoxics Emmenagogues Aphrodisiacs Anaphrodisiacs	Mydriatics Myotics
II. External Remedies.			III. Agents which act upon organisms that infest the human body.		
Irritants: Rubefacients, Epispastics, Pustulents, Escharotics. Local sedatives: Demulcents, Emollients.			Antiseptics Disinfectants	Antizymotics Anthelmintics	Antiparasitics Antiperiodics

the production of the alkaline pancreatic juice and checking that of the acid gastric juice.

DIGESTANTS. Agents which effect solution (digestion) of food in the alimentary canal. Examples: Pepsin, pancreatic, trypsin, papain, etc.

ANTIPYRETICS. Agents which reduce the temperature of the body, either by reducing the circulation or diminishing tissue change, or favoring the loss of heat through radiation, conduction, etc. Examples: Quinine, aconite, antipyrine, antimony, etc.

ALTERATIVES. A term used to designate a class of agents which alter the course of morbid conditions, modifying the nutritive processes while promoting waste, by stimulating secretion, absorption, and the elimination of morbid deposits; especially used in the chronic diseases of the skin. Employed in the treatment of phthisis, syphilis, gout, neuralgia, asthma, etc. Examples: Arsenious acid, mercury, iodine and the iodides, sarsaparilla, guaiac, colchicum, stillingia, etc.

CEREBRAL EXCITANTS. Agents which increase the functional activity of the cerebrum, without causing any subsequent depression of brain function. Examples: Camphor, valerian, caffeine, cannabis (in small doses), etc.

CEREBRAL DEPRESSANTS have an opposite effect to the preceding, lessening brain activity. Some of the drugs of this class are employed as hypnotics or as analgesics.

NARCOTICS. Agents which lessen the sensibility to pain and cause sleep. A narcotic will abolish pain, while an anodyne will frequently merely overcome wakefulness. Examples: Opium, cannabis indica, belladonna, humulus, etc.

HYPNOTICS. Agents which induce sleep and will often abolish pain and cause neither deleriant nor narcotic effects. Examples: Chloral, sulphonal, trional, the bromides, etc.

ANALGESICS. Agents which relieve pain by their effect upon the sensory centers; the term is synonymous with anodynes. The general anodynes when taken internally affect the whole organism; local anodynes affect the part to which they are applied, some by their depression of the terminal nerve organs in the skin, others by reducing the local circulation. Examples: Opium, belladonna, hyoscyamus, aconite, antipyrine, acetanilid, etc.

ANÆSTHETICS. Agents which suspend consciousness and temporarily destroy sensation. The local anæsthetics affect only the part to which they are applied and diminish or temporarily destroy the sensibility of the part. Examples: Ether, chloroform, nitrous oxide, etc. Local anæsthetics: Cocaine, carbolic acid, ether spray, etc.

MOTOR EXCITANTS. Agents which increase the functional activity of the spinal cord and the motor apparatus, invigorating the action of the heart and lungs. Examples: Nux vomica, strychnine, etc.

MOTOR DEPRESSANTS have an opposite effect to the motor excitants, lowering the functional activity of the spinal cord and motor apparatus. Examples: Alcohol, opium, aconite, conium, belladonna, etc.

ANTISPASMODICS. Agents acting on the nervous system in various ways. They prevent or allay irregular action or spasm of voluntary and involuntary muscles. This is accomplished frequently by a sedative influence upon the nerve centers, while a few others exert their influence by stimulating the nerve centers. Examples: Alcohol, ether, valerian, camphor, asafœtida, musk, the bromides, hydrocyanic acid, etc.

TONICS. Agents which increase the vigor and tone of the system by improving the appetite, favoring digestion and assimilation, and adding strength to the circulatory system. Examples: Gentian, colombo, quinine, etc.

ANTIPERIODICS. Agents which prevent or check the return of diseases which recur periodically, possibly by a toxic action upon the microbes in the blood, which are supposed to cause the disease; but little is known of their mode of action. The typical antiperiodic, quinine, has, however, a decided effect upon the heart and brain, as well as other parts of the nervous system.

CARDIAC STIMULANTS, as the name implies, are agents which increase the heart's action, the force and frequency of the pulse. Examples: Ether, alcohol, atropine, sparteine, nitroglycerin, etc.

CARDIAC SEDATIVES allay and control palpitation and over-action of the heart. Examples: Aconite, veratrum viride, digitalis, antimony, etc.

VASCULAR STIMULANTS. Agents which dilate the periferal vessels and increase the periferal circulation. Members of this class also strengthen the heart's action and are advantageously employed in debilitated conditions of the central organs of the circulation. Examples: Alcohol, preparations of ammonia, caffeine, digitalis, strophanthus, etc.

VASCULAR SEDATIVES. Agents which lessen the capillary circulation and raise the blood pressure by stimulating the vaso-motor center or its mechanism and the walls of the vessels. Examples: Ergot, digitalis, opium, salts of iron, etc.

DIURETICS. Agents which increase the secretion of urine, acting either directly upon the secreting cells of the kidney or by raising the general or local arterial tension. Employed in acute congestion and inflammation of the kidneys and in dropsies. Examples: Squill, scoparius, triticum and organic salts of the alkalies.

RENAL DEPRESSANTS. Agents which lower the activity of the renal cells, thereby lessening the urinary secretion. Examples: Morphine, quinine, ergot, etc.

VESICAL TONICS AND SEDATIVES. Agents acting upon the bladder, in the one case increasing the tone of the muscular fibres and in the other lessening the irritability of that organ. Examples: Tonics—Strychnine, cantharis, belladonna, etc. Sedatives—Opium, buchu, uva ursi, pareira, etc.

RENAL SEDATIVES. Agents which exert a sedative action upon the whole urinary tract. Examples: Copaiba, cubebs, etc.

DIAPHORETICS AND SUDORIFICS. Agents which increase the action of the skin and promote perspiration. Examples: Dover's Powder, Jaborandi, camphor, sweet spirits of nitre, etc.

ANHIDROTICS. Agents which check perspiration. Examples: Atropine, zinc salts, acids, etc.

ANTILITHICS. Agents used to prevent the formation of insoluble concretions or to dissolve concretions when formed in the ducts. Examples: Salts of lithia, potassium, benzoic acid, etc.

EXPECTORANTS. Agents which are employed to facilitate the expulsion of bronchial secretions and to modify the character of these when abnormal. Examples: Ammonium chloride, the aromatic balsams, squill, licorice, senega, etc.

PULMONARY SEDATIVES. Agents which allay the irritability of the respiratory center and the nerves of the lungs and bronchial tubes. Examples: Belladonna, opium, hyoscyamus, hydrocyanic acid, etc.

ERRHINES AND STERNUTATORIES are agents which affect locally the nasal mucous membrane, producing sneezing and an increase of nasal secretion. They also indirectly stimulate the vasomotor centers and at the same time excite the respiratory centers. Examples: Ipecacuanha, sanguinaria, veratrine, etc.

SIALAGOGUES. Agents which promote the secretion and flow of saliva from the salivary glands. Examples: Pyrethrum, mezereum, the mercurials and antimonials, etc.

EMETICS. Agents which cause vomiting, acting directly upon the nerves of the stomach or acting through the blood upon the vomiting center, or by reflex irritation of the vomiting center. Examples: Mustard, zinc sulphate, apomorphine, ipecacuanha, tartar emetic, etc.

PURGATIVES produce evacuation of the contents of the intestinal canal by increasing secretion along the tract, by exciting peristaltic action, etc. Examples: Podophyllum, colocynth, jalap, croton oil, magnesium sulphate, etc.

ASTRINGENTS. Agents which produce contraction of muscular fibre, which coagulate albumen and lessen secretion from mucous membranes. Examples: Tannic and gallic acids, alum, lead acetate, persulphate of iron, etc.

STOMACHICS. Agents which increase the appetite and promote gastric digestion. They also check fermentation and dispel accumulation of flatus. Examples: Peppermint, cardamom, ginger, capsicum, etc.

HEPATIC STIMULANTS (Cholagogues). Agents which excite the liver and increase the functional activity of that organ so that the amount of bile is augmented, etc. Hepatic stimulants increase the activity of the liver cells, while cholagogues remove the bile from the duodenum. Examples: Podophyllum, aloes, jalap, colocynth, mercurous chloride, etc.

HEPATIC DEPRESSANTS. Agents which reduce the functional activity of the liver, having the opposite effect of the foregoing, that of diminishing the formation of the bile, urea and glycogen. Examples: Opium, quinine, arsenic, antimony, etc.

ECBOLICS, OR OXYTOXICS. Agents which stimulate the pregnant uterus and produce contraction of that organ, either by direct irritation of the muscles of the womb, or indirectly by affecting the uterine center of the cord. Examples: Ergot, cotton root bark, savin, cimicifuga, etc.

EMMENAGOGUES. Agents which stimulate the uterine muscular fibres and restore the normal menstrual function. Examples: Ergot, apiol, iron, etc.

APHRODISIACS. Agents used to excite the function of the genital organs when they are morbidly depressed. Examples: Phosphorus, zinc phosphide, salts of iron, gold, or arsenic, etc.

ANAPHRODISIACS. Agents which diminish the sexual desire. Examples: The bromides, camphor, etc.

MYDRIATICS. Agents which cause dilation of the pupil; used to temporarily destroy accommodation by causing paralysis of the ciliary muscle. Examples: Atropine and homatropine.

MYOTICS. Agents acting in a manner contrary to that of the above, producing contraction of the pupil by stimulating the circular muscular fibres of the iris and at the same time contracting the ciliary. Examples: Pilocarpine, eserine, etc.

IRRITANTS. Agents which are applied locally to the skin to produce certain effects, as rubefacients (simply reddening the skin); epispastics (blistering); pustulants (causing blebs in which is found pus); escharotics, or caustics (actually destroying the tissue). Examples: Mustard (rubefacient); cantharides (vesicant); croton oil (pustulant); caustic potassa, carbolic acid, and strong mineral acids (escharotics).

LOCAL SEDATIVES. Agents which diminish irritation in the part to which applied, relieving local inflammation. Examples: Acetate of lead, opium, belladonna, etc.

DEMULCENTS. Bland remedies used to allay and mechanically protect inflamed surfaces. They are used also internally for this purpose, as in acute inflammation of the alimentary canal. Examples: Mucilages of acacia, flaxseed, iceland and irish moss, elm, etc.

EMOLLIENTS resemble the above; are used externally to soften and soothe the irritated and abraded skin. Examples: Lard, olive oil, cacao butter, etc.

ANTISEPTICS. Agents which arrest putrefaction, either by preventing the growth of micro-organisms causing putrefactive decomposition, or by destroying these micro-organisms. Examples: Carbolic acid, corrosive sublimate, etc.

DISINFECTANTS. Some authorities limit the use of this term to those agents which destroy the micro-organisms. The terms antiseptic and disinfectant are frequently used interchangeably. Examples: Corrosive sublimate, carbolic acid, iodoform, zinc chloride, eucalyptol, etc.

ANTIZYMOTICS. A term applied to agents which arrest fermentation. Examples: See above.

ANTHELMINTICS. Agents which destroy such parasitic worms as infest the alimentary canal. Tænifuges destroy tape worms; vermifuges expel these intestinal parasites. Examples: Santonin, spigelia, chenopodium, etc. Tænifuges: Filix mas, pelletierin, cusso, etc.

ANTI-PARASITICS. Agents which destroy those parasites which infest the human body externally. Examples: Mercurial preparations, chrysarobin, carbolic acid, cocculus, etc.

ANTIPERIODICS. See above.

Thus far we have only very briefly called attention to therapeutical and physiological action of drugs, giving but a few examples. We will temporarily leave the further consideration of this, and for the time refer to the therapeutical agents themselves.

MATERIA MEDICA.

Materia medica is that branch of medical science which relates to the materials employed in the treatment of disease and abnormal conditions of the body. In treating of these materials under the head of materia medica medical authors refer to the source of the drugs and describe their physical and chemical characteristics, as well as treat of the physiological and therapeutical actions and modes of administration.

In order to bring into view the numerous remedial agents, various artificial arrangements of them have been adopted by different authors. For the present purpose the more prominent official drugs met with in our materia medica have been divided into groups. In the case of inorganic drugs they have been classified according to their chemical relationships. In the case of the organic and vegetable drugs, according to their botanical or natural affinities.

Inorganic Materia Medica.

GROUP I. THE ALKALI METALS. Potassium, sodium, ammonium and lithium.

The Official Potassium salts. Acetate, bicarbonate, bichromate, bitartrate, bromide, carbonate, citrate, cyanide, ferrocyanide, hypophosphite, iodide, nitrate, permanganate, sulphate.

The Official Sodium Salts. Acetate, arsenate, benzoate, bicarbonate, bisulphite, borate, bromide, carbonate, chlorate, chloride, hypophosphite, hyposulphite, iodide, nitrate, nitrite, phosphate, pyrophosphate, salicylate, sulphate, sulphite, sulphocarbolate.

The Official Ammonium Salts. Benzoate, bromide, carbonate, chloride, iodide, nitrate, valerianate.

The Official Lithium Salts. Benzoate, bromide, carbonate, citrate, salicylate.

GROUP II. ALKALINE EARTHS AND ALLIES. Calcium, barium, strontium and magnesium.

The Official Calcium Salts. Bromide, precipitated carbonate, chloride, hypophosphite, precipitated phosphate, sulphate.

The Official Barium Salt. Dioxide.

The Official Strontium Salts. Bromide, iodide, lactate.

The Official Magnesium Salts. Carbonate, citrate (effervescent), sulphate.

GROUP III. Cerium, cadmium, aluminum.

The Official Cerium Salt. Oxalate.

Cadmium Salts. None official.

The Official Aluminum Salts. Hydrate, sulphate.

GROUP IV. Lead, silver, copper and bismuth.

The Official Lead Salts. Acetate, carbonate, iodide, nitrate, oxide.

The Official Silver Salts. Cyanide, iodide, nitrate, oxide.

The Official Copper Salt. Sulphate.

The Official Bismuth Salts. Citrate, subcarbonate, subnitrate.

GROUP V. Manganese, iron and chromium.

The Official Manganese Salts. Dioxide, sulphate.

The Official Iron Salts. Carbonate (saccharated), chloride, citrate, hydrate, hypophosphite, iodide (saccharated), lactate, phosphate (soluble), sulphate, valerianate.

The Official Chromium Salts.

GROUP VI. Gold and mercury.

The Official Gold Salt. Chloride.

The Official Mercury Salts. Chloride (corrosive), chloride (mild), cyanide, iodide (red and yellow), subsulphate.

GROUP VII. Antimony and arsenic.

The Official Antimony salts. Oxide, sulphide, sulphurated, tartrate.

The Official Arsenic Salt. Iodide.

GROUP VIII. INORGANIC ACIDS. Hydrochloric, hydrobromic, nitric, nitro-hydrochloric, sulphuric, phosphoric, hypophosphorous, (arsenous and chromic).

GROUP IX. THE HALOGENS. Chlorine, bromine and iodine.

GROUP X. Sulphur and phosphorus.

GROUP XI. Carbon, boron and silicon.

GROUP XII. Organic chemicals.

Hydrocarbons and their compounds.

Hydrocarbon derivatives:

Alcohols,	halogen derivatives.
Ethers,	nitrogen derivatives.
Aldehydes,	cyanogen derivatives.
Acids	ammonium derivatives.
	Etc., Etc., Etc.

The compounds of this class are very numerous and are still increasing. They have the taking title of "Newer Remedies," and to them special attention has been given by the chemist and therapeutist. It is possible that a vast number of them now in vogue, and for which much special merit is claimed as therapeutical agents, will, in time, be laid aside. But out of the vast amount of valuable scientific work which has been done in introducing these new remedies a more rational view will be gained of those temporarily laid aside. Certainly synthetic chemistry or organic chemistry has given a great impetus to medical science.

The materials from the vegetable kingdom are much more numerous than those from the mineral kingdom. In order to give a bird's-eye view of the materials derived therefrom, a very concise synopsis is subjoined, arranged under the natural orders, giving the official name, common name, part of plant(or animal), chief medical properties and dose.

(To be continued.)

THE LIFE OF WATER PLANTS.*

By M. Büsgen.

When we mentally survey the floral dress that variegates the solid crust of our globe, the world of plants appears to be divided into a few large groups. We think of the primitive forest with its mossy trees, the slender vines, and the multiform beauties of the orchids; the steppe comes to our minds with its hard, sharp-cuttiug grasses, and the moist carpeting of the Alpine flora, with gentian and fragrant herbs. The eye lingers longest on the native group; the colored population of our meadows rises before us, the forest with its buried undergrowth, and possibly the bushy river bank and the undulating insulated plant-covering of a pond. Each of the plant groups we have named bears a special expression distinguishing it from all others. The members of each have certain common features, the aggregation of which constitutes the characteristic of the group. In them are included plants which are not at all connected by natural relationship. Ivy is not related to wintergreen or the strawberry to the huckleberry, and all these, again, are far removed from ferns, mosses and fungi; yet we are satisfied as to the connection of these plants, so that we regard them as members of a definite group, as is represented by our wood flora. So with the other forms we have named, those of the tropical forest, of the steppe, and of the Alpine fields; the plants constituting them are not grouped by blood relationship. Outer circumstances, the conditions of life, have impressed their special characters upon them. The shadow of the wood, the tropical rains, the short summer of the Alps, the aridity of the steppe—all of these are factors which have produced in the plants exposed to them common properties more perceived than defined, because they have had effect upon their outer figure as well as upon their vital processes. Thus these groups of plants are developed by the community of their life conditions. They furnish illustrations of Goethe's saying that the manner of life works powerfully on all forms.

We shall study more closely in this paper one of these communities of life conditions—the plant world of the water—and inquire into the connection existing between its most marked peculiarities and the conditions of life afforded by the water. If we walk along the shore of a large pond sheltering a rich growth of plants, or of a bush-lined stream, the vegetable inhabitants will be divided, at first sight, into three groups—the shore plants on the banks, the floating leaves and flowers of the surface plants, and, in the depths, hardly visible to the eye, the submerged flora, composed of a few curiously shaped flowering plants, and many of the lower orders belonging for the most part to the little microscopic world. The shore plants form a transition class between the vegetation of the land and that of the water. Taking root in damp soils, or perhaps under water, they lift the greater part of their stems with their leaves and flowers above the surface, joining the land flora in their methods of growing, respiring and feeding. Among the shrubbery of the meadow, overtopped by single gray-stemmed alders, rise little forests of rustling reeds, both interspersed with variegated masses of various herbs, among which sharp-edged sedges and round-stalked rushes take the first places, by the side of the fragrant calamus, irises, and the umbelflowers of the tall water violets. Further ashore rise the beautiful white panicles of the swamp meadowsweet, with the grayish-green leaves and violet flowers of the bittersweet. We must not overlook the white stars of the willow-leaved aster, signs of the beginning of autumn, and the great bindweed, whose threadlike stems find welcomed support on the hard stalks af the reeds. Altogether a variegated picture, the characteristic points of which are hard to separate from the impression of the whole. This is easier to do with two other forms of shore flora which have been developed under peculiar conditions furnished by our waters—the flora of the sandy sea beaches and that of the unfathomable, unstable morasses of the mouths of tropical rivers. In the former instance a striking appearance is given to the vegetation by the salt contained in the soil. Plants with usually inconspicuous flowers, and also a pretty, blue aster, have adapted themselves to life by the salt water. They are sometimes distinguished by their fleshy leaves, the properties of which stand in so close relation to the presence of salt in their habitat that when one is far from the sea he can judge by their presence whether their is salt in the soil.

Characteristic of the tropical morasses are the mangroves, a group of arborescent plants which stand as if on stilts on long, bracing roots sent out from all parts of their stems. The young shoots are hard, dagger-shaped bodies about a meter long, which finally drop down and bore perpendicularly into the slime so that they shall not be disturbed by the current, and may become fixed in the mud. In both of these shore regions the special forms appear to be developed in connection with the peculiar features of the locality.

These adaptations to special conditions thus easily recognized in the shore vegetation are greatly multiplied in the water plants proper. The better to understaud them, we must, before going into particulars, devote a few words to the origin of the water flora. Among them are representatives of various orders and classes. They may be divided into plants that have strayed from the land into the water, and those whose original home is that element. The doctrine of the Greek philisophers, that everything is derived from water, is so far correct for the vegetable world that the first plants that appeared on the earth were water plants. There were probably little microscopic forms inhabiting the barely cooled waters of the primitive seas before there was any land to afford a suitable home for any living beings—formless albuminous masses, like "organisms without organs," which, like some of the bacteria, drew their food from the dead stone. Like their living kindred, the lower Algæ, they were of too tender nature to be preserved in the cavities of the sea slime. The first remains seemingly of a vegetable character preserved in the oldest strata of the earth's crust are therefore of relatively large fucoids. Their existence justifies our supposing an already richly developed flora of Algæ such as is now found in the deepest parts of our lakes. Mosses, ferns and flowering plants are absent. They appear later, and under conditions which prove that they were produced not in the sea but on swampy land. Geological evidence shows us that only the Algæ and the fucoids originated in water and were water plants from the first. The other water plants, especially flowering plants growing in water, were driven into the water by increasiug competition among the growing number and variety of land plants, and assumed the properties that now distinguish them from land plants during their compulsory emigration, and in consequence of their water life. This process is now going on in our sight in a certain plant—the wandering knotgrass—a relative of the small-flowered, spreading swine-grass and of the adderwort. This plant grows on the borders of ditches and ponds, often half on land and half in the water; and it cannot escape the attentive observer that it presents a quite different appearance in the water from that upon land. Stiffly haired, and having short-stemmed leaves on land, it is in water bald and smooth and develops very long leaf-stalks which terminate on the surface in flat, floating expansions. Here there is a plant which only occasionally, and usually only partly, makes its home in the water, and is in a position to suffer such remarkable changes that it is no longer a wonder that plants which have become entirely at home in the water are very little like those of their genus which remain land plants. Of many of them, in fact, it can no longer be determined from what family of land plants they are really derived. Even such well-defined plants as seaweed and duckweed would not at first sight suggest to any one relationship with the Arum family. So with the water crowfoot, which we shall take as our starting point in the discussion of the properties of water plants. Well known are its little white flowers, which adorn the ponds and even the swift streams in the summer time.

These little blossoms thickly massed on the surface of the water, or sitting on long stems, spread out their five petals, which, with their numerous stamens and styles, mark them as relatives of the buttercups. In other parts we look vainly for resemblances with the ranunculuses. If, for instance, we take one of them which we find floating in running water, out of its element, the whole plant falls together, and we hold in our hand nothing but a bunch of long threads, in which no difference can be perceived between stems and leaves. If we spread a part of the bunch upon a

*Translated for The Popular Science Monthly from the Deutche Rundschau.

stone, we may discover branching shoots beset with leaf forms; but both organs are widely different from those of their nearest generic relatives. The stems of the ranunculuses of the fields are upright, stiff, skeletonlike, strong enough to defy wind and storm, and able to bear the weight of their leaves, flowers and fruits. The stems of the water ranunculuses are slack and weak. They are swung around helplessly by the waves, winding hither and thither in the direction toward which the run of the stream carries them. They are stable only in the direction of their length, because in any other case the current would carry them away. In other respects the stem does not need cohesive power. The whole plant is pierced with connected air passages, and all its parts are adapted to floating or swimming. The water here takes the burden upon itself which is imposed on the stems of land plants. Floating plants need no skeletons; and dissection and microscopic examination show that all these forms are wanting in their interiors which, like the bones of animals, give stability and tenacity to their structure.

Many water plants lack organs still more closely associated with the life processes. We cannot conceive of a higher animal without veins and lymph-vessels. But in water plants we not seldom miss the long and broad ducts of which the vascular system of land plants is constituted. At all events the vessels do not perform so important a part in the vegetable kingdom as the circulation of the life juices in the animal kingdom. Their principal service is to carry water from the roots to the leaves. From this we can understand how organs essential to the life of land plants can be dispensed with in water plants. They do not need a special conducting of water, because they are surrounded with that element on every side. The most marked instance of the absence of internal organs is met in an alga which forms green fields in the deeper parts of the Mediterranean Sea. It has slender, branching, horizontally creeping stems, which develop above in the water into leaves and below in the sand into fine thread roots. But the whole plant, often many feet in length, consists only of single gigantic cells. A tough skin incloses its juices, which flow in a continuous stream through the stem, leaves and roots of the curious growth, here taking up through the skin and assimilating mineral substances, there producing and transforming organic matter, and at the same time advancing the growth and increase of the whole. Not less peculiar than the inner structure and appearance of the stem is the form of the leaves of water plants. Their service to the organism is the same with that of the leaves of other plants. They supply, with the help of the sunlight, matter which the plant needs for building up its body. The conditions under water are not very favorable for this work, for the rays of light suffer considerable loss of intensity in passing through even a thin sheet of water. In connection with this there are leaves growing under the water, as in the floating crowfoot, as a rule not flat or oval or cordate or round, like most other kinds of leaves, but divided into the thinnest threadlike strips, which, with the largest surface development, obstruct the least possible light from one another and easily yield to the current.

The leaves that are destined to live on top of the water are otherwise constructed. They will not overshadow one another, and they are exposed to the full light of the sun. They need only to receive it on as broad a surface as possible, and so to float that the weight of the food stuff accumulated within them all the day long shall not cause them to be submerged. These leaves consequently do not present divisions or ramifications like the leaves or roses and acacias. They form reniform or oval disks, which lie flat upon the water. Every one will recollect this who has seen the yellow and the white pond lilies. The brownish spawn weed and the beautiful white flowing frog spittle likewise have swimming leaves; and there is a marsh crowfoot which has these and submerged threaded leaves all on the same stalk. In the duckweeds stem and leaves are not distinguished, and the plant is only a flat disk with a few insignificant rootlets on the under side; and in one species these are wanting. The plant is only a little floating leaf, with a pocket for the reception of the scantily endowed flowers.

The floating leaves of the Victoria Regia are beautifully developed. They have the form of flat plates with a narrow, upturned border—a form more favorable to their flotation. The green leaves, a yard or more across, with the pink flowers resembling gigantic lilies scattered among them, present a remarkable spectacle.

One of the most remarkable peculiarities of the floating leaves of our water plants is that they never grow up above the surface of the water. The plant appears to know when that point is reached. As we shrink from sudden contact with cold water, these leafstalks suspend their growth on contact with the air. They grow just long enough for the leaf expansion to reach the surface of the water. There it unfolds itself in the full light and finally lies flat on the water, protected against the wet by a fine, bright coating of wax. It is wonderful how large masses of organized material a water plant can lay up with the help of these floating leaves. The great Victoria Regia grows to its full size in a single year from a small seed. Nearly its whole mass is prepared during growth in the leaves, which can perform such a work only in the strong light and the warmth of the tropical zone.

CHINA HYDROBROMATA.—A new quinine preparation, introduced by Verweij, similar to De Vrij's China liquida, and in which, instead of hydrochloric acid, hydrobromic acid has been used. It contains 5 per cent. quinine alkaloid, 12 per cent. cinchonia tannate, and 4 per cent. of bromine.

GAMBIER AND ITS MANUFACTURE.

There are probably but few commercial products having such an extensive use as gambier, or terra japonica, about which so little is actually known regarding its origin and mode of preparation, and about the manufacture, of which so crude a system prevails, and so few modern improvements have been introduced.

Cutch, catechu, gambier and terra japonica are names that are attributed indiscriminately to two similar products, namely, that obtained by boiling the wood of Acacia Catechu, a big leguminous tree of Burmah (where a large proportion of the substance is made) and evaporating the extract to a proper consistency, and that obtained by boiling the leaves and twigs of Uncaria Gambier, which is the substance now under consideration. The first is properly called cutch, while the second is catechu, gambier or terra japonica. Uncaria Gambier, the plant from which this valuable tanning substance is obtained, is a native of the East, and is found either wild or cultivated in Malacca, Penang and Singapore, as well as in Java and Sumatra. The plant belongs to the natural order Rubiaceæ, to which belong the cinchonas, or quinine-yielding plants, as well as the coffee. It is a strong shrub-by climber.

The flowers are small, closely crowded together in small globular heads or receptacles. A very singular arrangement is to be seen in the peduncles, or flower stalks, for, after the flowers have fallen off, the lower portions become elongated; they also become very hard and woody and curve into strong hooks, by which the plant climbs. As an illustration of the utility of these hooks for climbing purposes, and the provision of nature in supplying them, they are sometimes produced without bearing any flowers.

Of the early history of gambier we may quote the following from Flückiger and Hanbury's Pharmacographia: "That gambier was unknown to Europeans long after the time of Rumphius—who resided at Amboyna during the second half of the seventeenth century—is evident. Stevens, a merchant of Bombay, in his "Complete Guide to the East India Trade," published in 1766, quotes the prices of goods at Malacca, but makes no allusion to gambier. . . . The first account of gambier known to us was communicated to the Batavian Society of Arts and Sciences in 1780 by a Dutch trader named Couperus. This person narrates how the plant was introduced into Malacca from Pontjan in 1758, and how gambier is made from its leaves, and names several sorts of the drug and their prices. In 1807 a description of the drug called Gutta gambier, and of the tree from which it is made, was presented to the Linnæn Society of London. The writer, William Hunter, well known for scientific observations in connection with India, states that the substance is chiefly made at Malacca, Siak and Rhio, that it is in the form of small squares or little round cakes, almost per-

fectly white, and that the finer sorts are used for chewing with betel leaf in the same manner as catechu, while the coarser are shipped to Batavia and China for use in tanning and dyeing."

It seems that gambier plantations in Singapore were first commenced in 1819, and at one time there were as many as 800 plantations. These, however, continued to decrease down to 1866, in consequence of scarcity of fuel and the high cost of labor. As the supply of gambier to the English market continued to diminish, the price, of course, rose, and what at one time cost £10 per ton, was selling, it is said, at £45 for the same quantity. Consequently, the cultivation of the plant has rapidly increased.

Ordinary commercial gambier is an earthy-looking substance, usually seen in somewhat irregular cubes about 1 inch square, dark brown on the outside, but of a reddish or yellow ochre color within. These cubes are often seen more or less compacted together by pressure into large lumps. By far the greatest proportion of the gambier imported is used in tanning and dyeing, but the finer and more carefully prepared qualities form a valuable astringent medicine, and it is much used in diarrhœa, dysentery, relaxed throats, etc. It will be seen from the following notes, taken from the Tropical Agriculturist, that the whole system of manufacture of gambier is still conducted in the crudest fashion, and the illustrations will further show this fact. The writer states that the main points in gambier planting, which are so attractive to Chinamen, are the great rapidity with which they get a crop out of the ground, and the small original outlay which is required. The history of the majority of these plantations will show that pepper has been planted out of the gambier profits. Of course, pepper is a great "hit" when all goes well, but it wants a considerable capital to start with, and it takes some years before it gets into anything like full bearing. The leaf of the young gambier plant is thick and fleshy and yields a large quantity of extract, but as the shrub ages the leaves become thinner and more fibrous in texture, and lose their characteristic fleshiness. In a little over ten years a plantation is almost valueless, and, as a general rule, is abandoned within fifteen years. This result is certainly due to the savage treatment to which the shrub is subjected. The Chinaman commences cropping his gambier about eighteen months after he has put it into the ground, after which he will go on cropping it two, three, or even four times a year, being guided more by financial considerations or market rates than by the fitness of his plantation for the cropping. The shrubs are cut down with no sparing hand; leaves, shoots and twigs are lopped off and the plant is almost reduced to the condition of a mop-stick and left with barely sufficient leafage to enable it to carry on its existence. No attempt is made to manure the plantation. It is quite an error to suppose that the plant exhausts the soil like indigo. The spent leaves from the gambier pans are said to be very good for pepper. They are, however, quite exhausted by the time they leave the pans, and cannot give any nourishment to the soil, but they form a useful shade and protection for the roots. For the manufacture of gambier the green leaves and shoots are roughly chopped from the plants with a knife called a "parang." A larger knife is used for chopping up the leaves and twigs before putting them in the boiler. A large basket is used for conveying the freshly cut plant from the plantations to the boilers or "qualli," while a smaller basket is employed for removing the spent leaves to the pepper or gambier plantations for manure. The boiler and its furnace below, of the roughest possible description, consume an immense quantity of firewood. While the leaves are boiling they are incessantly prodded and twisted about by a heavy wooden instrument with five prongs cut from a solid piece of timber. The wielding of this instrument is said to be the heaviest work in connection with the gambier manufacture. A sort of strainer made of a cocoanut shell is fixed on to a kind of sieve by the handle, so that it hangs down in the gambier liquid while still boiling, and after the larger débris has been removed by the coarse strainer. When the water in the boiler becomes thick or syrupy the leaves are removed by the fork and placed in a sloping wooden trough, so that the liquor drains back into the boiler from the steaming mass of leaves. The liquor in the boiler is then ladled into small, shallow, wooden tubs and the leaves in the trough are once more swept into the pan and reboiled, after which they are carried off to the pepper plantations. The liquor left in the boiler from the second boiling is too weak to be converted into gambier, but is a good extract in which to boil the next lot of green leaves.

When the extract in the tubs has become sufficiently cool to allow the hand being placed in it it is stirred, or, rather, churned by a coolie, who sits before the tub and, with a cylindrical piece of soft wood shaped like a baton, incessantly works it up and down, the immediate effect of which is to cause the gambier to thicken, and in so doing to set up a kind of crystallization. When it is quite cool it is turned out of the tub and cut into cubes by a rough knife made from a piece of iron hooping. The cubes are next put on coarse bamboo trays, and sometimes exposed to the air for a time, or the trays are placed in roughly formed racks in the factory, where they get smoke dried, and in the course of five or six days have thrown off so much moisture that they are considerably reduced in size. The cubes are afterwards packed in mats for exportation. Good sound gambier should be found in distinct cubes, externally of a brownish-black color, and of a deep mahogany red, with an occasional streak of dark yellow internally. Gambier varies, however, very much in quality, some of it being simply rubbish and some very much adulterated.

STAINS AND THEIR REMOVAL.

It is hardly necessary to say that stains should be treated as speedily as possible after their first appearance. When once dry they are more difficult to remove, requiring both time and perseverance. Paint should be instantly wiped off; grease on wood, stone or carpet should be congealed before it has time to penetrate, by throwing cold water over it. Tea, coffee, ink, wine and fruit stains will disappear in a quarter of the time if they can be attended to while wet. Spots on colored materials must not be rubbed, but dabbed over and over again until they disappear. Rubbing roughens the surface and often leaves a whitened circle almost as unsightly as the original stain. The dabbing is best done by covering a finger with an old handkerchief frequently changed, and great care should be taken to confine the operation to the area of the stain itself, and not to extend the damage by damping and dabbing the surrounding material. In the treatment of stains, to know what you mean to do, and to do it quickly and neatly, is more than half the battle. The Dyer and Calico Printer gives these directions, taking stains on white washing materials first.

For acids, tie up a bit of washing soda in the stained part, make a lather of soap and cold soft water, immerse the linen, and boil until the spot disappears.

For anilins, wet with acetic acid, applied diluted chloride of lime, and wash out carefully.

Apple and pear stains may be removed by soaking in paraffin for a few hours before washing.

Blood, if fresh, is removed by soaking for twelve hours in cold water, then washing in tepid water. If the mark still remains, cover it with a paste made of cold water and starch, and expose to the sun for a day or two. Old stains require iodide of postassium diluted with four times its weight of water.

For coffee and chocolate, pour soft boiling water through the stains, and while wet hold in the fumes of burning sulphur.

Fruit stains can be treated in the same way if fresh, but if old, rub them on both sides with yellow soap, cover thickly with cold water starch, well rub in, and expose to sun and air for three or four days. Then rub off the mixture and repeat the process if necessary.

Grass stains are removed by alcohol.

Ink requires milk for its removal; the spot should be soaked and gently rubbed. A fresh stain will disappear quickly, but an old one may need soaking in milk for twelve hours.

For iron mould, spread the stained part on a pewter plate set over a basin of boiling water, and rub the spots with bruised sorrel leaves, then wash the article in soft warm suds. Or, cover the spots with a paste made of lemon juice, salt, powdered starch and soft soap, and expose to the sunlight.

Mildew can be removed by the above paste, or by simply wetting the spots, covering them with powdered chalk, and bleaching on the grass.

Paints must disappear before turpentine and perseverance.

Scorched linen can be restored if the threads are not injured. Peel, slice and extract the juice from two onions, add half a pint of vinegar, half an ounce of curd soap, two ounces of fuller's earth; boil these well, and, when cool, spread over the scorch, let it dry on, and then wash out the garment.

Tar can be taken off with petroleum.

Tea stains yield to the action of boiling water poured through them from a height, or to glycerin.

Wine stains, if old, treat like old fruit stains; if fresh, table salt spread over the spots while wet will neutralize the damage.

Stains of which the cause is unknown will frequently disappear if held in a pan of milk boiling on the fire, or by dipping them in sour buttermilk and drying in the sun. The articles should then be washed in cold water, dried, and the process repeated several times in the day. The following bleaching liquid will effectually remove any trace that may still remain after the garments have been through the laundry. It may be called an instantaneous ink and stain extractor, but requires to be used with care less the fabric suffer. Put a quarter of a pound of chloride of lime and a quart of soft water in a wide-mouthed bottle, and shake it well. Cork tightly for twenty-four hours, then strain through cotton and add one teaspoonful of acetic acid to every ounce of the mixture. Damp the stain, apply the extractor, and wash well in clear, soft water.

For the removal of stains and spots from colored materials and carpets, ammonia takes the first place. Almost any mark, new or old, will yield to its persevering use, and if dabbed on (not rubbed) it will itself leave no trace of its use. It can be applied to woolens, cottons and silks. It will remove ink spots from marble, paper and wood. Grease flies before its application, and when diluted with water, spots caused by orange or lemon juice or vinegar are removed by it from the most delicate materials. For very nice fabrics some people like to use the old-fashioned javelle water, to be obtained from the chemist, but ammonia, delicately applied, does quite as well. From carpets, curtains and suits of clothing it will remove almost every stain, including that caused by whitewash.

Ink spots are always the most difficult to efface. Take up as much of the ink as possible with a spoon and blotting paper, and then use milk or clear water until it disappears, being careful not to extend the area of damage done by rubbing the ink into the adjacent material.

Benzin will remove paint from delicate fabrics; if it fails, turpentine must be used, and the mark which it leaves be effaced by alcohol. If in the process of removing stains the color departs from the material, it can generally be restored by dabbing with chloroform.

ATTAR OF ROSES, OR ROSE OIL.*

Attar, or otto, is from a word signifying perfume or odor, and is obtained by simply distilling the roses with water. There are many kinds of rose known to botanists, such as Rosa damascena, R. sempervirens, R. Moschata, R. Gallica, R. centifolia, R. provincialis. All of these are more or less attar-yielding roses, but the special kinds for yielding the commercial product are the R. centifolia and provincialis. The kind, however, grown in Bulgaria for its attar is the R. damascena. This is a variety which has been for long under cultivation, as it is unknown in a wild state, and said to have been brought into Southern Italy in the remote ages, and from thence spread northward. The perfume of the rose was made use of by the ancients in various ways. The early methods of preparation were chiefly by distillation of rose water, and an infusion of roses in olive oil, but the process of distilling the essential oil is of modern date. Langles, in his interesting book, entitled "Recherches sur la Decouverte l'Essence de Rose," gives us an account of the discovery of the essence in India. On the occasion of the marriage of the Mogul Emperor Jehan Ghir, with Nur Jehan, A. D. 1612, a canal in the garden of the palace was filled with rose water, and the princess, observing a certain scum on the surface, caused it to be collected, and found it of admirable fragrance, on which account it received the name of Atar-jehanghiri, meaning Jehan Ghir.

So far as the trade in England is concerned, it was very little known until the early years of the present century. In the year 1809 it was included for the first time in the British tariff, when we find that the duty on attar of roses was fixed at 10s. per ounce. This was subjected to many changes, both high and low, until, in the year 1860, it was removed altogether.

The chief seat of the trade is in the Balkan Peninsula, at Kazanlik, a town of about 10,000 inhabitants. It is situated in the valley of the Tunja, which is remarkable for its beauty. The cultivation of the rose is confined to a small tract of country on this southern side of the mountain range. North of the Balkans a small trade is carried on at the town of Travina. The cultivators are for the most part the Christian inhabitants of these districts. The produce is exceedingly variable, as the profitable cultivation of roses for the preparation of perfume is entirely dependent on climatic conditions. In a favorable year as much as nearly 100,000 ounces have been produced, while as small a quantity as 27 ounces has been known as the total for the whole season; but an estimate, based on an average production during ten years, gives us the reliable figures of 55,520 ounces as the produce of the rose farms of the Balkans. Besides this district extensive rose farms may be found at Adrianople, Brussa and Uslak. India also has a considerable area devoted to rose culture—at Ghazipur, Lahore, Amritzur and other places on the Ganges; but the produce is wholly consumed in the country, never coming into the English market. It is also produced at Medinet Fayum, southwest of Cairo; this is entirely consumed in Egypt. Tunis has some celebrity for this commodity, but none from these latter localities reaches Europe, the demand in the East being almost greater than the supply. This is of very excellent quality. The writer's first acquaintance with the perfume was through an Arab merchant at Assouan, who had for sale a few bottles of the veritable attar produced at Tunis.

In Southern France the cultivation of the rose is one of the industries of the districts about Grasse, Cannes and Nice, which are to some extent familiar to English visitors. These districts, however, produce rose water rather than attar. The rose principally cultivated is the R. provincialis, or what is generally known as the cabbage provence rose, which has a characteristic perfume, arising, it is said, from the bees transporting the pollen of the orange flowers into the petals of the rose. The farming operations are not difficult, for they are exceedingly simple and primitive. The field is first manured with the refuse matter left after the distillation of other plants; it is then ploughed, young plants of roses, procured from layers, are planted in rows two feet from each other. In the second year a considerable quantity of flowers appears, but it is not until the fourth year that they are considered to be fully developed. A plantation of roses well looked after will last from six to eight years, but the land must be well drained. To cover an acre of land 7,000 rose plants are required, and this will produce in an average season 5,000 pounds weight of roses, at the value of about a penny farthing per pound, or yielding about 30 pounds per acre. These thus grown are not treated for attar, but are submitted to a process of maceration in fat or oil, about 10 kilos of roses being required to impregnate 1 kilo of fat. The chief center of this trade is at Cannes and Grasse.

To produce the oil, the flowers, fully expanded, are gathered in April and May. The harvest lasts till the beginning of June. They are picked before sunrise, often with the calyx attached. Such as are not required for immediate distillation are spread out in cellars, but all are treated within the day on which they are plucked. An expert states that if the buds develop slowly by reason of cool, damp weather, and are not much exposed to sun heat, when about to be collected, a rich yield of attar, having a low solidifying point, is the result; whereas, should the sky be clear, and the temperature high at, or shortly before, the time of gathering, the product is diminished, and is more easily congealable.

The distilling apparatus is of the simplest kind—a tinned copper still, erected on a semi-circle of bricks, and heated by a wood fire; from the top passes a

* Reprinted from the British and Colonial Druggist.

straight tin pipe, which traverses a tub kept filled with cold water by a spout from some rivulet, constituting the condenser. Several such simple apparatus are erected together, and about forty pounds of the flowers, with their calyces, are placed within the vessel with sixty pounds of water. The mass being well mixed, a gentle fire is lit, and when fumes begin to rise, the cap and pipe are properly fixed and luted. When the impregnated water begins to come over the fire is lessened by degrees, and the distillation is continued until thirty pounds of water have come over, which generally takes place in about five hours. This water is then poured upon forty pounds of fresh roses, and from thence fifteen to twenty pounds of distilled water is drawn by the same process as before.

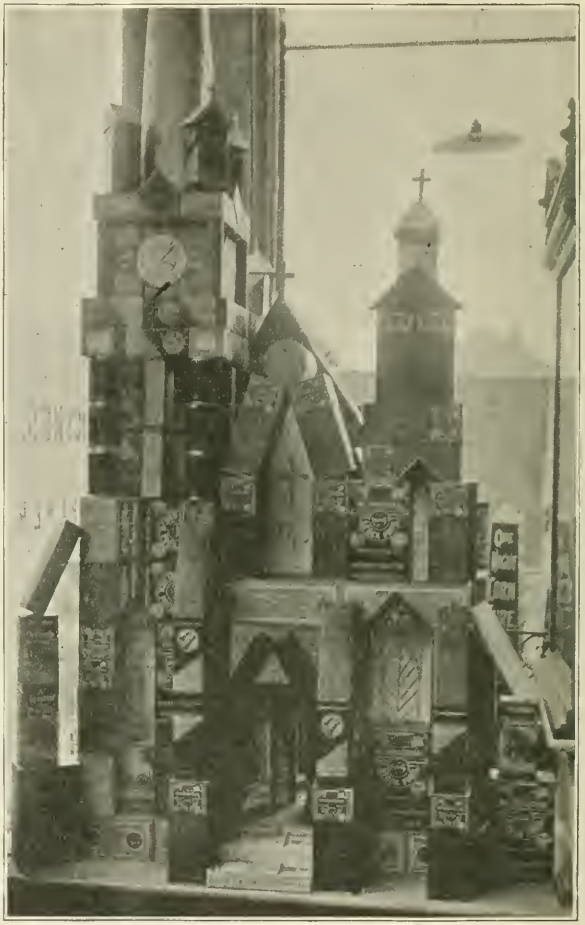
It is then poured into pans of earthenware, or of tinned metal, and left exposed to the air for one night. The attar, or essence, will be found in the morning congealed, and swimming on the top. It is then skimmed off, carefully freed from any remaining drops of water, and put into bottles for sale. This, if carefully distilled, is colorless at first, but gradually becomes of a yellow color. Its specific gravity is 0.87 at 22.5° (72.5°F.); its boiling point is 229° (444° F.); it solidifies at 11° to 16° (52° to 61° F.), or still higher; it is soluble in absolute alcohol and in acetic acid.

No drug is more subject to adulteration than attar of rose, and none is more difficult to discover. The principal ingredients employed are the oil of an Indian grass, and geranium oil, which is imported into Turkey for this express purpose. When this is the case the boiling point is lowered, and the congealing is raised. The reliable tests are, first, temperature at which crystallization takes place; and, second, the manner of crystallizing. The crystals should be in light, feathery plates, filling the whole liquid.

As to the commercial value of attar when pure, it may be estimated at from 25s. to 30s. per ounce. The product is of no medicinal importance, only as a scent for ointments. It is much used in perfumery and very largely in the scenting of snuff.

In these days of extensive travel, few visitors to Eastern Europe—especially to Egypt—return home without purchasing one or more of the long, angular vials to be found in such quantities in all Eastern bazaars, said to contain the true attar of roses. These small receptacles, for which a fabulous amount is often asked and paid, contain about fifteen drops of oil; they are covered over with a bladder and a piece of silk, but, alas! they only contain geranium oil, the bladder being smeared with a touch of attar. Experientia docet.

DIODOCARBAZOL.—A new antiseptic formed by the action of hydriodic acid on carbazol in the presence of iodine. It is insoluble in water, but easily soluble in warm alcohol, ether, benzol, benzin, chloroform and glacial acetic acid.



A Cathedral Window Display.

The accompanying illustration shows a very attractive window display recently made by M. S. Hawkins, of Salem, Ohio. It consists of a cathedral built of condition powders, with a spire of gilt wall paper. The stained glass effect for the windows was produced by making colored crayon drawings upon thin white paper, and in the evenings a light placed upon a level with the windows brought out the effect in a most pleasing manner. The artistic execution of the idea and the employment of such prosaic material as condition powders afforded such a contrast, that it is safe to say that all who saw the cathedral will be reminded of it when the necessity of purchasing condition powders next arises. In addition to this display Mr. Hawkins has had a window devoted to a "frog circus," an attraction which caught the attention of the town and provoked much favorable comment.

Selling Holiday Goods.

Brown & Stevens, druggists of Tennille, Ga., a small town of about 1,000 inhabitants write that they are appreciative readers of the Era's advertising suggestions, and to show that they are thorough believers in advertising, even in a small town, they enclose a copy of a circular letter which they recently mailed to every citizen within buying distance of their store. The letter is a very creditable affair, printed in bronze, green, gold and silver inks, and describes very fully their line of Christmas goods. They say it has proven quite a good advertisement, many people calling and asking, "where are those appropriate presents you mentioned in your letter?" They tried an experiment this year by purchasing some rather expensive goods for a small town, such as perfumes in cut-glass bottles retailing as high as $12.50 per bottle, and the venture has

proven quite profitable to them.

This confirms an opinion quite prevalent in the trade, that people have more money to spend this holiday season than for years before, and it also confirms an opinion of our own that many druggists in small towns really place the tastes and purchasing power of their patrons in too low a scale. Many of them will buy better and more expensive goods if they have the chance. But the druggist who furnishes the chance must not rest content with that alone. He must attend to the selling part—go out after customers with his advertising, and create the greatest possible interest in his stock, in fact, make selling goods a sort of hobby—one of those affairs which will engage his mind and resources for nine-tenths of his time or more.

PHARMACY.

CHLORIDENE.—Synonym for ethylene bichloride. Used as an anæsthetic in surgery.

METHYL SALICYLATE has been discovered in the roots of polygala variabilis var. albiflora and in the leaves of Erythroxylon coca. It also occurs as a trace in the leaves of Erythroxylon Bolivianum.

A DEODORANT OF IODOFORM.—According to the Journal de Médecine (Ph. Jr.), spirits of turpentine will at once remove the objectionable odor from the hands after using iodoform, as well as from spatula and vessels that have been in contact with the drug. A little turpentine should be added to water, and the articles it is desired to deodorize placed therein, being subsequently washed with soap and water.

DIGESTIBILITY OF BREAD CONTAINING ALUM, Etc.—According to Bigelow and Hamilton (Hygien. Rundsch., Pharm. Jour.), bread containing alum or aluminum hydrate is less completely digestible than pure bread, and the presence of phosphate of aluminum renders bread still less digestible. The 10 or 12 per cent. of albuminoids digested in the presence of the two former aluminum compounds seems to become quite insoluble when there is an equivalent quantity of the phosphate.

VANILLIN PATENTS.—Scherings have taken out two patents for the preparation of vanillin and its homologues. The first of these consists in treating compounds of the type of p-benzene-sulpho-proto-catechuic aldehyde with sodium alkylates. The second depends on the action of benzyl chloride on the metallic salts of proto-catechuic aldehyde, methylating the resulting p-benzyl ether and heating the product with hydrochloric acid, by which means vanillin and benzyl chloride are produced.—(Berichte, Br. & Col. Dr.)

LEAD OINTMENT WITHOUT FAT.—Gawalowski states that when sugar of lead is dissolved in glycerin, and the solution gradually cooled until crystallization takes place, the lead salt separating on stirring closely resembles tallow in appearance; it is soluble in water, melts at the temperature of the body, and is readily absorbed by the skin. After some time the preparation becomes crystalline, and consequently it must always be prepared at the time it is required.—(Pharm. Post, Pharm. Jour.)

ARSENICAL HYDROGEN IN TANNING.—It has recently been stated that by passing a stream of hydrogen gas containing a trace of arsenic, such as is derived by acting on metallic zinc or iron with dilute commercial sulphuric acid, into tanning vats, the process of tanning is materially hastened and the resulting leather improved in quality. The gas employed for this purpose is stored in a gasometer under pressure, whence it is led to the bottom of the tanning vat by a delivery tube, the extremity of which is pierced by a series of holes, through which the gas escapes. After passing through the liquid the gas is again collected by another tube fitted to the lid of the vat.

PURIFICATION OF OILS.—M. Villon, being of the opinion that pure oils should never become rancid, has sought to purify commercial oils by removing all mucilages, albuminoid matters, fatty acids, coloring substances, etc., by a process of filtration. He makes use for this purpose of a commercial product named "algosin," which resembles algin, and, like it, is obtained from marine algæ. It resembles tragacanth in appearance, and combines with alkalies to form non-crystallizable salts, which look like gelatin and are very soluble. A concentrated solution of algosin, agitated with olive oil or similar oil for some time, frees it completely from foreign substances, a deposit forming that can be filtered out after the oil has stood for twenty-four hours. After treatment the oil is said to be practically unalterable, a sample remaining free from rancidity or disagreeable taste after being exposed to the air for more than twelve months. Comparative experiments on ordinary and "sterilized" oils, exposed to the air for fifteen months, yielded the following results:

Oil.	Original acidity.	Acidity after treatment.
Olive	1.23%	0.01%
" after 15 months	6.18%	0.03%
Sesame	1.25%	0.00%
" after 15 months	6.80%	0.03%
Earth-Nut	2.55%	0.01%
" after 15 months	15.71%	0.02%

—(Rev. de Chim. Indust., through Jour. de Pharm., Phar. Jour.)

LIQUEFACTION OF GELATIN.—Under certain conditions A. Dastre and N. Floresco find that hot solutions of gelatin remain fluid on cooling. This loss of power of gelatinization may be caused by the prolonged and repeated action of boiling water on gelatin, or even by the fleeting action of water at a very high temperature, or by saline solutions, and also under the influences of gastric and pancreatic ferments or of certain microbes. As a matter of fact, it is stated that contact with warm water always modifies gelatin to some extent, but the change only becomes evident when the treatment is prolonged. The product of the change is "gelatose" or protogelatose, which is characterized by its inability to gelatinize, non-precipitation in the presence of excess of sodium chloride, and the entrance of water into its composition, that liquid having combined with the gelatin from which the gelatose is derived. Gelatose is also formed by the action on gelatin of the microbes (microbes liquefacteurs), which are distinguished by their power of liquefying culture media, as well as by the action of certain neutral salts, such as alkaline iodides and chlorides. This "saline digestion" strongly resembles that caused by the action of gastric and pancreatic ferments, and is readily effected by the use of 10 per cent. solutions of the salts, the transformation of gelatin in gelatose being then complete. The extent to which the change has taken place is readily determined, since the gelatinizing power of the solution is inversely proportional to the amount of gelatose that has been formed, and is not entirely lost until the whole of the gelatin has been converted.—(Comp. Rend., Phar. Jour.)

PEAT WOOL AS A SURGICAL AND VETERINARY DRESSING.—It is probable that "peat wool" is destined to play an important part in army and veterinary surgery, says the last U. S. Consular Report. Wherever suppuration has set in, it has been found to replace advantageously and very economically all other materials, such as lint, impregnated cotton wadding, and hydrophile wadding. Its cost is very low, scarcely reaching half that of ordinary cotton wadding, and its absorbent principle is much more considerable than that of other textile materials. This absorption does not take place at once, as is the case with scoured cotton (hydrophile), but it proceeds slowly, and will absorb nine times its own weight of moisture. At the same time it is an almost perfect antiseptic. So valuable has it been found for dressing wounds that the French Government, after long experiment, has adopted it for use in the French army, and 12,000 kilograms were sent to Madagascar for use during the expedition in that island. A writer in the London Lancet, dealing with the use of peat wool in surgery, says: "Even these rough experiments greatly impressed observers, it being found that, whereas previously even large quantities of absorbent wool did not prevent the wound discharge from coming through, and the masses of soaked wool, if left unchanged, from constantly becoming septic; when peat dressings were used the serum and blood were all absorbed, and even after many days the peat thus soaked was perfectly free from decomposition." Peat fiber as now prepared for surgical purposes, is a fine, brown, glossy wool, with a faint aromatic smell. It feels a little rougher than fine absorbent wool, but makes a more comfortable dressing, as it is much more elastic.

DETERMINATION OF THE FREEZING POINT OF STAR ANISE OIL.—Before the sample is taken from the tin the contents of the latter should be carefully examined, so as to see whether they are completly dissolved and have been well stirred. About 200 grams of the oil should then be taken from the tin, poured into a bottle and an accurately marked thermometer, graduated at least to half-degrees, placed into this sample. The sample is then cooled down to + 5° C. by placing the bottle in broken ice or in ice water. During the process of cooling care should be taken to avoid shaking the bottle or moving the thermometer, as this might cause the crystallizing process to set in prematurely. When the oil has cooled down to + 5° C. it is made to crystallize either by adding to it a little crystallized star anise oil or by scratching the side of the bottle with the thermometer. While the solidification is proceeding, the oil should be steadily stirred, in order to expedite the freezing process. In the course of the process the temperature rises rapidly, and the point at which the mercury column ceases to rise should be noted. This is the freezing point. In the case of star anise oil, as a test, the determination of the freezing point is preferred to that of the melting point, because the former can be applied with much greater care and accuracy. In laboratories where a Beckmann apparatus for the determination of molecular weight is available, that instrument may be used for the purpose of ascertaining the freezing point. The same apparatus is useful when only a small quantity of the oil is available wherewith to make the test. The numerous examinations recorded by Schimmel & Co. during a number of years give a mean freezing point of + 16° C. for star anise oil. The highest point recorded was 17.5° C., the lowest 14° C. The higher its freezing point, the richer in anethol and more valuable is the oil. It would be a good plan to grade star anise oil according to its freezing point.

PARIS CONFERENCE ON WEIGHTS AND MEASURES.—J. B. Eustis, U. S. Ambassador, writes from Paris as follows: "Referring to previous correspondence concerning the general conference on weights and measures, and particularly to Department's No. 518 of Sept. 4, authorizing Mr. Vignaud and myself to act as delegates of the United States at said conference, I send herewith our report giving a brief account of the proceedings and action of the conference. Second general conference on weights and measures was held at Paris from Sept. 4 to Sept. 14, 1895. The first meeting of the conference was purely formal. It took place at the Foreign Office under the presidency of Mr. Hanotaux, who, in an opening speech, congratulated the international committee of weights and measures, whose labors had facilitated the extension of the metrical system, which was gaining ground everywhere, and particularly in England. The second meeting was held Sept. 6, in the rooms of the international committee at Sevres, near Paris. M. Marey, president of the French Academy of Sciences, took the chair. The credentials of the delegates were presented and recorded, and it was found that nineteen States were represented at the conference, viz.: Austria, Belgium, Denmark, France, Germany, Great Britain, Hungary, Italy, Japan, Mexico, Norway, Portugal, Roumania, Russia, Servia, Spain, Sweden, Switzerland and the United States. Peru and the Argentine Republic, although parties to the convention, were not represented. Tunis, having made known its intention to accede to the convention, had a delegate, who took no part, however, in the proceedings. The conference, after having by acclamation chosen Dr. Hirsch as its secretary, adjourned to the 11th of September. This third sitting was entirely of a scientific character. The conference approved the calculation made by the International Bureau of Weights and Measures concerning the equation of the meter constructed for Roumania, and the equation between the yard and the meter. It also approved the proposition of the committee to consider the wave length of light as the prototype of the meter, and decided to apply to the payment of the extraordinary contribution voted in 1894 the money received for arrears. After a protracted debate, the conference adopted the following resolution: 'The general conference of weights and measures, availing itself of the right conferred by Article 7 of the rules annexed to the metric convention, earnestly recommends to the high contracting parties the propositions and requests which will be submitted to them by the international committee of weights and measures concerning the creation of a pension and relief fund in favor of the personnel of the international bureau, and concerning also, the use, as initial fund for the above mentioned creation, of the extraordinary resources derived from the payment of arrears.' At the fourth sitting, held Sept. 11, the conference decided to proceed in 1899 to make a periodical comparison of the prototypes of the kilograms and thermometers accompanying the prototype meters provided for by Article 6 of the convention. The conference then proceeded to elect by secret ballot half (seven) of the members of the international committee whose terms had expired, and two other members to fill vacancies caused by resignation. The following gentlemen were elected: Messrs. Bertrand, Chaney, d'Arillaga de Bodola, Hepites, von Lang, Thalen Ferraris and Mendeleff. The new international committee (fourteen members) is, therefore, composed of the gentlemen above named, and the five remaining members of the old committee—Messrs. Anderson, Foerster, Gould, Hirsch and Macedo—and the two members elected to fill vacancies. The conference finally decided to furnish to those engaged in advocating the adoption of the metric system in the English-speaking countries such scientific and statistical data as they may desire."

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Unanswered Query.

(M. L.) Give us your name and address, and if you are a subscriber, we will answer your query.

Baking Powder.

(C. E. D.) See Mar. 28, 1895, Era, p. 399.

What is Vinum Hispanicum?

(F. E. G.) Sherry wine. See either of the dispensatories.

Questions of the Massachusetts Board of Pharmacy.

(W. H.) The Massachusetts Board of Pharmacy does not care to have its questions published. This wish the Era has always respected.

Rust on an Iron Safe.

(A. L.) Scour off as much of the rust as possible with powdered emery and turpentine and then apply a coat of paint similar to that upon the rest of the safe.

Corks Impervious to Chloroform.

(C. A. H.) The easiest and most satisfactory method to render corks impervious to liquids is by immersing them in melted paraffin. A coating of gelatin and chromic acid has also been recommended.

Vegetable Glycerin.

(Pyscho.) Almost any jobber can furnish you with glycerin obtained from vegetable fats if you so request. However, competent authorities state that it possesses no superior qualities to glycerin obtained from animal fats.

Arrack.

(T.) Arrack is a spirituous liquor made in East India in various ways, often from rice, sometimes from sugar fermented along with the juice of the cocoanut; frequently from "toddy," the juice which flows from the cocoanut tree by incision, and from other substances. See U. S. Dispensatory, page 123 (footnote).

Balsamum Judaicum.

(Psycho.) This title is one used by the older writers as a synonym for Balsamodendron Opobalsamum (Kunth) or Mecca balsam, Balm of Gilead, etc. A description of it may be found in either of the dispensatories. It is closely allied to myrrh, and rarely, if ever, met with in commerce.

Prevention of Frost on Windows.

(S. W. P.) The methods usually advised for the prevention of frost on windows are the employment of double windows well ventilated at the top, or the coating of the glass with glycerine. Another very efficient measure is said to be a small fan, run by electricity or other power, and so placed as to blow directly upon the glass.

Solution Persulphate of Iron.

(J. P.) This title is a synonym for both "Liquor Ferri Subsulphatis" and "Liquor Ferri Tersulphatis." That there may be no question as to what the pharmacist shall dispense when solution persulphate of iron is prescribed, the Pharmacopœia very wisely directs that solution of ferric subsulphate shall be employed. Solution tersulphate of iron is a powerful astringent and irritant, and therefore rarely, if ever, prescribed for internal administration. Its chief use is for making ferruginous preparations in which ferric hydrate is wanted.

A. B. C. Liniment.

(M. J. M.)

Camphor	½	ounce
Chloroform	2½	fl. ounces
Liniment or aconite	5	fl. ounces
Liniment of belladonna	5	fl. ounces
Glycerin	2	fl. ounces

The following is said to be an "improved" preparation of the above named:

Liniment aconite	5	fl. ounces
Liniment belladonna	5	fl. ounces
Chloroform	2½	fl. ounces
Camphor	4	drams
Glycerin	2	fl. ounces

Various other modifications of the formula have been published.

Hair Tonic.

(B. & S.)

1.) Castor oil	2	liters
Tincture of cantharides	240	grams
Tannin	31	grams
Oil bergamot	29	grams
Oil clove	29	grams
Oil lavender	7	grams
Oil rosemary	7	grams
Alcohol	6	liters

Mix and dissolve.

2.) Castor oil	1	fl. ounce
Tincture cantharides	1	fl. dram
Oil of bergamot	20	minims
Stronger water of ammonia	1	drop
Alcohol, q. s.	3	fl. ounces

Blackberry Cordial,

(F. E. G.) Compound elixir of blackberry, N. F., is often dispensed when blackberry cordial is called for. The following gives a good preparation:

1.) Crushed blackberries	1	gallon
Brandy	1	gallon
Sugar	2	pounds

Macerate the berries with brandy for five or six days, express the liquor, add the sugar and, after two weeks, decant or filter. Here is a formula from the Era Formulary:

2.) Blackberry juice	3	pints
Cinnamon, coarse powder	2	troy ounces
Cloves, coarse powder	½	troy ounce
Nutmegs	½	troy ounce
Dilute alcohol	2	pints
Syrup	3	pints

Percolate the powdered spices with dilute alcohol to obtain 2 pints of tincture and add it to the 3 pints of blackberry juice, with 120 grains of purified talcum. Set the mixture aside for twelve hours, or longer if convenient, occasionally shaking, then filter and to the filtrate add the syrup.

To Stick Labels on Tin.

(C. A. H.) (1) Roughen the surface with emery paper, then apply the label, preferably with water glass as an adhesive agent.

(2) Shellac, 2 parts; borax, 1 part; water, 16 parts; are boiled together until the shellac dissolves.

(3) Prepare a solution by boiling 2 ounces of shellac and ½ ounce of borax in 8 ounces of water. The space on the tin to be covered with the label is given one coat of this solution, and after drying the label is applied with ordinary mucilage.

(4) Add Venice turpentine to good starch paste.

(5) Brush over with strong tannin solution, allow to dry, and apply the label, previously well gummed.

Stomach Bitters.

(T.) We cannot give you the formula for the proprietary article. We do give, however, three formulas for preparations of this character.

1.) Orange peel, ground	6	ounces
Gentian root, ground	4	ounces
Roman chamomile flowers	2	ounces
Rye whisky	1	gallon

Macerate for seven days, occasionally shaking the mixture; then express and filter through paper.

2.) Water	16	ounces
Gentian root, ground	2½	ounces
Bitter orange peel	1½	ounces
Canella, ground	6	drams
Cochineal, bruised	30	grains
Alcohol, 95 per cent.	16	ounces

Macerate for seven days in a suitable vessel, occasionally agitating; express and filter through paper.

3.) Ground gentian	4	ounces
Ground Peruvian bark	2	ounces
Ground Roman chamomile flowers	1	ounce
Ground quassia	½	ounce
Ground orange peel	½	ounce
Alcohol, 50 per cent.	1	gallon

Macerate for fourteen days; express and filter.

Emulsion of Cod Liver Oil with Extract of Malt.

(R. M. S.) A typical formula may be found in the National Formulary (No. 118.) Here are some others:

(1) Fifty parts moderately warmed malt extract are triturated with 50.0 parts cod liver oil, added in small portions, so as to insure thorough admixture; if the preparation becomes too thick, add a small quantity of water.

2.) Cod liver oil	4	fl. ounces
Tragacanth, in powder	12	grains
Extract of malt	3	fl. ounces
Water	1	fl. ounce

Mix the tragacanth by trituration with the extract of malt, then add the cod liver oil gradually, with uninterrupted trituration, to a 12-ounce bottle and shake vigorously for a few minutes.

3.) Cod liver oil	150	parts
Water	50	parts
Scale pancreatin (soluble)	1	part
Sodium chloride	2	parts
Sodium bicarbonate	2	parts

Dissolve the pancreatin along with the salines in the water, digest at a temperature of about 90° F. for three hours, stirring occasionally. Put 200 parts of any good commercial extract of malt in a mortar, add the pancreatized oil gradually, and flavor with oil of pimento, quantity sufficient.

The Manufacture of French Pearls.

(H. A. T.) French pearls are gelatine globules used for the administration of ether, chloroform, apiol, etc. Thévenot's process is as follows: A mass composed of gelatin, acacia, sugar and honey is rolled out into thin sheets, one of which, while still soft, is placed upon an iron plate of about ¼ an inch in thickness, and containing numerous suitable cavities of about $^2/_3$ of an inch in diameter, into which the mass sinks by reason of its own gravity, thus forming a hollow hemisphere in each cavity; the desired liquid is introduced by means of a pipette, or small syringe, and a cover consisting of another sheet of the same gelatin mass is laid on. A second iron plate corresponding exactly to the one first used is now placed over the last sheet, and after screwing the plates together their position is reversed so that the second gelatin sheet may fill the cavities in the second iron plate, thus completing the spherical shape of the pearls or globules, which are finely separated from each other by subjecting the whole arrangement to powerful pressure.

Another method is said to consist in filling a tube, made of gelatin composition, with the respective liquids, and then, by means of a specially constructed machine, cutting off pieces of the required size and simultaneously pressing these into the proper shape. The apparatus used for this method was invented by a French pharmacist and is known as Viel's Capsulator.

A New Antiseptic Fluid.

(C. C. C.) The preparation to which you refer was brought into notice by Dr. H. W. Mitchell of this city, and it caused him to be heralded by a certain class of newspapers as the discoverer of a new cure for consumption. The way it happened is this. He read a paper before the New York County Medical Association on "Some Results of Experiments with a New Antiseptic Fluid." From the records of this association, as published in the Medical Record we learn that the doctor stated the "new antiseptic fluid" to be simply a "solution of halogen salts chemically combined." At this point one of the members asked what were the ingredients, and as Dr. Mitchell's answer did not seem to be sufficiently specific, the member further asked if it was not a secret remedy, and a motion was made that the subject be not further discussed until the question had been answered. The doctor replied that he did not just remember the ingredients, but that the remedy was not secret, and he would hand the formula to the president of the association when he obtained it from the chemist. He was allowed to go on with the reading of his paper. Since that date several formulas to-

gether with reporters' "interviews" have been published in the local press. To ascertain the correctness of one of these formulas we called upon the doctor a few days ago. When shown a copy of the formula, he said it was incorrect, but he did not choose to enlighten us as to the particulars in which it was wrong. He further said that he was preparing a paper for publication in which full particulars would be given. It is quite noticeable that a number of prominent physicians in this city who have been interviewed upon the value of the "discovery" are non-committal.

Egg Shampoo.

(H. R. H.) The following are taken from the Era Formulary:

1.) Ammonia water .....3 fl. drams
Cologne water .....3 fl. drams
Alcohol .....5 fl. ounces
Water .....5 fl. ounces
Whites of eggs, as many as desired.

The whites of eggs (about 2) are thoroughly beaten up previous to being mixed with the water and water of ammonia; the remaining ingredients are added in their order and the whole stirred briskly.

2.) New England rum.....15 ounces
Bay rum .....10 ounces
Glycerin ..... 1 ounce
Borax ..... 2 ounces
Whites of egg..... 2

Difficulty may be experienced in dissolving 2 ounces of borax in the incorporate liquids; it is recommended to incorporate the borax in fine powder with glycerin, and to add the bay rum and New England rum gradually and with constant stirring to the mixture. The white of egg is well beaten and added to the solution of borax and the whole stirred thoroughly until an even mixture results.

3.) Yolk of one egg.
Rose water .....1 pint
Eau de cologne.....1 fl. ounce
Transparent soap ...1 dram
Rectified spirit.....2½ ounces
Carbonate of potassium .....1 dram

Dissolve the carbonate of potassium in half the rose water over a water bath, then mix the other half, and slowly rub down with the yolk of egg. Lastly add the spirit and eau de cologne.

As a remedy for the cure of dandruff a "shampoo" acts as a detergent only.

Loss of Hair.

(B. R. W.) The following conclusions on the subject are presented by Jackson ("Diseases of the Hair and Scalp") from an interesting clinical study founded on 100 cases of loss of hair:

(1) Men are more prone to baldness than are women, the proportion being as 65 to 35. (2) Neither the married nor the unmarried state exercises any influence in the production of baldness. (3) It is probable that active brain work and nervous mental strain predispose to baldness. (4) The majority of the cases of baldness occurring before middle life do so between the twentieth and thirtieth years; and this is more marked in men than in women. (5) Anæmia, or diseases that predispose thereto, are active causes. (6) Seborrhœa in all its forms is an active cause of baldness. (7) Sweating and heat of head may be regarded as danger signals, foreshadowing loss of hair. (8) Heredity is a pronounced predisposing factor of baldness, and it shows a tendency to descend in the same sex. (9) The daily sousing of the head is pernicious to the preservation of the hair.

Various applications have been proposed, but it is safe to say that if the hair glands have been destroyed or diseased it will be difficult to arrest the falling of the hair or stimulate increased growth. Most stimulants for this purpose contain cantharidine as the active ingredient, and back files of the Era will give you a large amount of information and a number of typical formulas for such tonics and stimulants. Here are two:

1.) Tincture capsicum .....2 drams
Ammonia water (10%)...1 ounce
Pilocarpine hydrochlorate .....5 grains
Cologne .....3 ounces
Use on scalp twice a day.

2.) Tincture jaborandi.....4 drams
Lanolin .....3 drams
Glycerin .....2 drams
Mix with the aid of a little soft soap. A little to be rubbed on every night.

Value of Algebra to the Pharmacist.

(H. V.) Our correspondent asks if one can successfully pass through a college of pharmacy without a knowledge of algebra, and if so, he proposes to waste no time in acquiring a knowledge of this subject. In answering this query we want at the outset to state most distinctly that if the student has an opportunity to study algebra he by all means should embrace it, and not be so foolish as to pass it by. Such knowledge is not absolutely essential to pass the ordinary college of pharmacy examinations, as but few of our colleges require more than a rather elementary knowledge of mathematics. But all educators agree that there is no training so valuable in forming the framework or foundation of an education as the study of mathematics, in which algebra follows close after simple arithmetic. The pharmacist who knows algebra is possessed of a great advantage over his brother ignorant of this branch. If the student expects to be anything more than a mere tradesman and wishes to conscientiously execute the duties of his profession, he will find a knowledge of algebra of great advantage. It assists him materially in all those calculations upon which depend the construction of working formulas, the calculation of results from analyses, etc. To the chemist it is absolutely essential, and one great lack with the students in our college of pharmacy is their deficient knowledge of mathematics, so that the solution of the simplest problems is to them a matter of great difficulty. In arithmetic the four fundamental rules and a knowledge of percentage and proportion are put into use every day, and the operations of algebra extend the pharmacist's usefulness and service. Our correspondent is most earnestly advised to become as familiar with this subject as he possibly can, even though it entails some additional labor upon him. We wish to advise him that in his college course he endeavor to learn all he possibly can, rather than to see with how little knowledge he can pass the requirements.

Correction of Volumes of Gases for Pressure and Temperature.

(T. C. M.) asks the solution of the following problems taken from Beal's Chemical Arithmetic:

(1) A vessel which holds 1 liter of air is stoppered at the mouth of a mine where the temperature is 4° C. and the pressure is 752 mm. It is taken to the bottom of the mine and uncorked where the temperature is 20° C. and the pressure 790 mm. Would air enter or leave the jar and how much?

Solution:

Absolute temp. of air at 4° C.=277° (T)
" " " " " "20° C.=293° (T')
Product of the volume and pressure = 1×752 (PV.)
Product of the volume and pressure = $x \times 790$ (V')

$$\begin{array}{cccc} T & T' & PV & PV' \\ 277 : & 293 :: & 1 \times 752 : & 790\ V' \end{array}$$

$$790\ V' = 795.43$$

$V' =$ 1.0068 Liter, the volume at 20° C. and pressure of 790 mm. 1.0068 − 1 = .0068 Liter or quantity of air which would leave the jar.

(2) A volume of gas measuring 820 cc. at 4° C. and a pressure of 750 mm. has its pressure increased to 900 mm. What must be its temperature in order to restore the original volume?

Solution:

The product of the volume and pressure = 820 × 750 (P.V.)
The product of the volume and pressure = 820 × 900 (P'V')
Absolute temp. at 4° C = 277 (T)
Absolute temp. at x° C = 273 + x° (T')

$$\begin{array}{cccc} PV & P'V' & (T) & (T') \\ 820 \times 750 : & 820 \times 900 : & 277 : & 273 + x^\circ \end{array}$$

or

$$750 : 900 :: 277 : T'$$

T' = 332.40 absolute temperature.
332.4 − 273 = 59.4° C.

(3) A volume of gas which measures 84 cc. at 10° C. and 740 mm. has its temperature increased to 23° C. What must be the pressure in order that it may measure 100 cc.?

Solution:

The absolute temp. of gas at 10° C. = 283° (T)
The absolute temp. of gas at 23° C. = 296° (T')
The product of the volume and pressure = 740 × 84 (PV)
The product of the volume and pressure = 100 P'

$$\begin{array}{cccc} T & T' & PV & P'V' \\ 283 : & 296 :: & 62160 : & 100\ P' \end{array}$$

$$100\ P' = 65015$$

$$P' = 650.15 \text{ mm.}$$

The pressure will be 650.15 mm.

(4) A volume of gas at 12° C. and 780 mm. measure 800 cc. The pressure is reduced to 640 mm. What must be the temperature in order that the volume may be exactly doubled?

Solution:

Absolute temp of gas at 12° C. = 285° (T)
Absolute temp. of gas at x° C. = 273 + x (T')
The product of the volume and pressure = 780 × 800 (PV)
The product of the volume and pressure = 640 × 1600 (P'V')

$$\begin{array}{cccc} T & T' & PV & P'V' \\ 285 : & 273 + T' :: & 624000 : & 102400 \end{array}$$

$$273 + T' = 467.6$$

$$T' = 467.6 - 273$$

$$T' = 194.6° \text{ C.}$$

For the laws of gaseous expansion, variations in volume, pressure, temperature, etc., see Beal's Chemical Arithmetic, pages 67 to 81.

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ALCOHOL REBATES

STATUS OF THE TEST CASE.—THE PETITIONER READY FOR THE HEARING.

Many retail drnggists are inquiring about the progress made in the suit for rebates on alcohol. The test case, that of Dunlap, the hat manufacturer, is all ready for argument before the Court of Claims in Washington, and only awaits the move of the Attorney General's office. It is not well known that the New York Board of Trade has memorialized the Attorney General to hasten the hearing in this case, and has received an answer through an assistant to Gen. Harmon, that the case would be hurried as much as possible. The petitioner's counsel feel that in this case they have an admirable one for test purposes, and are sanguine of the result of the hearing, but they cannot predict a date at which the court will hear the case. All that can be done by the retailers is to wait with patience until the slow-moving mills of the law begin to grind, and to meanwhile keep their record as if the case was to be settled to-day.

To Confer on Insurance Rates.

The committee on fire insurance of the drug trade section of the New York Board of Trade and Transportaion, of which Albert Plaut is chairman, has received a communication from the chairman of the Tariff Association, the rate-making body of the insurance companies, granting an interview for some time during this week. It is expected that this conference will be held in a day or two, and an earnest effort will be made by the committee to convince the insurance men that drug stocks generally are rated too high. As every wholesale druggist in the city is interested in this matter, the result of the conference will be anxiously awaited. The disposition of the insurance people is to increase rates, but some druggists say they already pay too much.

BOX AND CARTAGE.

A wholesale druggist of New York City who read the Era's report on the box and cartage matter last week says: "Although the proposed charges do not go into effect until Jan. 1, if then, there are already numerous protests from retail dealers all over the East. They bear out all that was said in the Era. The retail druggist doesn't see why box and cartage should be charged any more than paper and twine or any of the other things which go to make up the expense of doing a wholesale drug business.

"I believe such charges will only last a short time. The general impression is that the opposition to the system will be so pronounced that the jobbers must give way, and that, too, at an early date. Some of the New York jobbers went into the new arrangement very reluctantly, as they feared that it would still further narrow the circle in which they can do business with profit to themselves and to the buyer."

Nevertheless, now that the jobbers here are practically committed to the scheme, there appears to be a general disposition to try the arrangement and to see how it works. Those who favor the plan are outspoken in its praise, and say the retailers will put up with the charges after they get used to them. One man with a wide experience among retail druggists says the latter will see that the charges will not be unfair.

In Philadelphia.

Philadelphia, Dec. 16.—Quite a number of the leading jobbers of the city met last Thursday evening at the Druggists' Exchange and discussed the all-absorbing question. Considerable secresy has been maintained by those present as to the nature of the business and all refused to make any statement.

Mr. Shoemaker, the chairman of the committee, declared that he did not wish to talk upon this matter for publication until after the circular containing the schedule of charges agreed upon had been distributed. That a peaceful settlement has been arrived at among the wholesalers is known, but whether the schedule formulated will be acceptable to their customers remains to be seen. None of the retail druggists of the city have as yet received any intimation as to the exact amount agreed upon, and until they are in possession of the much-talked of circular they cannot tell whether they will be satisfied or not.

Cincinnati Views.

Cincinnati, Dec. 15.—"I should most certainly make a fight against boxing and cartage charges if restored by the firms from which I have been accustomed to get goods free of this duty, unless the charge should be made general, when I should be no worse off than my neighbor, and would, of course, accept the inevitable." So said Druggist R. H. Weatherhead to-day. "We are not subjected to such charges by local dealers, of course. They have always maintained a free delivery system and goods are sent in open cases. Patent medicine firms make no charges either. The only ones in the East with whom I have relations who still cling to this charge are a few New York houses. I have never made a protest against these charges. However, on the score of economy I should object to paying to have my goods delivered unless everybody else were served in the same way."

Dr. John C. Otis, another large retailer, said: "I am willing to pay for boxing and cartage if I get the drugs at a fair price. The houses which ship orders free make up the difference in cost to them in the prices of their goods. Every pharmacist that buys from them knows this. We pay their prices because in some cases we can't get what we want elsewhere. The expense is a necessary one and somebody has to pay it. If the charges are restored everywhere I shall simply pay a little closer attention to the quality of drugs received by me than heretofore."

Druggist Louis Heister thought the charge a legitimate one and was entirely willing to pay it. So did C. T. P. Fennell and all other druggists who were seen, without exception. The jobbers reported that no complaints had been received from the country on account of express and boxing charges save in exceptional cases and frequently these were caused by error.

To Try the Denver Plan.

It is stated that some of the proprietors of well-known and rapid-selling patent medicines are going to give the Denver plan a trial. Their decision on this matter is expected before the holidays. There can be no doubt that such proprietors will gain the goodwill of every jobber in the land, and if a few courageous proprietors once lead the way the rest will soon fall into line. "The ultimate result of the plan," said a jobber to the Era, "must be a benefit to the proprietor as well as to the middleman. In many lines of business it would be looked upon as unbusinesslike, not to say suicidal, for a manufacturer to attempt to sell to both the jobbers and the retailers."

Murder by a Druggist.

Shelbyville, Ind., Dec. 13.—At London, a village near here, Druggist Homer Teeter shot and mortally wounded Henry Wilkins last night. Teeter was about to close his store. Wilkins refused to leave the place till Teeter had filled a pint bottle of whisky for him. Teeters refused to do this and ejected Wilkins. On reaching the sidewalk Wilkins drew pint bottle of whisky for him. Teete promptly returned the fire and half a dozen chambers were emptied before Wilkins fell, shot through the head. The ball entered the mouth and passed out of the back of his head. A bullet struck a surgical instrument in Teeter's upper vest pocket, glanced to a rib and was afterward found in his shoe.

The Liquor Question in Chicago.

Chicago, Dec. 16.—The committee of the Chicago Retail Druggists' Association having in charge the matter of presenting a protest against the passage of the proposed liquor license ordinance, met the license committee of the Chicago city council on Monday morning last.

The proposed ordinance was discussed, and Mr. Joseph W. Errant, the attorney of the association, addressed the council committee on behalf of the druggists. About twenty-five druggists were present, all sections of the city being represented.

At the meeting of the city council that evening the license committee reported unanimously against the proposed ordinance.

This action cuts off any probability of anything further being done about a new liquor ordinance in Chicago. It is thought that the old ordinance now in force is amply sufficient to accomplish its object if the druggists were generally informed as to its requirements. It reads as follows:

Be it ordained by the city council of the city of Chicago:

Section 1. No person, firm or corporation engaged in or carrying on the business of selling drugs, or keeping what is commonly known as a drug store, shall sell or give away, or in any manner deal in any vinous, spirituous, ardent, intoxicating or fermented liquors, by himself, agent or servant, without a permit for that purpose, under a penalty of not less than $100 nor more than $200 for each and every offense.

Sec. 2. Every person, firm or corporation engaged in the business of selling drugs, or keeping what is commonly known as a drug store, desiring to sell or give away, or in any manner deal in any vinous, spirituous, ardent, intoxicating or fermented liquors, for medical, mechanical, sacramental, or chemical purposes only, not to be drunk upon the premises or in any such store, may have a license or permit therefor upon paying to the city the sum of $1 per annum; provided, that alcohol may be sold under such permit for chemical and medicinal purposes only.

Sec. 3. Any person, firm or corporation obtaining such permit shall enter in a well-bound book a record of the date of the sale or gift of any vinous, spirituous, ardent, intoxicating or fermented liquors, the amount sold or given away, and the person to whom delivered, except on a written prescription from a licensed physician. Said book shall be at all reasonable hours open to the inspection of any member of the police force whom the superintendent of police may designate for such purpose.

Sec. 4. Any person, firm or corporation obtaining the permit required by this ordinance and the ordinance of March 5, 1883, who shall neglect or refuse to keep the book herein required, or who shall refuse to allow an inspection thereof, or who shall sell any vinous, spirituous, ardent, intoxicating or fermented liquors, for any other purpose than herein allowed, shall be fined not less than $100, nor more than $200 for each and every offense, and any such permit shall be revoked by the mayor for the second offense.

Sec. 5. All ordinances or parts of ordinances conflicting with this ordinance be and the same are hereby repealed.

Sec. 6. This ordinance shall be in force from and after its due publication.

Shoplifting in Quaker Drug Stores.

Philadelphia, Dec. 16.—Now that Christmastide is approaching and the shelves and cases of the retail stores are groaning under the weight of handsome holiday goods, the shoplifter seems to be taking advantage of the rush of business to purloin the exposed property of others. Three or four flagrant cases of theft are reported among the large drug houses, but in the majority of cases the affair seldom reaches a court of justice.

About 8:30 last Monday evening a handsomely dressed lady approached R. C. Shultz, a clerk in Evans' drug store at Eighth and Arch streets, and inquired the price of a pocketbook which she held in her hand. Something about her actions attracted the attention of Detective Evanhoe, who subsequently discovered the woman in the act of concealing one of the purses. She was confronted and accused of the robbery, and, having confessed her guilt, was allowed to depart. Later she returned and under the eyes of the watchful officer abstracted quite an assortment of valuable articles. Upon being arrested the woman declared that she was Mrs. Laura Clark. She indignantly denied the charge and when arraigned the next day told such a frank story that the judge was at first inclined to release her. When assured of her guilt he held her in $300 bail for trial on the charge of larceny. A day or two later it was learned that a woman answering her description perfectly had reaped a large harvest in drug stores of this city.

Sale of Poisons in Chicago.

Chicago, Ill., Dec. 14.—The coroner of Chicago has made a new rule to the effect that a record must be kept in the coroner's office of all cases of death from poisons, where and from whom the drug was procured, to whom it was sold, and all the circumstances of the transaction. This departure was thought necessary in view of the careless manner in which many druggists sell poisons. By means of the information which such a register will afford, it is proposed to fix the responsibility on druggists or other persons who sell poisons in improper cases.

In a talk which your correspondent had with Mr. Fred Schmidt, resident member of the State Board of Pharmacy, that gentleman said that in his opinion a great many of the druggists of the city are too careless in selling poisons. In selling poison a druggist must use judgment. A great many cases arise where persons will be overcome by a succession of misfortunes and put into a temporary condition of mind where it seems to them that suicide is the only means of relief. This aberration may not last more than an hour, perhaps, and if it is easy then for the despondent individual to procure the means for his self-murder he will be likely to accomplish his purpose; whereas, if it is made difficult for him so that he will be compelled to wait and seek other means of death, there is a chance that he will come to a more rational mind. "The druggist must use his judgment," said Mr. Schmidt. "If a man comes into my store and wants some carbolic acid I would sell it to him if I knew him and was satisfied that he knew how to use it and wanted it for a proper purpose. If he looked despondent and I suspected him of any designs upon his own life I would not sell it to him. If I did not know him I would not sell him poison at all. But there are a good many druggists who sell poison about as freely as one would deal out sugar or salt.

"The coroner's office will give me a copy of this register from time to time and I propose to go after those druggists who do not comply with the law in this as well as in other particulars."

Ohio Pure Food Commission.

Gallipolis, O., Dec. 13.—Five months ago W. B. Haskins and Dr. Sterritt, State food and drug inspectors, obtained samples of drugs from Postmaster Joshua Todd, of Chambersburg, O., and Jacob Larrimer, another merchant. Last night Marshal Kuhn arrested Todd and Larrimer on the specific charge of having sold a bottle of adulterated paregoric. They pleaded guilty to-day and were fined $25 and $9.30 costs, which they promptly paid. It was said in their defense that the drug was manufactured at Marietta, O., and Catlettsburg, Ky. The latter place is out of the jurisdiction of the pure food commissioners, of course. The prisoners said that they had no intention of wrong-doing and bought the goods in good faith.

Apropos of this case Assistant Food and Dairy Commissioner Luebbing, of Cincinnati, said: "A man who deals in drugs and who does not know what he is selling ought not to be in the business. A druggist should be able to guarantee the purity of everything that goes over his counter. You say that he depends on the honesty of the manufacturer in making his purchases. Then he can have the privilege under the Ohio law of causing the arrest of any manufacturer who sells him adulterated articles. If the manufacturer from whom he buys lives outside the State he has still another means of protecting himself. If he does not use it the law will not hold him blameless if he sells anything which is not up to the legal standard. He can fill all his goods from outside firms through some jobber who will agree to be responsible for them and who will get from the outside manufacturer a written guarantee that only pure goods will be shipped."

Ohio Food Commission's Record.

Cincinnati, O., Dec. 16.—Drug Inspector George T. Sterritt, of the State Food Commission, has made about 100 arrests since September. Fifteen were made at Wapakoneta, forty at Lima, twelve at Delphos, ten at Celina, ten at Columbus Grove, seven at Spencerville, five at Anna and seven at Sidney. Forty of these cases are still pending. Most of the prosecutions against druggists and others involve Indiana merchants, who have for years been accustomed to send their inferior goods across the border into Ohio.

Philadelphia Drug Co.

Philadelphia, Dec. 16. — Having just completed a remarkably successful year, the Philadelphia Wholesale Drug Company, formerly known as the Apothecaries' Union, held their sixth annual meeting on Thursday night. The company, which is composed of over 100 prominent druggists, organized for mutual protection, reports a clear saving of about 12 per cent. in the purchase of supplies, including the cost of doing business of 5 per cent., and as no profits are allowed to accumulate, the members naturally received the benefit. As this is the first time that a combination exceeding 100 members has ever existed beyond a 5-year limit, the organization feels highly elated over its unusual success. After a free discussion of the future policy of the company the following officers were elected for the ensuing year: President, Joseph Buckman; vice-president, W. Nelson Stem; treasurer, Robert C. Brody; secretary, A. T. Pollard. E. M. Bering and Frank H. Apnell were elected members of the board of directors in place of Rush P. Marshall and William H. Lacy. President Buckman announces that he will name the various committees at a meeting to be held next Thursday night.

Use of Antitoxin in Massachusetts.

Boston, Dec. 16.—Concerning the use of antitoxin in Massachusetts as a preventive of diphtheria, the State Board of Health says: "It is too early to publish a digest or summary of the work accomplished in this direction. It is sufficient to say that the results thus far secured fully justify the continuance of the work thus begun, since a very considerable saving of life has undoubtedly been effected. A careful digest and summary will be prepared for publication in the annual report for 1896, to embrace the results of the first year's work in this direction."

Will Not Antagonize Jobbers.

St. Paul, Minn., Dec. 13.—The notice of the Minnesota Pharmaceutical Manufacturing Company, which appeared in this correspondence a few weeks ago, did not, it seems, present the true scope and aims of the organization, though the data upon which the notice was based appeared unimpeachable. It is not the intention of the company to conflict with or encroach upon the business of the jobbers in any way. It will not manufacture patent medicines, but will put forth household and veterinary remedies and a certain line of pharmaceuticals. A circular just issued by the organization says:

"The aim and object of this company is to organize all of the retail druggists of Minnesota in one commercial organization and thereby promote the interests of pharmacy; to devise ways and means of obtaining a fair and just price for the merchandise sold by them, and to enable them to purchase the goods manufactured by this company at the lowest possible price consistent with quality and cost of production."

The blank for subscriptions of stock contains this clause:

"And .... further agree to conform to the bylaws of the company in every particular, and any and all goods .... may at any time purchase from the company shall be sold upon the terms and at the prices fixed by the company."

C. T. Heller, secretary of the company, says the first lot of goods will be ready Jan. 1.

A Druggist's Romance.

St. Paul, Minn., Dec. 13. — A story with a dime novel flavor is floating about concerning a former druggist of Duluth. Here it is for what it is worth: A few days ago T. E. Doneis, who had been arrested in Minneapolis on the charge of passing worthless checks for large amounts, made an unsuccessful attempt at suicide. He is a young man who several months ago, as an incident in his dizzy career, kept a drug store at Duluth for a short time. He told a strange story which set the authorities investigating, and they are said to have found that Doneis is a veritable Monte Cristo, so far as wealth goes, and has at his command when in his own country gold without end. Doneis and his father formerly lived at Duluth. When they left that city they went to Rat Portage, Manitoba, where the father married an Indian woman, the widow of an old chief, who was in possession of all the secrets of the tribe. She confided to Mr. Doneis and his son, the young man now in jail in Minneapolis, the secret of a hidden gold mine in the northern part of Minnesota, and from this mine father and son have taken an incredible amount of the yellow metal. Both the Doneises are millionaires and can command from $2,000,000 to $3,000,000 in cash at any time. The elder Mr. Doneis is one of the best-known and, of course, wealthiest residents of Port Arthur, Ont., and has been offered as high as $1,000,000 to disclose the whereabouts of the hidden mine, which he visits periodically with his wife and son.

A Handsome Store.

Chicago, Dec. 14.—Louis Lehman, the genial secretary of the Chicago Retail Druggists' Association, has moved into a new store, on the corner of Wrightwood avenue and North Halsted street. The interior arrangement of the store was designed by Mr. Lehman himself, who takes especial pride, as well he may, in showing his friends around his premises. The interior of the store is finished in white oak throughout, and the whole is so arranged that there are no places where dust may settle that cannot be conveniently gotten at. The bottles and drawers are arranged alphabetically on each side of the store, the lettering being according to the U. S. Pharmacopœia nomenclature. The drawers are 11 inches by 12, and 6 inches deep. Each section is five drawers in height and four in width, making twenty drawers to a section. There are five shelves on a side containing bottles, the shelves being 13 inches apart. The cupboards are in the rear, convenient to the prescription case. The first and second sections of glass-inclosed shelves on the south side contain proprietary medicines, about one hundred of which are Mr. Lehman's own make. The last section on that side is devoted to patent medicines, tablets, etc. There are ten shelves in the last section, but only five in the others.

The show cases are also arranged in compartments, one case being devoted to soaps, powders and other toilet articles, cosmetics, etc., and another to about every conceivable kind of syringe and atomizer. The next is devoted to tooth brushes, puffs, hair brushes, etc.

On the other side is the cigar case, sponge case, desk and wrapping counter. Beneath the show cases are glass-inclosed spaces, where a variety of articles necessary to the stock of a well-regulated drug store are displayed.

Passing to the rear of the store we find the prescription case. This, indeed, is a marvel of accurate and convenient arrangement. The first section contains two drawers to hold small bottles, and nine compartments of different sizes to hold bottles corked, if necessary, standing in their proper positions. In the next section are seven drawers holding corks of various sizes from 0 to 24, while the third section is the mortar and graduate cupboard, with dustproof doors. The pill department contains six drawers for pill boxes to hold six different sizes of boxes lying on their sides, so as not to soil either the bottom or the label. The pill machine is in a slide at the top. The next section is devoted to German powder boxes, the top drawer subdivided to contain spatulas and stirring rods. Following this are drawers for ointments and suppositories, among them being one peculiar shaped drawer subdivided to hold ointment slabs on their sides so they will not be in danger of breaking. Underneath this are four drawers holding different sized ointment jars and boxes, and suppository boxes. In the top drawer next to these are the prescription labels and compartments for the account books, and underneath these is a small cupboard containing the prescription books.

The prescription table above all these drawers is of birchwood, and beneath are seven sliding birchwood slabs conveniently arranged along the whole length of the table. The case has a recess underneath 2 inches in height and 4 inches in depth along its entire length for the toes of the knight of the mortar and pestle when it is necessary to work close. The wrapping counter has thirty compartments to hold thirty different sizes of cut paper and bags. It also contains four drawers at the top, two being for labels and subdivided to hold seventy-seven different kinds, one drawer for postal cards and stamps, and another for scissors and old corks. The wrapping counter is on the north side next to the end of the prescription case. Near this counter and beneath, within easy reach, is a galvanized iron-lined tilting box containing a barrel of linseed meal.

The prescription case is so arranged as will be readily observed, that the operator begins at one end and works right down the case, and when he arrives at the other end the prescription is filled,

and he passes around the corner of the case to the wrapping counter, where he finds everything conveniently beneath his hands.

Thus the mechanical articles necessary come in this order, beginning at the south end of the prescription case: Bottles, corks, mortars and graduates, pill boxes, German powder boxes, labels.

The floor is of tiling, and there are no chairs in the outer store, their place being filled by white oak settees in the windows.

The soda fountain is a beauty. It has fourteen syrup fouuts, colored onyx front with sienna marble sides, and white Italian marble slabs, with oak top and counter. One of the improvements in the fountain is found in the rubber lever draught arm, concerning which your correspondent confesses profound ignorauce.

Returning to the drawer cases along the sides of the store it may be proper to add that the drawer pulls are the yatigan pattern, with red border.

Pure Food Activity in Philadelphia.

Philadelphia, Dec. 12.—The advocates of pure food are beginning to make a few of a series of contemplated investigations into impure foods sold in aud around the city. Already there have been several samples of butter taken, which will be thoroughly analyzed; then if in fault prosecutions will be commenced. It is said several well known restaurant keepers have been guilty of selling oleomargarine for butter, and they will be dealt with severely.

Philadelphia Items.

Philadelphia, Dec. 16, 1895.—Rush P. Marshall, the proprietor of the large drug store at Sixteenth and Race streets, leaves this week for an extended trip through California. He has been in poor health for some months past, and at last found it necessary to give up active business entirely. He expects to remain in the West until May, during which time his business will be conducted by his chief clerk.

——Charles M. Yerkes, manager of Preston's pharmacy, Broad and Ellsworth streets, was married on Nov. 13 to Miss Aline M. Krewson.

——Druggists here are reportiug numerous complaints that the postal cards furnished the public by Postmaster General Wilson are poor in quality and have a dirty look about them.

——Quite a number of pharmacists attended the reception of the A. R. Thomas Club, given at the Rittenhouse last Wednesday evening. The club is composed of graduates of Hahnemann College, and meet occasionally to renew old friendships.

——William H. Morris and Samuel Kauffman, trading under the name of Morris & Kauffman, druggists, at the corner of Twelfth and Catherine streets, were acquitted of the charge of falsifying medicine in the Court of Quarter Sessions on Tuesday. The charge was a trumped-up one.

St. Paul Sayings.

St. Paul, Minn., Dec. 13.—Arthur L. Woolsey, the druggist at the suburb of Merriam Park, who, with three other parties, was charged with conducting a "blind pig" outside the legal liquor limits of the city, was arraigned in the municipal court yesterday. All the accused asked for a jury trial, which was granted. The bail in each case was fixed at $100 and the trial set for the 19th inst. As already set forth in the Era, Ed. Paradis, editor of the Midway News, went to jail for contempt of court in connection with this case because he would not give Woolsey away until requested by that gentleman to answer the grand jury's questions.

A new drug firm is going into the town of Spring Valley. Claus F. Rohde, ex-president of the Minnesota State Pharmaceutical Association and one of the best-knowu practical pharmacists in the State, and Mr. Shepherd, a successful jeweler of that locality, are putting in a fine new stock. Mr. Rohde's uniform success at Waseca, Waterville and other places, and Mr. Shepherd's well-known business qualifications make the success of the new firm assured.

The drug store of C. S. Peters & Co., at Sioux City, Iowa, has been closed under a claim of Hornick, Hess & More. It is claimed the assets will be ample to pay all claims.

From Colorado.

Denver, Dec. 12.—C. P. Janvier, drug clerk at the Jerome Park pharmacy, had quite an exciting time one evening recently at about 6:30. At that time Janvier was alone in the store, the proprietor having gone home to enjoy a good dinner and dream of all sorts of imaginary profits that are confidently expected to come to Colorado druggists in the near future. Janvier was behind the prescription case at work, when the door was hurriedly thrust open with a greater amonnt of force than is common with the customers who reside in that quiet neighborhood, and the hurried scuffling of four number nines was heard in front of the counter. The clerk, imagining some extremely urgent demand was about to be made upon him for some of the wares he delights in handling, took a hurried look at himself in the glass close at hand, and hastened smilingly toward the prospective and apparently anxious customers, who made their wants known in very forcible language. "We want your money. Open your money drawer d—d quick," came simultaneously from the two masked figures who confronted the much-surprised clerk with a pair of deadly-looking guns of the bulldog order.

Janvier remarks that he felt at that time as oue who was coming out from under the influence of a large dose of chloral, and for the life of him could not realize that it was possible for any being or set of beings to so far forget themselves as to try and hold up an innocent druggist, especially as there was a plumber hard by. The aforesaid stupor was what saved his life and the loss of money to the proprietor, for the amateur hold-ups took the actions of Janvier as those of a man of remarkable nerve and pluck; his dry arguments were a surprise that completely unnerved the robbers and caused them to take to their heels amid the shouts of the now thoroughly-aroused clerk. As yet they have not been caught or heard from.

Why not, in fixing up new and modern stores, put in a revolving gun that will work by simply pressing a button in the rear of the counter and shoot all around in the front of the store, and make the counters bullet-proof, so no harm could come to clerks and proprietors while going through the ticklish ceremony of being held up.

The prospects for a nice holiday trade are fair. Our weather has been too balmy for business to be up to its usual standard at this season of the year.

Collections thus far in December are generally reported good by our druggists.

New Year resolves are now in order. Less credit, nearer to a cash basis all around, etc., are some of the good ones heard that we trust will be lived up to.

Telephone rates here $10 per month—entirely too high, yet what are we to do? We are at the mercy of the company, and will be until some united action is taken by all druggists to bring them down to more just and reasonable rates. The pay station is not taking well here; one drug store charges 10 cents for the use of the 'phone, the next has a sign up, "Come in and use our telephone. It is free;" result, drug store No. 2 gets a great deal of drug store No. 1's telephone customers, who finally become permanent, to the detriment of the store with the pay telephone.

If all stores had them alike, charging, say, 5 cents for a five-minute talk and no charges for doctors' calls, it would not be so bad.

Cincinnati Notes.

Dr. J. A. Culver is at the City Hospital under treatment for the morphine habit.

J. S. Tompkins, formerly of Dayton, Ky., opened a new drug store in Norwood last week.

Dr. Henry De Gruyter, of Covington, died last week and was buried in the Mother of God Cemetery.

Miss Mary Hamilton has bought out R. E. Tompkins, of the firm of Tompkins & Hamilton, of Avondale, and now controls the store.

Fred Schanzle, an Elmwood druggist, and Miss Kate Bacigalupo, of Cincinnati, were secretly married in Covington last week.

——Frank E. Pollard ,druggist, Haverhill., Mass., made an assignment on Dec. 3, stating his liabilities to be about $14,-300. His assets consist of stock in trade, which is mortgaged.

——Morley G. Croscombe, a veteran druggist doing business in that part of Malden, Mass., called Linden, is dead at the age of 77. His death was caused by heart disease. Mr. Croscombe was a Mason.

CHRISTMAS AND THE BRITISH CHEMIST.

London, Dec. 6, 1895.—The custom of laying in a stock of goods suitable to a Christmas trade is one of modern growth with the owner of a pharmacy. Formerly he had but to see that he was well stocked with drugs of an aperient nature, and the extra demands upon him during the festive season were fully anticipated. While making a satisfactory income from his profession, as it might then have been termed, mere trade, as such, did not enter his mind. Now, however, all this has been changed by the establishment of numerous stores, with their drug and dispensing departments together with the growth of the trade in proprietary medicines and with the sale of such by grocers as well as by the aforesaid cutting stores, and no longer can he make a living solely by dispensing and the sale of drugs. To make up for this change, he must buy more keenly and seek for articles outside the range of pure pharmacy which will contribute something to his decreasing profits. With the growth of Christmas presents came the chemist's opportunity to include among his stock a few articles, such as perfumery, etc., which come more particularly within his reach. From this has been gradually built up the present day practice of devoting his window or windows, and one or more show cases within his shop, for about fourteen days previous to the 25th of December to an assortment of such articles as are likely to be required.

To meet the chemist's wants thus created, the various wholesale houses in their turn devote more time and attention to this class of trade, while it is now difficult for the former to make his selection from the numerous articles offered by the houses calling upon him. Perfumery naturally takes the lead, and toilet articles of all kinds are added thereto, and so great is the variety of both these descriptions of goods that a really attractive display can be made.

Christmas is a time when the greater number of us more fully realize the pleasure of giving. Fortunately for human nature, the spirit of Scrooge's nephew with his "A merry Christmas, God save you!" is the rule, and the "Bah! Humbug!" of Scrooge himself is the exception. The difficulty, however, of choosing our presents is increased by the multiplicity of articles offered, and when for a particular friend we would find something collateral with our good wishes, is not everything we see, that just fits our respect or love for him or her, considerably beyond our means? Then comes the chemist's chance! In nine cases out of ten the seeker would not think of going to a shop redolent of pills and potions for a Christmas present, but the attractive window displays to his gaze handsome boxes of perfumes, sachet cases, sprays, etc., just suited not only to the pocket (so necessary a thought to most), but also to the sister, cousin or aunt, not to mention other female relations actual or longed for, and for the more prosaic male relative or friend, cases of razors, hair brushes, dressing cases, etc.

Paris and New York both contribute to a growing extent to the demand for such goods, and while not able to touch fully on these, mention must be made of Lazell's Sachets, which are very popular here, and are now stocked by all leading retailers and appear to have a large sale.

Of the higher class of perfumes, those but lately introduced to the trade by Corbyn, Stacey & Co. are prominent both for their delicate odor and for their dainty "put up." This firm also offers their various "Natural" Perfumes in bulk, so that the chemist can have a really excellent article to bottle off for sale under his own label. Corbyn's silk sachets are very attractive, and they will probably be in great demand at the more fashionable shops.

Blondeau et Cie., of "Vinolia" fame, have also just entered the perfume trade, and they, too, supply in bulk to chemists. Their prices are very low, and already they have booked good orders both for bulk and for their various styles of "put up" goods.

The older perfumers of London, such houses as J. & E. Atkinson, for instance, do not seem to make any special effort at this season, relying probably upon their reputation and the public demand.

French perfumes are offered by the majority of the wholesale drug and the various sundry houses, either under their own names or in original bottles as imported. Selling at cheap rates and being attractively offered in fancy boxes of every description, a large business is done in them by chemists with good, middle-class connections.

Sprays have lately been in large demand, hence the supply has greatly increased both in number and variety.

After Christmas is over the chemist keeps up his attractive window to catch any who may be on the lookout for a "New Year's" present, after which it is once more devoted to other "seasonable" articles of the nature of "cough mixtures," etc.

The Late W. H. Peat.

London, Dec. 6, 1895.—The drug trade has lost its leading broker in the person of Mr. William Henry Peat, the senior partner in the firm of Lewis & Peat, of Mincing Lane. He died on the 22d inst., in his seventy-ninth year, after an active business career of sixty-two years, nearly fifty years of which was passed as partner in the firm of drug brokers originally established in the last century. After the vanilla beans had been sold on Thursday, and before the regular drug auctions commenced Mr. Dalton, senior partner of Dalton & Young, drug brokers, speaking before a crowded room, all upstanding and uncovered, alluded to the "death of our dear old friend," and moved a resolution offering the deeptest condolence and sympathy of the trade to the bereaved family. Mr. Dalton specially touched upon the unusually long connection of the deceased gentleman with the drug trade, his exceptionally genial disposition, which made him so widely respected and esteemed by every one brought into contact with him.

Mr. Richard Barron, of Barron, Harveys & Co., wholesale druggists, on behalf of the wholesale drug trade, seconded the resolution, and added that Mr. Peat had always set a high example as a business man to both brokers and buyers. Mr. Ziegele supported the resolution on behalf of the export drug trade, and Mr. Andrew Devitt, one of the partners of Lewis & Peat, on behalf of the house and of the family of the deceased, thanked the speakers and those present for their welcome sympathy.

NEW YORK AND VICINITY.

—W. R. Warner was in town last week for a day or two.

—L. W. Randolph, of Plainfield, N. J., was in town last week buying goods.

—E. J. Schroeder has secured a judgment for $82.85 against the Undertakers' and Medicinal Supply Co.

—R. S. Johnston, of Merck & Co.'s force, is here for a few days, and will go to his home in Indianapolis for the holidays.

—John R. Myers, president of the Clinton Pharmaceutical Co., of Syracuse, was a welcome visitor to the trade a few days ago.

—The drug store of J. Tewes, at the corner of Steinway avenue and Broadway, Long Island City, was badly damaged by fire last Thursday.

—C. H. Dietz is off on a tour for the Dietz Drug Co. He is a popular man with the trade, and even in dull seasons can get orders where others fail.

—W. S. Thompson, of Washington, D. C., who has a pharmacy facing the Treasury Building, was in town last week for three or four days, calling on friends.

—The Lebanon, N. Y., Shakers have been well shaken because a typewriter has taken Elder Daniel Offord away. Offord has been succeeded by Charles Greaves.

—R. P. Domschke, traveler for the Grosvenor & Richards Co., has just returned from a successful business trip. He will remain in the city through the holidays.

—Harry S. Titus, of the office force of C. F. Boehringer & Soehne, was married on Dec. 9 to Miss Margaretha Noss, of Brooklyn. Mr. and Mrs. Titus will reside in that city.

—Adolf Franck, who refurnished his Hackensack store a short time ago and made it an up-to-date pharmacy, is doing a good business. He called on friends in town last week.

The cause of the fire in the Washington Drug Co.'s building at 631 Fulton street, Brooklyn, last week, has not yet been discovered. The loss was about $6,500, divided between building and stock.

—Manager J. A. Sangston, of the Low Art Tile Co.'s New York office, spent a day or two up the State last week on business. D. R. Reed, of his staff, has

just returned from a Pennsylvania and New Jersey trip.

——J. E. Brannigan, whose store at Sixty-seventh street and Amsterdam avenue was burned out a short time ago, will soon move into the old place, which has been entirely refitted. Among his new furnishings is a handsome Low Art Tile fountain.

——Justin Keith, Chicago representative of J. L. Hopkins & Co., has been in town for several days for the first time in seven or eight months. Mr. Keith was married recently, and this trip is a sort of bridal tour. He and Mrs. Keith are receiving the congratulations of many friends.

——Frank C. Reighter, a graduate of the Philadelphia College of Pharmacy, class of 1886, until lately with Charles White, at Fifty-third street and Madison avenue, has been added to C. F. Boehringer & Soehne's staff, and will be located in Philadelphia. He is quite well known there, as he was for a time with F. G. Hertel, on Girard avenue.

——There was a jam of wagons in Cedar street last week on three or four days. C. F. Boehringer & Soehne's two large consignments of quinine arrived by transatlantic steamers, 94 cases on the Kaiser Wilhelm and 119 more on the Spree, and that end of Cedar street couldn't hold the drays. It is believed that these consignments are the largest of the kind brought into New York for many a year.

——M. Sax, who formerly kept the Alden pharmacy at the corner of 132d street and Seventh avenue, has bought out the store of Alexander & Van Der Smissen, at 77th street and Third avenue. The latter firm formerly owned two stores on Third avenue, one at 79th street, which they sold out about a year ago. Mr. Alexander is now conducting a pharmacy up the State. Henry C. Boysen has Mr. Sax's former store, and is doing well with it. He is an N. Y. C. P. graduate, class of '89.

——Thomas P. Cook, of the New York Quinine and Chemical Works, who spent several days of last week in Philadelphia, speaks in high terms of the Bourse Building there, in which the Philadelphia Drug Exchange is located. He says the quarters of the Exchange are most favorably located. Many men connected with the drug trade in that city helped to make the project of erecting this handsome building a success, and the Exchange was one of the first to move in. Mr. Cook was shown around the structure by Harry McIlvaine, chairman of the entertainment committee of the N. W. D. A., who made the new Yorker feel very much at home by his hospitality.

——A. O. Pilson, the popular druggist of 1329 West Baltimore street, Baltimore, Md., is the possessor of a genuine blackthorn stick from the thickets of County Down, Ireland. It is a present from Miss McCaffrey, who recently returned from a trip to the Emerald Isle. She and her sister, Mrs. Charles Palmer, claim to be among the legal heirs of the late John McCaffrey, the millionaire, whose estate now awaits distribution.

The Bowling Tournament.

Two series of games in the bowling tournament of the Drug Trade Association were played last week. At the Friday night's games the important feature was the meeting of the Parke, Davis & Co. and Dodge & Olcott teams. The former won, 796 to 775. Other results were: Dodge & Olcott beat Lazell, Dalley & Co., 704 to 672; Lazell, Dalley & Co. defeated Parke, Davis & Co., 674 to 658; Bruen, Ritchey & Co. beat Tarrant & Co., 667 to 511; Lanman & Kemp defeated Tarrant & Co., 620 to 512; Bruen, Ritchey & Co., 709 to 643.

Saturday's games were made notable by the remarkable score of Colgate & Co.'s team in their first match. They bowled 873 to 638 for R. W. Robinson & Son. The latter team did well in the second game by bowling 719 to Max Zeller's 662. The other results were: Colgate & Co., 737; Max Zeller, 707; Lanman & Kemp, 719, Whitall, Tatum & Co., 619; Whitall, Tatum & Co., 688; Powers & Weightman, 572; Lanman & Kemp, 680, Powers & Weightman, 653.

Why can't a picked team from the drug trade bowlers meet the Produce Exchange team that is out with a challenge to all comers?

Mr. Lillard Defeated.

The suit of Benjamin Lillard against L. K. Bell, secretary of the Druggists Circular, for a peremptory mandamus, has been practically dismissed by Judge Lawrence of the Supreme Court, the mandamus being denied.

The case was legally known as the People ex rel. Lillard vs. Bell, and the relator, a director of the Oil, Paint and Drug Co., a West Virginia corporation, asked for a mandamus to compel Bell, secretary, and W. O. Allison, Caroline A. Allison and L. K. Bell, directors of the Druggists Circular, a corporation organized under the laws of New Jersey, to permit him to examine and inspect the books and to take extracts therefrom. The plaintiff owns one-third of the stock of the West Virginia corporation, and five shares out of a total of 250 of the New Jersey corporation.

Judge Lawrence says the court has no jurisdiction to compel a foreign corporation to submit its books and papers to the inspection of its stockholders. This was the point made by the counsel for Bell et al., and is considered well taken. Judge Lawrence quotes as a precedent the decision of Judge Ingraham in a case very similar to this one, and says that Judge's opinion is conclusive.

Asked what his future action in the case would be, Mr. Lillard answered: "This case is young yet. In fact, it has only just been begun. It will go on for 75 or 100 years yet, if I live that long. You can say that I will not drop it by any means."

The other side felt all along that their position was an impregnable one, and they await any action of Mr. Lillard without worry.

E. J. Hall, of Clark & Hall, Tupelo, Miss.—We cannot keep house without the Era. It is worth $100 every year to me alone, and, besides, it helps our business.

HERE AND THERE.

——A resident of Staten Island used a patent corn cure; blood poisoning set in, and he may lose a foot.

——There is a change contemplated in the drug firm of Woodard & Payne, of Pontiac, Mich., after Jan. 1.

——Arthur D. Allen, a druggist at Holland, N. Y., has made an assignment to C. A. Button, of that place.

——Ex-Councilman William A. Davis, of Boston, well known as a manufacturer of inks and mucilages, is dead.

——Thomas Paul, a druggist of Columbia, Ky., and Miss Lena Marcum were married at Columbia last week.

——The Milton, W. Va., municipal ticket, headed by Rev. Daniel Ash, favors the sale of liquor at drug stores only.

——Anton Gates, a Toledo, O., druggist, is charged with selling alcohol without paying the government tax, and is held for trial by the grand jury.

——The S. G. Webb Chemical Co. is a new concern at Richmond, Va., for the manufacture of fertilizers, chemicals, etc.

——Wayne Sanns, a clerk in Sanns's drug store, at Gallipolis, O., had his left hand badly burned by sulphuric acid last week.

——The Shoemaker Consumption Cure Co., of Sioux City, Ia., is a new corporation reported to have a capital stock of $100,000.

——It is reported that a mammoth plant for the manufacture of chlorate of potash is to be erected at Barberton, Ind., very shortly.

——The drug store of J. F. Hixie, Owensboro, Ky., was damaged by fire the night of Dec. 11 to the extent of $7,000; partially insured.

——C. A. Dick has purchased the stock of drugs formerly owned by L. N. Gerber, of Webster City, Ia. He will continue the business.

——The business portion of the town of Ridgefield, Conn., was nearly wiped out by fire Dec. 8. Druggist H. B. Bissell was one of the sufferers.

——David McNab, night clerk for Matkin Bros., prominent druggists of Chicago, is charged with working the cash register to the extent of $2,000 or more.

——Pharmacist Edward Berry, of Gallipolis, O., who had never lost a game of checkers in his life, wrecked his board and swore off when he was defeated last week.

——Zebulon Lowe, of the firm of Forwood & Co., druggists at Bel Air, Md., was accidentally shot and severely wounded while out gunning Thanksgiving Day.

——A destructive fire at Allegan, Mich., Dec. 5, burned out the L. Perridge Company, manufacturing chemists, and L. M. Watson, druggist. Both firms were fully insured.

——One hundred and fifty retail druggists of Tacoma, Wash., have organized an association for mutual protection and advancement. Price cutting will receive immediate attention.

——The lawyer of the Cincinnati Branch of the Dairy and Food Commission, Judge Amor Dye, became a benedict

last Thursday. He was married at Loveland, O., to Miss Ida Schaetzel.

——The $10,000 damage suit brought by Mary Mikels against Perry Heath, an Almo, Ind., druggist, resulted for the defendant. She alleged that Heath sold her husband whisky.

——L. C. Reynolds, of Charlotte, Mich., former clerk of O. P. Schuler, will travel for T. H. Hinchman, Sons & Co. after Jan. 1. His territory will be southern Michigan and northern Indiana.

——Some of the druggists of Danville, Ind., have been indicted for the illegal sale of liquor, the evidence being based, it is said, upon the testimony of students of the Central Normal College.

——Henry A. Johnston, a well-known druggist of Washington, D. C., has been appointed by the District Supreme Court receiver to close the partnership business of Smith & Pearson, druggists, of that city.

——The rear portion of 510 North Entaw street, Baltimore, Md., used by Charles Neuhaus & Co., manufacturers of surgical instruments, was damaged $200 by fire on the afternoon of the 9th inst.

——Dr. Blake, of Blake & Co., Boulder, Col., has gone to New Iberia, La., hoping to gain weight and strength. The store will be well taken care of by Messrs. Bedard and Greenman during his absence.

——Michigan's new pure food law has gone into active operation. Dealers are labelling the articles of food and drink which they offer for sale, with a declaration that they are pure and without drugs or poison.

——During a recent heavy wind the revenue stamps were blown off several barrels of alcohol lying on a float in the river at Louisville, Ky., and there is considerable speculation concerning the possible result of their loss.

——Geo. E. Fleet, of New York, has spent several hundred dollars trying to produce a bottle which cannot be refilled. He has gone insane over the problem, and says he is surrounded by magnetic influences which interfere with the work.

——During the past year the official analysts of the Dominion of Canada analyzed 926 samples of foods, drugs and fertilizers, finding 689 genuine, 161 adulterated and 85 doubtful. The most noticeable adulteration was of butter.

——A druggist in Springfield, Mass., was carrying a basket containing some bottles of ammonia, when the handle broke, and the way people who passed the spot immediately afterward walked on with tears in their eyes was rather amusing to see.

——Prof. T. M. Smith, of the Case School of Applied Sciences, Cleveland, O., was fatally injured Dec. 4 while conducting one of his chemistry classes through the River blast furnaces. He was caught in the furnace elevator and badly crushed.

——The Iowa Supreme Court has decided that a physician may advertise his business in that State and not violate the statute which requires a license of "any itinerant vender of drugs, nostrums or appliances" who shall advertise to "cure disease, injury or deformity."

——Southern papers report that Druggist Hanson, of Pass Christian, La., caught an octopus recently, and exhibited it in his store, and later presented it to a wholesale drug house in New Orleans. We wonder what kind of an octopus it was, and hope it was of the cut-rate variety.

——Mr. Henry S. Wellcome, of the London, England, firm of Burroughs, Wellcome & Co., has presented to the Senate of the United States the picture of Pocahontas, which occupied a prominent place in the Woman's Building at the World's Fair.

——Irving M. Smith, for some years in the drug business in Providence, R. I., died at Barrington, that State, Dec. 1. He was instrumental in establishing Arbor Day in Rhode Island, the first State in New England to make it a legal holiday.

——It is reported that Dr. F. B. McNeal will be a candidate to succeed himself as Ohio State Dairy and Food Commissioner. He is now serving his second term. If this is true, there will be a great fight to capture the Miami County delegation to the next Republican State Convention.

——At Toronto, Ont., the retail druggists have formed an association for the furtherance of trade interests, and especially to deal with the prevailing cutting of prices by department stores. The president is G. E. Gibbard, Toronto, and the secretary and treasurer, J. T. Pepper, Woodstock.

——L. F. Adams and Fred Williamson were arrested in a theater at Chattanooga, Tenn., last Friday night charged with obtaining money by misrepresentations. In a few days they had disposed of 500 bottles of a patent medicine said to be manufactured in Indiana. Druggists say that the medicine is water colored with burnt sugar.

——It is said that the cocaine habit is spreading in Boston. Ever since the pain-allaying properties of this drug became known there has been an increasing demand for it. Cocaine may be a fine servant, but an ugly master, like opium or morphine. It is frequently bought for external application for relief from toothache or neuralgia.

——Up at Fairport, N. Y., a firm is engaged in the manufacture of what they call a baking powder filler. The local paper calls special attention to the fact that the concern has just received seventy-five barrels of alum. The question of the injuriousness of alum in baking powder and bread does not seem to bother these people much.

——Hall Bros. & Co. is the name of a new company which has lately become incorporated in Kalamazoo, Mich. The line of business to be pursued will be manufacturing and selling drugs, medicines and surgical instruments. The capital stock is placed at $50,000, and the concern will employ a number of travelers to sell its goods.

——They make capsules life-size in Virginia. A physician of Pocahontas County, that State, tells a story of a patient who swallowed a .32-caliber revolver cartridge by mistake for a five-grain quinine capsule. The patient took the dose in the dark, and was greatly disturbed when he discovered his mistake. No serious results followed.

——A number of druggists and saloonkeepers of St. Joseph, Mo., recently pleaded guilty to an indictment for failing to destroy the stamps on empty whisky barrels. They thought a plea of guilty would let them off upon payment of costs, but find they are mistaken, and have now forwarded petitions to President Cleveland for pardon.

——C. A. Thayer, a Chicago druggist, left his $150 watch at a jeweler's for repairs. Two or three days later a well-dressed stranger entered the store and succeeded in gaining possession of the watch from the young daughter of the proprietor who was alone in the store at the time. The druggist is still mourning the absence of his timepiece.

——W. G. Brown, a wealthy wholesale druggist at Columbus, O., has compromised his suit for divorce against his wife. All the sensational charges at first brought are eliminated, and the application is to be rested on the charge of gross neglect of duty. Brown is allowed the custody of their boy, and Mrs. Brown gets an annuity, currently reported to be $3,000 per annum.

——At South Bend, Ind., the drug store of Fox & Ryan, has been sold to S. G. Reed, who formerly, for ten years, conducted a store in that city, and for seventeen years traveled in the interests of Morrisson & Plummer, of Chicago. Mr. Reed will have Emil A. Johnson, a drug clerk of long and valued experience, for his associate, and the business will be conducted under the name of S. G. Reed & Co.

——Wm. B. Tobey, an old-time druggist of Syracuse, N. Y., died at his home in that city Dec. 7, aged seventy-eight. Mr. Tobey was a native of New York, and was employed in his early manhood as steward on a line of boats that ran on the Hudson River. He engaged in the drug business in 1849; in 1884 he retired, and has since lived quietly at his home. He leaves a widow, a son and a daughter.

——Richard H. Kimball, well known in the drug circles of Hartford, Conn., has gathered together a class of young men to whom he is giving lectures on pharmacy and pharmaceutical chemistry. One lecture a week is delivered, and the course will consist of about fifteen lectures of about two hours each. Practical work and progressive exercises in chemistry are included in the instruction. This is an example worthy of emulation by druggists in other cities.

——A Canton, O., correspondent reports that fortunately but few new stores are being opened in that city. Durbin, Wright & Co., since the death recently of Manager Donds, has changed its name to the Durbin & Wright Co. Ed. Jansen, formerly of Jansen & Koch, has purchased the store of L. C. Binkley,

who a year ago bought out Weber's store, but is now thoroughly convinced that there is not "millions in it." Mr. Binkley was not a pharmacist.

——Several changes are about to take place in T. H. Hinchman & Sons', Detroit. E. D. Matthews, for some time city salesman, will take the road for the firm. George Erskine, foreman of the order department, will be promoted to Mr. Matthews' present position. Augustus Ameel, formerly with J. Schahner, of Mt. Clemens, will take charge of the glassware department. It is the policy of the firm to promote employees whenever an opportunity offers, whether by removal, by necessity for more help, or any other cause.

——Druggists have many queer visitors, but few have any whose appearance causes more astonishment than was aroused a short time ago in an apothecary shop at the South End of Boston. Everything was going on quietly one evening when the door opened and there walked in a woman wearing nothing save a white nightdress. This would have been startling at any time, but on this particular occasion it was so unexpected as fairly to paralyze all who were witnesses, because the temperature was very low. The woman said she was searching for her husband, who, she said, was reported to be dead. She rambled on in a crazy manner for a few moments, but fortunately was soon discovered by some folks from a hospital near by, where she was a patient.

——Inasmuch as the State Board of Registration in Pharmacy in Massachusetts has given many a hard rap at druggists in its annual report, it probably was somewhat pleased to receive a vindication of some of its criticism by a raid made recently at the drug store of Franklin H. Martin, 1433 Washington street, Boston. Suspicion being entertained that a trade in liquor was being carried on illegally, the police made a little call there without going through the formality of sending notice that they might be expected at a given hour. Once there, they made room for the druggist's stock of Christmas goods by taking away about a hundred pint bottles of liquor, 33 gallons of whisky, 7 gallons of ale, 36 gallons of alcohol and 4 gallons of rum.

——J. Roy Turner, the young man who, until Nov. 1, was employed by the wholesale drug firm of James Baily & Sons, 34 East Pratt street, Baltimore, and on that day disappeared after having been sent to the Third National Bank to deposit $286 in cash and nearly an equal amount in notes and checks, has been arrested. He appropriated the money and left the bank book and checks in the lavatory at the Carrollton Hotel, from where the firm received the first information of Turner's disappearance. Ever since then detectives have been on the lookout, and a few days ago he was seen walking along the street and taken into custody. He said he had been to Savannah and spent the money. With the acknowledgment of the theft he coupled the request that his invalid mother be kept in ignorance of his disgrace. Justice Murray, of the Central Police Station, committed him for court.

ASSOCIATIONS,
CLUBS, SOCIETIES.

Kings County Pharmaceutical Society.

The Kings County Pharmaceutical Society held its regular monthly meeting at the rooms of the Brooklyn College of Pharmacy Dec. 10, President Pamphilon in the chair. After reading the minutes the secretary read the application of Jos. A. Hayes, New York City, for membership. The following gentlemen were elected members: J. F. Crawford, 372 Court street; F. E. Kalkbrenner, 48 Morgan avenue; S. A. Osborne, 401 Fifth avenue; W. J. Kline, 193 Park avenue, and P. S. Gearce, 191 Fulton street, Brooklyn. Treasurer Ray reported a cash balance on hand of $71.54. A communication was read from E. A. Sayre, 59 Maiden Lane, New York City, asking that his resignation as a member of the society be accepted. Mr. Cameron said that Mr. Sayre was one of the four original members of the society, and was at one time its president. Another member wanted to see Mr. Sayre's name on the list of honorary members. This did not meet the wishes of the majority, however, and Mr. Sayre's resignation was accepted.

Trade matters were then taken up and Mr. Gallagher, chairman of the committee, made quite a little speech on the free alcohol question, which he thought the members of the society should oppose. After much discussion the committee on legislation was directed to prepare a circular letter to be sent to all the members and druggists in Kings County, embodying its views on the question of free alcohol and asking each druggist to reply thereto, the reply to be returned to the secretary before the next meeting.

Prof. W. C. Anderson, of the Brooklyn College of Pharmacy, was then introduced and read a paper entitled "The Physician and Pharmacist: His Prescription and Our Preparations." After discussing the professional relations of the physician and pharmacist he took up the subject of social and business relations, as follows:

"Are we in harmony and working for each other's interests, or are we opposed and working for our individual advancement at the expense of our professional brother? In a few instances at least I am happy to say the physician and pharmacist are on equal terms, both socially and in their business relations, each trusting, honoring and making an associate—yes, even more—a confidant of the other. But in the majority of cases I am forced to admit an opposite condition prevails, the physician, as a rule, showing little interest in, or regard for, not alone the pharmacists as a whole, but even those in his immediate neighborhood, to whom he should look for counsel and support, and in many instances unknown to him, or, at least, there is no friendly or reciprocal feeling between them.

"What is the cause of this? To a certain extent I believe it can be attributed to obstinacy on the part of each, the pharmacist being too prond to force himself into the good graces of the physician lest he show his anxiety for that gentleman's patronage, or acknowledge his indebtedness for favors shown. The physician, as a rule, is inclined to regard himself as a wonderful being compared with the every-day pharmacist, picturing himself magnified many times and standing in the center of the earth, possessor of all he surveys, while the pharmacist, drawn up in a little bunch, hangs on the edge by the root of an old tree.

"There is no just reason why such an opinion of the social or business standing of the two professions should exist, for one is as important in its line as the other in its, and, as far as ability is concerned, it certainly requires quite as much brains and good judgment to become a pharmacist as to be recognized as an M. D.

"The physicians' prescriptions and our preparations go well together, but for some mysterious reason the formulator of the prescription has for some time shown a tendency to crowd out our agreeable preparations and insert in their stead compounds given fancy names and containing various mysterious 'remedies.' In other words, he gives up the drugs and preparations, the nature and therapeutic value of which he has studied and with which he is perfectly familiar, and inserts in their stead nostrums manufactured in many instances by persons having little, if any, knowledge beyond that with which they wish to victimize the physician, and through him the public. These compounds contain constituents which are in many instances unknown to either the prescriber or manufacturer, and the therapeutic effects of them must be discovered at the expense of the patient."

The tablet triturate as a form of medication was next discussed and the speaker thought that the mode of production, keeping and distribution, was in many instances faulty. He thought, too, that with but few exceptions the drugs used in tablet triturates are injured, being decomposed or otherwise altered by exposure to air and light, and as their diluent, sugar of milk, does not protect them from decomposition or alteration, their keeping can only result in deterioration and altered therapeutic value.

"Take, for instance, a tablet triturate of potassium bichromate. It is, when freshly made, almost white, but by keeping gradually becomes darker in color until finally it is almost black. Tablets of bromide of arsenic, as well as many other drugs, show this change very quickly, and it is doubtful if any of them are fit to be used after being kept for any length of time. Their solubility is also changed, and tablet triturates containing volatile ingredients show a reduction in strength very quickly. For example, take a popular tablet containing camphor, and upon examining the bottle containing it you will find the bottle has received the effects of that drug, while the patient is denied it. This decomposition proves that tablet triturates

should only be used when freshly prepared. Compressed pills or tablets exposed to the action of the air and light are subject to the same alterations, and they should be freshly made when required by the physician."

At the conclusion of the paper the author was given a vote of thanks. Professor Schimpf suggested that the society, through its various members, analyze the different tablet triturates found upon the market. His suggestion was not adopted, however.

A communication was read from the New York branch of the Interstate League asking the society to indorse the proposed poison law drafted by that body. The matter was referred to the committee on legislation with instructions to act as it saw fit. The society then adjourned to meet Jan. 14.

New England Retail Drug Union in Rhode Island.

Unparalleled success and unusual results have followed the efforts to interest the retailers of the State in the aims and objects of the union. This was accomplished by hard work of the executive committees of the Rhode Island Pharmaceutical Association and the Mortar and Pestle Club. Following a meeting of these committees with F. W. Reeves on Nov. 25, the cities and larger towns in the State were visited and a personal canvass made to interest the retailers in the union's plans, and secure promises of an attendance at a meeting of retailers held in Providence on Dec. 3. A dinner was the means of opening the meeting, and the attendance was so far in excess of all the anticipations of the committee, that an additional table had to be provided. After dinner remarks were made by Henry Canning and Geo. W. Cobb, of Boston; F. W. Reeves, of Cambridge, and F. M. Harris, of Worcester, showing what the plans and methods of the union throughout the rest of New England had been, and what had been accomplished in the work. These results when shown to those present, and which included nearly every prominent retailer in the State, awakened an interest and confidence which were a means of securing large additions to the union's membership. It was also a means of starting a schedule agreement, which was signed by every prominent retail dealer present. This encouraging result was followed by a personal canvass on the part of F. W. Reeves among those who were unable to be present at the meeting, and every one seen joined in the movement and expressed the strongest belief in its prospective success, and his firm determination to lend every effort in his power to aid and assist in the furtherance and work of the union. The future of the union in Rhode Island is a very bright one at the present time. The only factor which can in the least interfere to prevent a full and complete success in this movement is the failure of each one to understand how important he is as a co-operator in the whole plan. There is little to fear in this direction, for the retailer is well informed and fully prepared to act in every particular.

St. Louis Drug Clerks' Society

St. Louis, Dec. 15.—The St. Louis Drug Clerks' Society held a rousing and old-fashioned meeting last evening at the college building, 2108 Lucas Place. The following nominations were made for the election of officers, which is to take place at the next meeting Jan. 9: For president, Charles Milne and Samuel Livingston; for first vice-president, Rudolph S. Vitt and Emil Bernins; for second vice-president, G. E. Kincaid and George Mueller; for recording secretary, J. L. Boehm and J. M. Gray; for corresponding secretary, William Baron and E. C. Schnittker; for treasurer, C. W. Tritschler and Charles Witt; for executive committee (three to be selected), C. W. Hahn, Al Horstman, Charles Roth and Stephen G. Snuggs; for entertainment committee (five to be selected), H. G. Van Aller, George Waller, H. Kalbfleisch, A. F. Barth, C. A. W. Seitz, Charles A. Lips and Charles Geiger. The boys are displaying a deep interest in the election, and the contest next month promises to be spirited.

Messrs. Baron, Horstman and Livingston, the committee which had charge of the recent ball, reported that the affair was a pronounced success, socially, financially and every other way. Several new members were elected, viz.: E. Trettermann and L. P. Wiggins. O. M. Curtis was proposed as a new member. The meeting was a large and interesting one.

Vice-President Charles Milne presided in the absence of President Tritschler, who, on account of his recent embarkment upon the matrimonial sea, preferred to stay at home. The next meeting of the society will be held at the Mercantile Club, and an elaborate programme has been prepared. After the election of officers a banquet will be given, and all the members are urged to attend.

——The Norfolk and Portsmouth (Va.) Pharmaceutical Association has elected the following officers for the ensuing year: W. S. Langhorne, Portsmouth, president; E. C. Jackson, Norfolk, vice-president; W. R. Martin, Norfolk, treasurer; J. W. Thomas, Jr., secretary; W. F. Ingram, Norfolk; B. F. Holmes, Norfolk; S. W. Weaver, Portsmouth, executive committee.

——At the scientific meeting of the Alumni Association of the St. Louis College of Pharmacy, to be held Dec. 17, Dr. O. H. Meisenbach will lecture on the subject, "The First Care of the Injured; or What to Do in Emergencies." The association is also making arrangements for a grand ball and entertainment to be given Thursday, Jan. 28, at Liederkranz Hall.

——The will of the recently deceased widow of Thomas H. Powers, formerly senior member of the firm of Powers & Weightman, has just been probated. She leaves an estate worth $500,000.

BOARDS OF PHARMACY.

What the Massachusetts Pharmacy Board is Doing.

Boston, Dec. 13.—For the first time in its history the Massachusetts State Board of Pharmacy has held a hearing at which accuser and appellant were brought face to face. The appellant applied six months ago for a certificate from the board, in order to be able to do business as a druggist, and his application was refused on account of very damaging statements by a neighbor. An appeal for reconsideration was entered and this appeal came before the board. Chairman Whitney of the board preferred not to make public the evidence received. In reply to questions concerning the work of the board, Mr. Whitney said: "Since the new law of 1894, placing the control of the sixth-class license in the hands of the board, we have accomplished a great deal. It is very significant that while during the previous nine years of the existence of the board the increase in the number of certificates granted has ranged all the way from 20 to 50 per cent., it certainly dropped off last year in just about the same ratio. This, of course, affords very strong grounds for the suspicion that many men, especially in no-license towns, desire to go into the drug business on account of the profits derived from liquor selling. The evil resulting from the sale of liquor in drug stores is far-reaching in effect. One aspect of the case not usually considered by the public is this, that drug stores are visited frequently by ladies and children; by people desiring information, and injured persons are brought in for treatment. To sell liquor in such an environment, therefore, is likely to demoralize not only the druggist, but innocent frequenters of his store, who are brought into contact with debasing influences. During the past year the board has closed over 100 stores for undue selling of liquor. At a recent meeting we revoked one license absolutely, suspended a second for six months and placed a third on file."

——The New York State Board of Pharmacy held a meeting for examination Nov. 29 at Albany, Plattsburg, Rochester, Syracuse and Yonkers. Seventy-four candidates appeared for examination, of whom the following passed as registered pharmacists: Frederick B. Dennis, Kingston; Harry M. Dixon, Binghamton; Julius Lifschitz, New York; John J. Gibson, Bay Shore; Henry Marini, New York; Conrad B. Bevier, Matteawan; Van Eber Hubbard, Tottenville; Henry Ostermann, New York; Joseph T. Munk, Long Island City; Joseph L. Byrne, New York; Thomas G. Coyne, Middletown; William N. Parks, Newport; John R. Nitzschmann, Schnectady; Charles W. Gorman, Gouverneur; Thomas H. Botham, Hempstead; David J. Heroy, Binghamton; Thomas F. Hennessey, Oswego; Daniel D. Bronson, Lowville; F. Adon Rice, Oneida; Paul T. Carpenter,

Cortland; Mary L. Farrington, Syracuse; Thomas B. Furnival, Syracuse; Mulford R. Burt, Bacon Hill; Frank S. Houck, Central Bridge; Loren D. Larkin, Plattsburg; John E. Quinn, Ballston Spa; Ward B. Titus, Binghamton; James W. Whitney, Saratoga; Harry A. Wickham, Albany; George H. Hummel, Long Island City; Louis H. Jones, Northport; Victor H. Kopald, Long Island City; Robert Reid, New York; P. J. Toye, New York; Frederick W. Fickett, Rochester; John B. Kibler, Rochester; Charles Rosenbaum, Brooklyn. As registered assistants: Frederick A. Allen, Poughkeepsie; Clarance O. Metcalf, Elizabethtown; Harry G. Ransom, Poughkeepsie; John A. Kenney, Poughkeepsie. The next meeting for examination will take place Feb. 28, 1896, at Albany, Plattsburg, Syracuse and Yonkers. The board will hold a business meeting at Syracuse March 3, 1896.

——The Michigan Board of Pharmacy have sent out circulars calling attention to their ruling as to the length of time an assistant pharmacist may remain in charge of a pharmacy, a subject on which great ignorance seems to exist. They say: "A registered assistant pharmacist may be allowed to remain in charge of a pharmacy during those temporary absences of the registered pharmacist which are incidental to business." They also warn registered pharmacists who are not in active practice against loaning their certificates in order to protect unregistered persons. This caution is based on some very positive evidence in their possession that such a practice has been followed in more than one instance. The board are not letting grass grow under their feet in any of their provinces.

——Two more convictions have been secured by the Michigan Board of Pharmacy for violations of the State law. Peter A. Nicodemus, of Birch Run, was running a drug store without any druggist's certificate at all of his own. He further compromised affairs by hiring as clerk E. E. Ormsby, who has only an assistant's certificate. The law requires that every store shall be in charge of a full registered druggist. Both men were arrested and found guilty. Nicodemus had to pay $20 fine and $34 costs, and Ormsby was let off with $10 fine and $4 costs, a total of $68 for the store.

——The Connecticut Board of Pharmacy held a special meeting at Hartford, Dec. 3, for the examination of applicants to practice pharmacy. The following passed successfully: Benoit Bretzfelder and Wm. A. Doctor, of New Haven; Peter C. Lane, Jr., Harry H. Price and Fred T. Spiller, of Hartford, and J. Arthur Pratte, of Waterbury. Jas. W. Smith, M. D., of Stamford, was granted a license by virtue of the certificate he holds from the New York City and County Board of Pharmacy. Next meeting (special), Jan. 15, 1896.

——The next examination for candidates for druggists' and assistants' certificates will take place before the Michigan Board of Pharmacy at Detroit, Jan. 7 and 8, 1896.

COLLEGES
AND SCHOOLS OF PHARMACY.

Proposed Gift of Chicago College of Pharmacy to the State University.

Chicago, Dec. 14.—The trustees of the Chicago College of Pharmacy are contemplating a change in the institution, and to that end a proposition has been made to the regents of the State University of Illinois to turn over the college, corporate franchises and real estate to the State University without monetary cost, the only consideration attached being that it be continued as an institution for the education of students in pharmacy, and that its present high standard as an educational institution be maintained.

The Chicago College of Pharmacy was incorporated by the druggists of Chicago, who felt the need of educating the coming pharmacists. It began its regular college work in 1859 and was liberally supported by Chicago druggists and others until, in 1862, it was suspended on account of the inroads which the war made upon students and membership.

In 1865, however, it was re-established with unusual facilities and attendance, and continued successfully until 1871, when all its property was destroyed by the great fire of that year. Having been recognized as one of the standard institutions of learning, the pharmaceutical world contributed most liberally to re-establish it and make good its loss. Through the efforts of Prof. John Attfield, of London, and Mr. Brady, of Newcastle-on-Tyne, contributions of money, appliances, instruments and a library were collected, amounting in value to something over $20,000. This donation was forwarded and tendered to the druggists of Chicago for the re-establishment of the college, and was by them received to be held in trust forever for the education of students in the profession of pharmacy. Since its re-establishment the college has done good work. It has been liberally supported by the profession, having received since then donations in the way of real estate, and additions to its library, apparatus and instruments, so that at present the value of its possessions will closely approximate $35,000.

About ten years ago an effort was made by some of the older members of the college to turn this trust which they had so successfully carried on over to the State University of Illinois. It was found, however, that the laws governing the State institution were such that none of the departments could be located outside of Champaign County, where the departments of liberal arts, agriculture, engineering, mining and military science were located. Realizing that a department of pharmacy would be of little value in a country district, the idea was abandoned until such a time as necessary changes were made in the laws governing the university, permitting the institution of different professional departments outside of Champaign County. During this time overtures were made by several sectarian institutions—for example, the Lake Forest University and the Northwestern University—for the annexation of the Chicago College of Pharmacy. While some of the members seemed at times favorable to such annexation, yet the counsels of those prevailed who considered that as the State required an educational qualification for the practice of pharmacy, it was the duty of the State to provide the opportunity for that education in its own institution. At the last session of the Illinois Legislature an act was passed giving the regents of the university the power to locate departments of law, medicine, pharmacy, dentistry and other sciences outside of Champaign County. The trustees of the Chicago College of Pharmacy being advised that the regents of the university were contemplating the inauguration of this departure in regard to professional schools, at the semi-annual meeting of the college passed a resolution offering to turn over the property and franchise of the Chicago College of Pharmacy to the Illinois University under the conditions mentioned above.

With this in view, a special committee, of the members of the college, consisting of Messrs. Albert E. Ebert, Walter M. Sempill, C. S. Hallberg and W. B. Day, met the trustees of the University of Illinois at Champaign on Dec. 11, and presented the proposition as given above. A committee composed of President Draper and Trustees Dr. Julia Holmes Smith and J. E. Armstrong, of the university, was appointed to look into the proposition, and make a report to the trustees.

It is not yet known whether the offer will be accepted, but there is every indication of a favorable termination of the negotiations. The Chicago College of Pharmacy is without a dollar of debt of any kind, and its transfer to the University of Illinois could not but add greatly to the prestige of that already well-known university.

Philadelphia College.

Philadelphia, Dec. 15.—On Tuesday evening last the Alumni Association of the Philadelphia College of Pharmacy, together with a large number of invited guests, held a delightful reception followed by an amateur theatrical performance. Dr. Adolph W. Miller, of the University of Pennsylvania, delivered an instructive lecture on the "Missouri Botanical Gardens," which was highly appreciated by those present.

A particularly fine recitation, entitled "A Society Belle," was given by Miss Florence Sutliff, a very popular young lady, who has many friends in the college, and possesses considerable dramatic ability. In company with Miss Mamie Karutz, Miss Sutliff rendered the farce "A Fair Encounter," which was received with many outbursts of applause. These young ladies are graduates of the Mount Vernon Institute of Elocution, and were presented by their teacher, Miss Frances E. Peirce. The Zeta Phi orchestra furnished delightful music for the occasion, which will long be remembered.

To Discuss the Proposed Poison Law.

A special meeting of the New York College of Pharmacy will be held on Dec. 30, at 8 P. M., for the purpose of discussing the poison law framed by the New York branch of the Interstate Retail Druggists' League. The request for the meeting was signed by Horatio N. Fraser, Charles A. Osmun, Dr. Charles Rice, E. A. Sayre, C. A. Bigelow, Reuben R. Smith, George Massey, Hermon W. Atwood, George J. Seabury, T. J. McMahan, A. H. Mason, Charles Holzhauer, H. H. Rusby and others. Mr Seabury intends to visit Albany during the coming session, and desired to know what attitude the college takes on this new poison law.

It is said by one member of the college that there is quite a little opposition to the new law.

Cincinnati College.

——Frank C. Taylor, of Coolville, O., one of the college juniors, is ill.

——H. C. Ulen, one of last year's graduates, is assistant professor of chemistry this year.

——John H. Schulte, another '95 graduate, owns a drug store at Madison and State streets, Covington, Ky.

——The seniors have established a quiz class with Edward McCullough, a Lawrenceburg, Ind., student, as quiz master. The plan is an innovation here.

——A purse has been raised by the "boys" to buy a Christmas present for Fritz Knieber, who is just serving his tenth year as janitor of the college.

——"Chokeall" is the name of a new element recently discovered by the handsome and talented E. Merck, Jr. It produces an odor strong enough to lift a mortgage.

——The senior examination began last Friday, Dec. 13, and the junior examination last Wednesday, Dec. 18. The college will close Dec. 20 for the holidays and will reopen Jan. 6.

——The seniors at the college have adopted a neat class pin, which may be seen in the scarfs and on the coat lapels of every '96 student in the college. The design is that of a pestle and mortar, Or, rampant on a field sable.

——The Alumni Association of the New York College of Pharmacy will hold its first annual ball at Madison Square Garden, Wednesday evening, Jan. 22, 1896. The co-operation of all interested in the college and its alumni is urgently requested, and arrangements have been made to make the ball a grand success.

——Professor Remington, of the Philadelphia College of Pharmacy, is busily engaged in preparing for the annual trip of the students to New York. The boys will leave during the holidays and expect to be gone several days. During their trip they will visit a number of large chemical works in the metropolis and vicinity.

——James A. Lydston, Ph. G., M. D., gave a lecture at Attfield Hall, Chicago College of Pharmacy, on Thursday evening, Dec. 12, on the subject of health and disease. Dr. Lydston illustrated his talk with about fifty stereopticon views, giving illustrations of various conditions and symptoms of disease. The lecturer's attention was chiefly directed toward ophthalmology, and was exceedingly instructive.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA, Box 1483, New York.

ALABAMA.

Greenville.—A. G. Stewart & Bro., now A. G. Stewart.
Montgomery.—F. S. Persons, damaged by water.

ARKANSAS.

Jasper.—James Le Grand, succeeded by Julia LeGrand.
West Fork.—Males, White & Co., now Males & Cannon.

CALIFORNIA.

Bachelor.—We recently reported J. W. Yelton, new store. This was an error, and name should be omitted.
Corning.—T. F. Howell, sold to M. A. F. Blatchley.
Mayfield.—I. N. Adams, sold to F. H. Newman.
Modesto.—Samuel McLean, discontinued.
Perris.—C. R. Johnson, sold to L. E. Leeman.
Redondo.—J. A. May, now J. A. May & Co.
Stockton.—Eagle Drug Co., 210 E. Main, new store.
Tulare.—R. L. Reid & Co., sold to Anderson Bros.
Visalia.—N. W. Kibler, now N. W. Kibler & Co.

COLORADO.

Basalt.—Basalt Pharmacy, new store.
Victor.—W. H. Leavenworth & Bro., recently reported as having opened branch here, did not do so.

CONNECTICUT.

Derby.—Derby Drug Store (H. E. Strasburg), new store.
New London.—B. M. Beebe, assigned.
Ridgefield.—Harvey P. Bissell, burned out; insured.
South Norwalk.—Central Pharmacy (C. I. Linsky), discontinued.

DELAWARE.

Delmar.—Robert Ellegood, succeeded by W. A. Cannon.
St. George.—J. W. Ponder, discontinued.
Wilmington.—Dr. J. H. Morgan, Elliott and Market, new store.

DISTRICT OF COLUMBIA.

Washington.—J. D. Coblentz, damaged $800 by fire and water; fully insured.
Thompson's drug store, slightly damaged by fire.

FLORIDA.

Marianna.—A. G. Moore, new store.
Tampa.—J. H. Pittman, sold out.
Westville.—E. W. Dillon, new store.

GEORGIA.

Avalon.—W. L. McBath, succeeded by B. W. Stoneeypher.
Carrolton.—Carrolton Drug Co., new store.
Lambert.—E. B. Miller, new store.
Macon.—W. H. Cornell & Co., succeeded by Brown House Pharmacy; J. T. Ross owner.
Norcross.—L. H. Jones, succeeded by A. O. Sims, M. D.
Savannah.—Masonic Temple Pharmacy, has opened branch under name of Standard Drug Store, Liberty and Montgomery.
Seney.—W. J. Brown, new store.
Whigham.—B. F. Frye, succeeded by Harrell & Frye.

ILLINOIS.

Arlington.—Michael Young, new store.
Avon.—Dr. S. S. Clayberg, sold to Babbitt & Osborn.
Baldwin.—O. H. Rhodes, succeeded by H. A. Rhodes.
Carrolton.—D. J. G. Crides, new store.
Chicago.—Baker & Mason, dissolved.
R. M. Barber, 527 W. Van Buren, new store.
Montgomery & Kasper, address should be 2601 Portland.
J. S. Larsen, address is now 24th and Oakley ave.
D. W. Elss, 38th and State, assigned.
Medicine Hall, 167 4th ave., succeeded by J. S. Hottinger, 167 Custom House place.
A Stamm, deceased.
Friendsville.—Q. A. Ballard, now Burns Ballard.
Hamilton.—Riley & Blackburn, new store.
LaPlace.—A. J. Sayler & Son, succeeded by H. O. Sayler.
Sidell.—J. M. Crenshaw, succeeded by Geo. Parrish.
Spring Valley.—E. A. Ladue, succeeded by E. Cahill.

INDIANA.

Benton.—Charles Maston, new store.
Elwood.—E. T. Lytle, new store.
Glendale.—W. P. Smoot & Co., now J. S. Smoot & Co.
Greentown.—John Fell, succeeded by Central Pharmacy.
Harris.—J. A. Stagg, new store.
Indianapolis.—Ward Bros., wholesale druggists, damaged $35,000 by fire; fully insured.
Logansport.—Busjahn Bros., succeeded by J. J. Busjahn & Co.
Paoli.—O. J. Tucker, new store.
Redkey.—Pierce & Ravick, now J. S. Pierce, M. D.
Tocsin.—Hesler & Co., new store.
Newcastle.—F. Archibald, succeeded by Archibald & Sweigart.
Peru.—I. B. Hull, succeeded by G. C. Hall & Co.
Washington.—Cox & Myers, new store.

INDIAN TERRITORY.

Oaks.—William Israel, new store.

IOWA.

Adel.—Reed & Alpaugh, assigned.
Arion.—L. C. Butler & Co., dissolved.
Clear Lake.—Robinson & Brooks, succeeded by L. F. Baas & Co.
Garrison.—Ravenscroft & Christianson, succeed L. E. Ravenscroft.
Gowrie.—J. E. Vance & Co., sold to Ketterer & Ketterer.
New Hampton.—George F. Phillips, deceased.
Webster City.—L. N. Gerber, sold to C. A. Dick.

KANSAS.

Atwood.—Atwood Drug Co., discontinued.
Cherryvale.—J. Pichler, new store.
Clay Center.—Mrs. T. Gowenlock, now E. M. Gowenlock.
Le Roy.—D. B. Rowe, now J. S. Rowe.
Ozawkie.—Dr. S. C. Clarke, new store.

KENTUCKY.

Bonnieville.—I. K. Vanfleet, new store.
Crutchfield.—L. R. Turney, new store.
Hardin.—R. W. Gregory, discontinued.
Harrodsburg.—Samuel & Warren, new store,
Hodgensville.—Burba & Asheraft, new store.
Jamestown.—Estus Barger, new store.
Louisville.—H. S. Cohn, Underhill and Broadway, sold to H. Kampfmueller.
J. B. Schneider & Co., 1600 W. Walnut, succeeded by Dr. Louis Herget.
Newcastle.—J. N. Caplinger & Son, now J. N. Caplinger.
South Union.—Harris & Scott, new store.

LOUISIANA.

New Orleans.—C. A. Riviere & Co., succeeded by Emile Riviere & Co.
Tallulah.—Adams & Ziegler, new store.

MAINE.

Bangor.—W. H. H. Briggs, discontinued.
Phillips.—Hinkley & Cragin, succeeded Hinkley, Cragin & Field.
Portland.—E. B. Cross, Green Park, moved to Fore and Exchange.
Vinal Haven.—Vinal Haven Drug Store, now Vinal Haven Drug Co., P. McNamara manager.

MARYLAND.

Baltimore.—C. F. Moore, Howard and Madison, assigned.

MASSACHUSETTS.

Lynn.—F. A. Caldwell, sold to F. Thomas & Co.
Miller's Falls.—L. D. Elmer, sold to C. L. Cook.

MICHIGAN.

Allegan.—L. M. Watson, damaged $100 by fire; fully insured.
Central Lake.—E. M. McFarlan, new store.
Charlevoix.—E. A. Beeman, now G. W. Beeman.
Goodrich.—M. Van Vliet & Co., sold out.
Kalamazoo.—Elite Drug Store, now Blake's drug store.
Saginaw.—Loranger & Fournier, now Loranger's pharmacy.

MINNESOTA.

Minneapolis.—Renneson & Kenfield, Boston Block, manufacturers of druggists' specialties, new firm.
St. Paul.—B. J. Witte, removing to Anoka.

MISSISSIPPI.

Ackerman.—Ackerman Drug Co., Ben. Owens proprietor, new store.
Cedar Bluff.—J. S. Davis, now Emmett Davis.
Saltello.—Homer & Co., sold to J. H. Wode.

MISSOURI.

Belgrade.—J. A. Eaton, new store.
Bower Mills.—Dr. M. Taylor, new store.
Coffeysburg.—Lierly & Brown, sold to Brown & Terry.
Knobnoster.—Allen Bros., succeeded by W. W. Allen.
Lawson.—W. J. Meadows & Co., sold to H. G. Roebken.
Mendon.—Wayland & Brummall, sold to Wayland & Shupe.
Mosby.—C. D. Cravens, moved to Excelsior Springs.
Queen City.—J. D. Fugate, assigned.
Rockville.—A. Cook, sold to R. H. Lucas.
St. Joseph.—William Loving Pharmacy, sold to Fred Boze.
St. Louis.—Charles Bauer, Taylor and Cottage aves., reported recently as new store, was an error.
Spring Hill.—Patton & Girdner, now C. W. Patton.
Tuscumbia.—Samuel Johnson, new store.
Vandalia.—Jamison & Crigler, assigned.

MONTANA.

Neihert.—Thomas H. Campbell, removed to Belt.

NEBRASKA.

Auburn.—F. R. Fenn, sold to T. W. Eustice.
Brownville.—J. N. Dillon, sold to R. T. Rainey.
Lincoln.—McCall & Busch, closed under mortgage.
Omaha.—Snow, Lund & Co., now Myers-Dillon Co.
Table Rock.—S. G. Wright, sold to H. C. Moore.

NEW HAMPSHIRE.

Groveton.—Hutchins & May, new store.
Lebanon.—Wright & Son, sold to Woodward Bros.
Manchester.—R. H. McDonough, assigned.

NEW JERSEY.

Rutherford.—Atwell & Prince, also Meyer's drug store, damaged by fire.

NEW YORK.

Brooklyn.—Thurmeline Co., incorporated; capital, $16,000.
Buffalo.—M. J. Frisch, moved to 591 Broadway.
Dalton.—M. J. Eldridge, succeeded by Eldridge & Ellis.
Lima.—Coventry & Robbins, sold to John T. Coventry.
Malone.—R. McMiller, damaged by fire.
Morrisville.—Van Rensselaer's pharmacy, discontinued.
Nichols.—Latham & Cady, succeeded by Cady & Farnham.
N. Y. City.—Dall & Uhle, 134th and Amsterdam ave., dissolved; John Uhle continues.
F. Wuersten, 61 Bowery, succeeded by William R. Scudder.
Young Perfumery Co., 144 Franklin, will discontinue.
Paul H. Zagat, has branch at 63d and Amsterdam ave.
M. Zipris, sold out.
Ogdensburg.—Stock of Williams & Stillwell, sold to William Rose.
Rochester.—A. Harter, North and Franklin, new store.
Warsaw.—Chaney Pharmacy, new store.

NORTH CAROLINA.

Troy.—A. F. Thompson, new store.

NORTH DAKOTA.

Hatton.—K. O. Trinderud, sold out.

OHIO.

Canton.—L. C. Binkley, sold to Ed. Janson.
Carthage.—C. S. Johnson, removed to Greenville, O.
Cincinnati.—John Rutenick, 613 Main, discontinued.
Cleveland.—Buescher Bros., sold to Buescher & Ruess.
Denner's German pharmacy, succeeded by C. F. Buescher.
Florence Pharmacy Co., incorporated.
F. W. Mayer, removed to 1479 Cedar.
F. M Meyers, Hough and Harkness, should be F. W. Mayer, 714 Hough ave.
A. Smigel, Broadway and Marcelline st., will open new store.
Columbus.—John O. Roberts, until recently in drug business, deceased.
M. Eis, 291 W. Broad, succeeded by J. A. McGlade.
Dell Roy.—John Selgrist, sold to W. T. Lyttle.
Forest.—Dull & Chase, sold to Dull & Mundy.
Lima.—M. Boss's store, wrecked by gas explosion.
Paulding.—William Flaven, should be William Flaven & Son.
Worthington.—Hill & Leasure, dissolved; Harry Leasure continues.

OKLAHOMA.

Lexington.—Moore, Howard & Co., sold to Johnson & Co.

PENNSYLVANIA.

Carnegie.—R. J. Hardy, who had two stores, sold one of them to Harry Guth.
Harrisburg.—G. H. Weigle, sold to J. B. Foltz.
Lawrenceville.—L. C. Smith, sold to Dr. L. Darling.
No End or Scranton.—Dr. Jenkins, West Market, discontinued.
Pittsburg.—L. Rubenstien 1033 5th ave., new store.
Washington.—Campbell & Cooper, succeeded by Cooper & English.
Williamsport.—Thompson Diphtheria Cure Co., incorporated; capital, $100,000.

RHODE ISLAND.

Providence.—W. A. Wheaton, sold out.

TENNESSEE.

Bethpage.—Harry L. Hanna, new store.
Covington.—L. Hill, Jr., new store.
Gallatin.—H. A. Holmes, stock sold by assignee.
Knoxville.—George W. Albers, damaged by fire; fully insured.
Lynnville.—Dr. James Blackburn, assigned.
Memphis.—I. A. Chase & Son, who recently bought the Remberger stock, at 204 Poplar, have sold it to E. G. Campbell.
Jones Drug Co., Miss. ave., new store.
Harris & Co., 6th and Chelsea, new store.
New Era Pharmacy Co., 111½ Beale, sold to George H. Jackson.
Pinson.—W. M. Houston, new store.
Rogersville.—S. H. Gault, sold out.

TEXAS.

Alvin.—Drisdale Bros., sold to Cummings Bros.
Arlington.—S. C. Page, sold to Pitt's Drug Co.
Bowie.—T. G. Worley, damaged by fire; insured.
Brownsville.—A. L. Edwards, succeeded by Dr. M. Barragan.
Columbia.—John S. Bartlett, damaged by fire; insured.
Johnson City.—Jones & Collins, discontinued
Junction City.—J. W. Burt, sold to J. R. Martin.
Kyle.—G. W. Zimmerman, discontinued.
Holland.—W. F. Douthit, sold to O. B. Manes.
Reed Bros., discontinued.
C. L. Wilson, discontinued.
Mangum.—Gilliland & Claunch, succeeded by Johnson, Gilliland & Claunch.
Paradise.—Beck & Phillips, new store.
Whitewright.—W. B. Willis, removed to Blue Ridge.

UTAH.

Mercur.—L. U. King & Co., of Salt Lake City, opening branch here.
Salt Lake City.—C. E. Johnson, prop. meds., sold out.

VERMONT.

Townshend.—Miss Ada Barber, has opened store.
W. Concord.—O. B. Cutting, now O. B. Cutting & Son.

WASHINGTON.

Blaine.—Barnes Drug Co., incorporated.
Tacoma.—Dammier & Goddard, discontinued.

WEST VIRGINIA.

Martinsburg.—A. M. Gilbert & Bro., now A. M. Gilbert.
Wheeling.—The Mayer Drug Co., proprietary medicines, 1126 Market st., recently started business.
Ed. Bocking, 12th and Chaplain st., succeeded by Young & Burchinal.

WISCONSIN.

Kenosha.—Leach & Lamb, succeeded by C. H. Leach.
Seeleyburg.—A. Carpenter, removed to La Farge.

ONTARIO.

New Edinburg.—W. S. Bell, sold to W. Donaghy.
Toronto.—Samuel M. Green, assigned.

BRITISH COLUMBIA.

Victoria.—Dean & Cryderman, succeeded by Dean & Hiscocks.

Correspondence.

We accept no responsibility for the views and utterances of our correspondents. Contributions must carry full name and address of the writers, which, however, will not be published, if so requested.

A RETAILER ON BOX AND CARTAGE.

Pleasantville, N. Y., Dec. 9.

To the Editor:

The boxing and cartage business will not amount to much. It may nominally last, but practically the trade will not put up with it. Some of the weakest brethren will stand the imposition, but the majority will not. When a man pays his bills the salesman will very willingly take off the box and cartage, that is just how it will work. I think it is perfectly correct that the wholesalers should pay part of the expense. There is more money in the wholesale business than in the retail business, as a rule. Some wholesale houses do abuse things when they get a chance. A certain wholesale house charged me 25 cents for two-gallon jugs. They send everything in jugs, as they make money on them. It was impracticable to return them, and they charged 25 cents apiece. Now, I can buy these jugs, laid at my door, 90 for $7, which is a little more than 7 cents apiece. I did not say much, but I dropped them like a hot potato.

DUTCHMAN.

THE DENVER AND DETROIT PLANS.

A correspondent interested in the affairs of the jobbing drug trade believes that the editorial "Under What Plan Are We Working?" which appeared recently in the Era, unintentionally places the N. W. D. A. Committee on Proprietary Goods in a wrong light. He writes:

"I would like you to correct the error into which you have fallen where you say that the committee, in abandoning the Denver plan and falling back upon the Detroit plan, have taken a decided step backward, or, in your words, 'have been compelled to go back and drag all their heavy artillery, brass bands, mules, etc., over the creaking timbers of the bridge which they pronounced unsafe.'

"It is well to remember that the Detroit plan, although recommended by the committee two years ago, was never adopted excepting by a very small number of proprietors, so small as to be without any practical result either in the way of strengthening the rebate plan among wholesalers or securing uniformity of cost to the retailers. The fact is that all that the committee has abandoned in its recent action is the machinery which the Denver plan provided for carrying out the Detroit principle, which we were continuously advocating, and this machinery was in a measure suggested to relieve proprietors from the necessity of deciding who was or who was not to be sold quantity lots. They objected to the machinery. We, in turn, say the machinery is of no special consequence to us if you will adopt the principle, and this principle was fully covered under the Detroit plan, and to this now a number of proprietors have signified their inten-

tion to adhere, and if they do, and put it into operation, it will result in all that we sought under the Denver plan, viz., the confining of sales at full discount to wholesalers and the equalizing of cost to the retailers.

"The latter is of particular interest to your readers, who must see, I think, that the growing custom of honoring quantity orders from a few retailers at full discount is placing these retailers in a position which enables them to undersell their competitors, and thus the large majority of the retail trade are deprived of their fair proportion of the trade to which they are entitled.

"I think you are correct in stating, as you did, in the closing part of your article, that under the plan which now prevails the 'cutter has reached his highest development.' If he was compelled to pay the same price as all other dealers, as he will be if this Detroit plan goes into effect, he will be likely to develop in the other direction, which consummation we all devoutly wish for."

Wants Advertising Matter.

Waldo, O., Dec. 7, 1895.

The Pharmaceutical Era, New York, N. Y.

Gentlemen: In the Erra for some time J. C. Ayer & Co. have been making a big howl about the Druggist being the proper distributor of their Medicines Now I control 4 Drug stores and all together I did not get as much advertising matter last week from Ayers Agent as one little one horse grocery.

This does not carry out J. C. Ayer & Co's big blow I ask you to publish this as I think City Druggists should fully understand that Ayers add in the Erra is false. I do handle Ayers medicines all of them the Grocery mentioned does not Yours truly L.L. J. KOCH

If you fail to publish this cancel my subscription and I will send it to other Journals not controlled by Ayers & Co

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The Mexican Spice Co., of Columbus, O., offers a perfect baking powder formula with full instructions for 25 cents.

"Antiseptic, Soothing and Healing" are words which are applied with perfect propriety to Packer's Tar Soap. The wide-awake druggist will at once remember that this is the season when people want just that kind of a soap. He will also remember to say "Packer's" when he orders tar soap.

Salacetol, the new non-toxic antiseptic, is already well and favorably known to the medical profession, and it is a good one for the pharmacist to know all about. Add to your knowledge of new remedies by procuring literature describing this one, from R. W. Phair & Co., sole agents, 14 Platt street, New York.

What a lot of circulars, cards and advertising matter you would put out if the printing didn't cost so much money! This cost of printing might show differently if you had the catalogue of Kelsey & Co., Meriden, Conn., which gives estimates on printing outfits, which will enable you to do such work yourself. Send for this catalogue.

PATENTS
TRADE MARKS, DESIGNS, ETC.

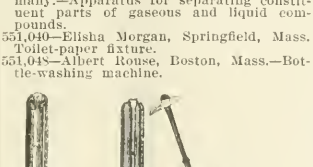
PATENTS
Issued Dec. 10, 1895.

551,022—Benjamin T. Winchester, Baltimore, Md.—Vial-case.

551,023—Franz Windhausen, Berlin, Germany.—Apparatus for separating constituent parts of gaseous and liquid compounds.

551,040—Elisha Morgan, Springfield, Mass. Toilet-paper fixture.

551,048—Albert Rouse, Boston, Mass.—Bottle-washing machine.



551,070 551,264

551,070—Frank L. Woodford, Kansas City, Mo.—Syringe.

Claim.—A vaginal syringe consisting of a longitudinal case having a fluid return opening at one end, a boss in the other end of said case, having a central opening and a fluid induction pipe connected with said boss within said central opening, a syringe nozzle within said case connected with said induction pipe having separate parts, one of said parts having one portion provided with an interior screw threaded sleeve, and the other part provided with a screw threaded and adapted to fit within said sleeve, and perforations in its outer end, said boss having curved discharge openings extending in a line concentric with said induction pipe and the sides of said openings inclined at an angle to each other and downwardly.

551,131—Prosper Monnet, Lyons, France.—Making toluenesulfochlorids.

551,134—Campbell Morfit, assignor to E. P. Carpenter, London, England.—Milk food extract.

551,147—George M. Stratton, Bridgeport, Pa.—Ligature receptacle.

551,221—Ludwig Mond, London, England. —Apparatus for treating substances with gases at elevated temperatures.

551,237—Edwin Stewart, Washington, D. C. Umbilical truss.

551,264—Elisha L. Day, Brenham, Tex.—Syringe.

Claim.—As an article of manufacture, a point for a syringe comprising a tube adapted to be secured to a suitable forcing apparatus, and a cap for said tube arranged over one end thereof; said cap having a closed or solid outer surface and having its marginal surface adjacent to the end of the tube but slightly separated therefrom so as to provide an annular lateral discharge space between the end-walls of the tube and the marginal surface of the cap, whereby the fluid issuing therefrom is discharged in the rear of the cap in a substantially solid annular sheet.

551,294—Clifford Richardson, Washington, D. C.—Dehydrating crude asphalt.

TRADE-MARKS
Registered Dec. 10, 1895.

27,435.—Powder for Hygienic Drinks. Remy Bertrand, Le Pouzin, France. The word "Cerisette."

27,436.—Bitters. Mathias Blumer, La Crosse, Wis. The words "Mountain Root," together with the picture or engraving of a mountain.

27,439.—Peptone of Beef. Liebig's Extract of Meat Co., Ltd., London, England, and Antwerp, Belgium. A representation of an ox and sheep and the combination therewith of shields, scrolls and floral devices.

27,440.—Peptone of Beef. Liebig's Extract of Meat Co., Ltd., London, England, and Antwerp, Belgium. The two signatures of Dr. Max von Pettenkofer and Dr. Carl von Voit.

27,441.—Peptone of Beef. Liebig's Extract of Meat Co., Ltd., London, England, and Antwerp, Belgium. A combination of devices, including the representation of an ox and sheep and in combination therewith an ornamental background inclosed in a circle.

27,442.—Peptone of Beef. Liebig's Extract of Meat Co., Ltd., London, England, and Antwerp, Belgium. A representation of an ox and sheep and combination therewith of shields and scrolls and floral devices.

27,453.—Evaporating Preparations for Purifying Air and Receptacles and Apparatus for same. The Cre-Ozone Co., Reading, Kan. The compound word "Cre-Ozone."

27,454.—Tetrajodphenolphtalein, An Antiseptic Substance. Chemische Fabrik Rhenania, Aix-la-Chapelle, Germany. The word "Nosophen."

27,455.—Antiseptic. Herman W. Faber, St. Louis, Mo. The word "Carbozine."

27,456.—Disinfectants and Antiseptics. Schülke & Mayr, Hamburg, Germany. The word "Lysol."

27,457.—Disinfecting Fluid. Albert P. Beck, Cleveland, O. The words "Carbo-Ozogen."

27,458.—Insecticides. Ezra S. Brewster, Hopewell, N. J. The representation of a hand blowing powder from a box with many dead roaches lying about and the compound word "Kill-Roaches."

27,459.—Insecticides. Cecillia R. Ober, New York, N. Y. The word "Universal," the representation of a globe and the representation of a sunburst.

27,462.—Perfumery. Winkelmann & Brown Drug Co., Baltimore, Md. The word "Violila."

If the season for social affairs, such as balls, parties, etc., has opened in your neighborhood, then there must be a demand for floor wax. This can best be supplied with Bowdlear's. It will not ball on the feet or soil the garments, and is put up in nice shape to retail. Write to W. H. Bowdlear & Co., Boston, Mass., about it.

Bath tubs, sinks, radiators, registers, wicker ware, baby coaches, bicycles, etc., can be painted or enameled in the winter time just as well as in summer, and there is a trade in enamels waiting to be worked up. It can be worked up with Lucas's enamels, and the beautiful cards furnished by John Lucas & Co., to advertise them. Try it.

The Lotus Press, 140 West Twenty-third street, New York, has always preached the desirability, or, rather, the necessity, for finely-printed advertising matter where the advertiser desires to place his effort a little above the dead level of the mountains of such material which are now sent out. One of their latest efforts shows their success in this line. It is an elegantly-printed catalogue in gold and blue, which the Bates-Whitman Co., New York, are using to interest insurance companies in better advertising. If this superb example of typographical art does not do this it is hard to imagine anything that will.

Office of Wm. B. Riker & Son Co.,
Druggists,
353-355 Sixth Ave., Cor. 22d St.,
New York City.

T. B. McRobert & Co., 15 Jay St., New York City:

Gentlemen—For the past year or more we have been handling your Groote's Dutch Cocoa for soda fountain purposes, and believe we have been serving an article which has given perfect satisfaction to our customers, as it has to us. Very truly yours,

WM. B. RIKER & CO.
E. D. Cahoon, Secy.

The "C and D" Diary for 1896.

Along with many thousands of British pharmacists we are now inspecting with keen appreciation our Christmas present, "The Chemists' and Druggists' Diary for 1896." Of course, we have anticipated this, but the excellence of this latest issue of the publication still furnishes that element of surprise which is so appropriate when the compliments of the season take a substantial form. Aside from the diary feature the articles comprising the reading matter show a judicious selection of the "how to do things" and "trade pushing" variety, which makes the book especially valuable. The scope of this feature extends from "How to push trade" to "How to poison a dog," with such intermediate good things as articles upon legal questions, apprentices, photographic goods trade, formation of limited companies, treatment of injuries, digest of pharmacy laws, etc. We note that references for Sunday Scriptural readings are again included under the proper diary headings, a feature which was omitted in the editions of 1894-5, the reappearance of which we commend with due appreciation and modesty, for the wholesome effect which it must have upon the journalistic branch of the drug trade.

The Stearns' Calendar for 1896.

We are pleased to be the recipients of a very handsome calendar issued by Frederick Stearns & Co., of Detroit, Mich., for their customers. It is the most beautiful thing of its kind that we have ever seen, and reflects great credit upon the firm sending it out. Most of the work of this kind done in the past has been in the line of reproducing celebrated paintings, but in Messrs. Stearns & Co.'s calendar we have a fine example of what can be done by photographing direct from nature by means of especially prepared negatives, from which etched plates were made, and from which the printing was done. The picture is called "A Vase of Flowers," and it is wonderful to see how the delicate tints and shadings are all brought out, when we consider that by this three-color process the various tints in the picture are all the result of combinations and blendings of three primary colors, yellow, red and blue. It is also wonderful to note the progress that has been made in this particular direction, when such artistic work as this can be done on a printing press in three impressions. Inasmuch as Messrs. F. Stearns & Co. published these calendars for their customers only, they are not able to supply them to others who may request them, but as long as the supply lasts they will gladly mail them to those who feel warranted in sending 25 cents to cover the cost of production, packing and postage.

Bunte, Frank & Co., Chicago, have put extra quality and flavor into a cough drop which they call the "Magnetic." There are plenty of cough drops on the market, but they have tried to make this the one which your customers will prefer, and upon receipt of your request, with letter head or business card, they will send a sample box free, as their best argument in favor of the Magnetic.

TRADE NOTES.

From information furnished by manufacturers and dealers in regard to their products.)

As a remedial agent Diabetes Flour is an appropriate and profitable article for the druggist to handle. Send for pamphlet describing it, and for price list, to Farwell & Rhines, Watertown, N. Y.

The Superior Wine Co. and the Hammondsport Vintage Co., both of Penn Yan, N. Y., have consolidated, and will hereafter do business under the latter name Mr. W. Starbuck Fenton is secretary of the new company, and Mr. Fred N. Swarts is superintendent.

The Tyer Rubber Co., Andover, Mass., has two seasonable articles which should have the retailer's attention. One is the Marion Hot Water Bottle, different in shape from all the rest, and more convenient to use, and the other is rubber crutch tips, which every one who uses crutches will want, now that there are snow and ice under foot. Send for catalogue and price list.

Dick's filled capsules are a great convenience to the dispenser. They are put up in blank boxes containing thirty capsules of ten minims each, and the directions have simply to be written upon the box when a prescription is received calling for them. The list contains a great variety of articles, and it will be sent upon application. Address Dundas Dick & Co., New York.

Your crude drugs such as salts, licorice powder, charcoal, etc., should go out in a box neatly labeled. A full package of such articles is hardly ever used at once, and the paper parcel is an intolerable nuisance around the house. Fred N. Burt, Buffalo, makes a line of boxes for such purposes which he calls the "Utility." He says they are nearly as cheap as wrapping paper. Write to him for prices.

The Pompadour Toilet Company, Middletown, N. Y., have an advertisement in this issue which is full of inducements to the retail druggist. Johnson's Skin Soap, Ointment and Blood Granules are the goods advertised, and a special offer on one dozen of the ointment at $1.75 includes free samples, advertising matter, and free copies of the novel "Claudius," by P. Demarest Johnson.

The best corks that can be made are the proper ones for the prescription business. Such corks have to stand a great deal of wear after they leave the pharmacist's hands, and the Williamsburg Cork Works, of Brooklyn, N. Y., make a special selection for that purpose. Samples which they send upon application will show the care which they exercise in making such selections.

Fairchild's Peptogenic Milk Powder affords the only known method of modifying cow's milk to the standard of human milk, and it is therefore of service to all children, sick or well, who are deprived of natural nourishment. The druggist can safely recommend it in all cases, and by obtaining literature upon the digestive ferments from Fairchild Bros. & Foster, New York, he will understand plainly why it can be recommended.

A study of hot soda apparatus should include that made by Chas. Lippincott & Co., Philadelphia. Their counter fixtures are fitted with double valves, one for drawing off the cooled water between the boiler and draft fixture, and one for drawing the hot water into the cup. Their Standard Heater, for either gas or oil, is adapted for water-works supply or ordinary charging. Send for descriptive catalogue.

This is the season for cod liver oil emulsions, and when the purchasing is to be done it is well to think of Thayer's. It exhibits fully 50 per cent. of prime cod liver oil thoroughly emulsified, and is guaranteed to be one of the most elegant, uniform and stable emulsions that can be made. It is supplied in bulk at $1.75 per dozen, with discounts for larger quantities. Address Henry Thayer & Co., Cambridgeport, Mass.

The Low Art Tile Co., 952 Broadway, Chelsea, Mass., have recently issued a new edition of their artistic catalogue, and every druggist who is thinking of buying a new soda fountain should have a copy. It shows many new designs in which the extraordinary beauty of tile as a decorative material is strikingly illustrated, and the mechanical part of the Low apparatus, including a new draw can and round can system, is fully illustrated and described.

Every druggist is acquainted with the selling qualities of various medicinal teas on the market, and knows pretty well that he could sell, with good profit, a breast tea or laxative tea of his own, if it were put up in nice shape. This is something which McIlvaine Bros., an old and reliable house of drug dealers and millers, of Philadelphia, will do for the retailer. Write to them for an estimate on something of this kind. See their advertisement in this issue.

Apolysin, a new medicinal compound resulting from the combination of one molecule of phenetidin with one of citric acid, is offered by Dr. F. Von Heyden's successors, through Schering & Glatz, New York. It is an antipyretic and analgesic, and its advantages are great solubility, absence of cardiac depression when given in large doses, and non-poisonousness. Literature describing it will be mailed upon application to Schering & Glatz, New York.

Fletcher's bottled cocktails are put up in cases of 1 dozen quart bottles at $12, 2 dozen pints at $14, 4 dozen half pints at $16, and 8 dozen quarter pints at $18, and the brands include Manhattan, Martini, Whisky, Gin, Vermouth and Congressional. They are compounded with the greatest care from the finest liquors and cordials, and a sample half-pint bottle of any brand will be sent upon receipt of 50 cents. Address Fletcher Cocktail Co., 421 Broad street, Newark, N. J.

The wire display stand for pharmaceutical preparations, novelties, etc., is an advertisement or a means for advertising, and the Philadelphia Ornamental Wire Co. put the matter in that light in their advertisement in this issue. The attainment of a preferred position in a drug store for your goods is a matter worth attention. Write to the Philadelphia Ornamental Wire Co. for figures on the cost of this kind of advertising.

Twenty-five cents used to be the usual price for a box of pills, but the cutter has got them down considerably, so that the public thinks 12 to 15 cents is about the proper figure. This isn't so bad for the druggist if he only pays $6.50 per gross, or about 4¾ cents per box or vial. This is the figure which Wm. R. Warner & Co., Philadelphia, quote on Little Cathartic Granules (thirty in a vial with buyer's address). The fact that they are made in the Warner laboratory indicates that the quality is unquestionable. The figures speak for themselves.

The name of Sharp & Dohme upon a pharmaceutical product is generally accepted by the trade as evidence of its reliability. When the druggist has a private formula from which he desires preparations put up in large quantities, he wants reliable goods. If this work is entrusted to Sharp & Dohme, he may rest assured that what he receives will be that firm's best product, made from the best grade of material. When the question of preparing private formulæ comes up write to Sharp & Dohme, New York, for an estimate.

Big Rapids, Mich., Nov. 23, 1895.
American Silver Truss Co., Buffalo, N.Y.:
Dear Sirs—I have handled the American Silver Truss for a little over one year, and during that time have sold more of them than all other trusses (I handle four other lines). Have cured a rupture on myself with your truss, and have not found a single case of rupture your truss would not hold with comfort to wearer. I consider them by far the best truss on the market. Yours truly,
GEO. F. FAIRMAN, druggist.

Cold Cream should now be a prominent article of sale in the drug store, as the weather is helping the druggist to make such sales. There will be the best of satisfaction if the customer receives Lanoline Cold Cream, made from the purified fat obtained from sheep's wool. It is natural to the hair and skin, and is absorbed so quickly that the ordinary greasy effect of ointments is prevented. All jobbers have it, and price lists and printed matter may be obtained by addressing Schulze-Berge & Koechl, New York.

Your customers rather expect to find Pinaud's perfumes among your stock. They are continually reading about them in high-class periodicals, and must be looking for them in every place where perfumes are kept. Just now Pinaud's Roman Perfumes, the latest Parisian fad, are at the front, and should be in the druggist's perfume case, where they can meet the inquiring gaze of those who are looking for the latest. The line includes Roman Violet, Iris, Heliotrope, Rose, Lilac, and Lily, and "Violet Reine," the true odor of the living flower. To know just how elegant these new goods are, send for free sample to Ed. Pinaud's Importation Office, 46 B East Fourteenth street, New York.

"Every article is worth its cost, plus a reasonable margin for the distributer. Each article should bear its share of this. Sales without margin mean overcharge on something else to make it up. We believe in reasonable prices, uniformly, on all goods." This is a quotation from the platform of Morrisson, Plummer & Co., Chicago. The retailer who buys goods under such a policy knows he is paying the right price, and is not compelled to go against the general market in figuring upon his retail prices. It prevents confusion both in buying and selling. It is upon this platform that Morrisson, Plummer & Co. ask for trial orders upon anything and everything handled by druggists.

The druggists who have not yet availed themselves of the patented empty elastic capsules for fluids, gotten out by the Merz Capsule Co., of Detroit, Mich., are losing the benefit of a good thing, both as to convenience and in a money-saving sense. The opinion of the firm whose letter is here given is simply a general expression of those progressive druggists who have tried the Merz Capsule Co.'s elastic capsules.

Syracuse, N. Y., Nov. 29, 1895.
Merz Capsule Co., Detroit, Mich.:
Sirs—Please express to us 1,000 soft capsules 5-minim, 1,000 soft capsules 10-minim, 1,000 soft capsules 20-minim, 1,000 soft capsules 40-minim, 500 soft capsules 75-minim. We had no idea they were so useful until we tried the first lot. Very truly yours,
H. B. DWIGHT & CO.

A. Major, of the Major Cement Co., 461 Pearl street, New York, has invented a new water filter, which consists of a metal cylinder enameled inside and out, with a bottom of Gate City porous stone. It is made to fit the ordinary water tanks now in use, as shown in the illustration, also specially constructed containers. No sediment or foreign matter can pass through the stone, and the apparatus is easily kept clean.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Cinchonidia, Colocynth Apples, Gum Guaiac, Glycerin, Opium, Oil Cassia, Quinine.
Declined: Balsam Peru, Menthol, Oil Cloves, Orris Root.

New York, Dec. 17, 1895.

With the holiday trade in perfumery, "sundries," etc., on the wane, and the regular consuming demand for drugs and medicinal chemicals reduced to actual wants, there is not much opportunity for activity in the general market, and it is necessary to again chronicle the quiet conditions usually incident to the closing month of the year. The prevailing dullness, however, is less pronounced, as a comparison with previous corresponding periods shows that the movement into channels of consumption thus far this month is considerably above the average and somewhat in excess of dealers' expectations. There is consequently nothing in the situation that necessitates a change in the opinion of those who have entertained hopeful views for many months, but, on the contrary, their expectation that business will revive soon after the turn of the year is in a fair way to be fully realized. A substantial proof that the market is without depressing influences of a serious character is found in the continued steadiness with which values generally are maintained, together with the frequent additional advances established in quotations for a number of articles. Where declines are noted, the causes have been invariably natural and in no sense due to influences which ordinarily attend depressed and unsettled conditions. In some instances spot stocks have been reduced to minimum proportions, and prices forced to an unusually high level, but the arrival of fresh supplies has occasioned a reaction; in others, sellers have made concessions for the sole purpose of closing out their holdings before taking account of stock, but as a whole the tendency has been toward a firm or higher basis. During the period under review the more noteworthy changes include a further marked advance in cassia oil, a higher market for glycerin, and increased interest in Tahiti vanilla beans. Other variations of more or less importance are noted in the detailed report below.

OPIUM.—The market has been gradually assuming a firmer appearance, and values have steadily hardened until an advance of fully 5 cents per pound has been established. The improvement seems to be wholly due to similar conditions in the primary markets, both Smyrna and Constantinople having cabled a higher range of prices. No details are given as to the causes of the advance, but it is believed that a revival of speculative interest has stimulated increased activity, and that holders have naturally advanced their selling limits. Trading here has continued on a limited

scale and consumers have shown no inclination to purchase in excess of actual requirements, but dealers offer less freely and are apparently not disposed to sell in a large way in view of the continued upward tendency abroad. Powdered opium is correspondingly firmer, but only in light jobbing request.

MORPHINE—Is also steadier in sympathy with the improvement in opium, but manufacturers' prices are without quotable change, and deliveries on contracts comprise the bulk of the current movement.

QUININE.—Quite a large business has been transacted during the period under review, the purchases being all for legitimate consumption, and mostly from first hands, the only outside transaction being a lot of 5,000 ozs., which the holder was desirous of closing out before the end of the year. For the latter parcel the full parity of manufacturers' prices was realized, and the tone of the market is decidedly strong. Circulars will be issued to-morrow announcing a general advance of 3c. per ounce on all foreign brands and 2½@3c. on domestic. The revised quotations will be based on 35@37c. in 1 oz. cans, according to brand, for lots of 100 ozs. and over. Speculators are said to be making strenuous efforts to increase their holdings, but sellers are cautious and carefully scrutinize all orders.

CINCHONIDIA—Has been attracting considerable attention lately, and efforts to secure control of the spot stock have been largely successful. All that could be had at the ruling market quotation was quietly taken up and the price subsequently advanced ½c. per lb. The operators are ably assisted by the fact that the available spot stock is very much smaller than had been supposed, and agents of foreign makers have declined to cable orders to their principals except at an advanced price.

ACETANILID.—Rumors were circulated last week that manufacturers and importers would probably agree to establish a uniform schedule of prices on a higher level than the quotations now current, but we are informed that there is no such probability, and that competition is likely to continue for some time.

ACIDS.—All varieties remain unchanged in price, with the general market quiet but steady, and only small jobbing parcels receiving attention.

ALCOHOL.—The demand for grain has been gradually diminishing and the market presents a comparatively tame appearance, but the undertone continues steady.

BALSAMS.—Copaiba is moving freely on small jobbing orders at full previous prices. Peru is easier owing to fresh arrivals, and quotations have been reduced about 15c. per lb. Tolu is unchanged. Canada fir is offering more freely from primary sources, and in the absence of demand values are weak and nominal.

BEANS.—Tonka are held firmly, but business is restricted by light offerings. All kinds of vanilla are in good consuming request, with prices ruling strong and tending upward. Bourbon and Tahiti varieties show a material advance, the latter chiefly due to scarcity of vanillons.

CASCARA SAGRADA—Is developing a steadier undertone. Recent purchases by dealers have absorbed all the cheap lots in first hands, and the stock is under much better control. New crop is not wanted at present by consumers, but old bark is in fair demand and full quoted prices are being realized.

COLOCYNTH APPLES.—There is a stronger market for prime Trieste and prices have been advanced 5@8c. per lb. Advices from the primary market report stocks very small and receipts light. Spanish are firmer in sympathy and the better grades are about 2c. higher.

COD LIVER OIL.—The market is in better position and the demand has improved. The outside competition previously referred to has disappeared and the outlook favors an early return to the firmness so noticeable a few weeks ago.

ESSENTIAL OILS.—Cassia is decidedly higher, holders of the limited stock having advanced their quotations fully 25c. per lb for high test, which is very scarce. Anise is very firm and some sellers decline to shade outside quotations. Citronella has reacted slightly, but only for large lots in drums, and an early improvement is predicted. Clove is about 2½c. per lb lower. Peppermint is ruling firm and all varieties are in fair request.

GUM GUAIAC.—The spot stock has been reduced and prices have been advanced 2c. per lb.

GLYCERIN.—The strong position of crude has occasioned a further advance in refined, and manufacturers have marked up their prices 1½c. per lb.

LITHIA PREPARATIONS.—Manufacturers abroad are reported to have extended their agreement over next year and established prices on a slightly higher basis. Dealers here are somewhat firmer in their views, but the market is more or less unsettled, and the revised figures quoted by circular to the trade can be shaded from outside holders.

MENTHOL.—The market is easier owing to competition, and former quotations can be shaded about 5c. per lb.

ORRIS ROOT.—The market is unsettled, with values lower, owing to reports of the failure of a large speculative operator in Italy, and a decline of about 1c. per lb is noted.

London Market Report.

London, Dec. 7, 1895.

The general run of business has been rather dull this week, but several articles have been active, and others are firming up.

ACETANILID—Is rather easier, owing to second-hand offerings, and it would be possible to buy at 1s. 2d. per lb.

ACID CHRYSOPHANIC—Continues very scarce, and 20s. per lb has been paid this week.

ARAROBA.—Orders are on the market from acid chrysophanic makers, as also from buyers of fine powder, but very little of good quality can be obtained; 4s. 6d. per lb has been paid for a new lot just imported full of moisture, and for fine powder 8s. is the lowest quotation.

BALSAM PERU.—Owing to the arrival of 25 cases the price has given way and 9s. per lb is now quoted, but probably less would be taken.

CAMPHOR.—Crude is very firm and the syndicate is rather a buyer than a seller. Up to 190s. per cwt. has been paid for Japan on the point of arrival, c. i. f. terms.

CACAO BUTTER.—At our monthly auctions this week prices gave way about 2d. per lb, the average price being now 13¼d. per lb.

COLOCYNTH.—Turkey apple is in good demand at 2s. 6d. per lb.

GLYCERIN.—A very active business has been done in refined this week. Makers quote 73s. to 77s. 6d. for double-distilled, chemically pure, 1.260 s. g., but second-hand holders are offering down to 65s.

MENTHOL.—Rather quiet. Some holders tried to raise prices this week to 14s. 9d. per lb for spot, but had to return to 14s. 6d. per lb, which is now the quotation.

OILS, ESSENTIAL.—Citronella has advanced and 1s. 9d. per lb is now the lowest quotation for spot. Cassia is also dearer at 10s. 6d. per lb for 70 to 75 per cent. Sandalwood—English drawn is rather easier at 12s. 3d. per lb. Eucalyptus is steady.

OPIUM.—Business is quiet, and while holders are firm, buyers hold off, the political situation in Turkey being so unsettled. Morphia makers have made some low sales for export this week, but do not quote lower for the home trade.

ORRIS ROOT.—Rather easier at 67s. per cwt. for picked Florentine.

PHENACETIN.—Business has been done at 4s. 9d. per lb, but it is said that we shall see a reaction in this article shortly.

QUININE.—Owing to an old lot of 30,000 ozs. being thrown on the market for immediate realization, prices have fallen to 12⅜-½d. Stocks in London were further reduced last month.

SANTONINE—Continues firm and quotations range from 7s. to 7s. 6d. per lb.

London Drug Statistics, December 1, 1895.

	November.		Stock Nov. 30.	
	Arrived.	Delivered.	1895.	1894.
Aloes, all kinds, packages	81	539	7,571	7,990
Bark, S. American, Ceylon, E. Indian and Java, packages	1,422	1,719	28,173	32,708
Cardamoms, "	83	207	944	1,049
Colombo root, "	254	110	1,675	1,974
Cloves, "	17	29	245	176
Dragons' blood, "	45	50	905	176
Gum arabic, "	50	108	727	107
" Gamboge, "	40	47	161	221
" Guaiacum, "	20	28	89	142
" Myrrh, "	74	30	649	493
Ipecacuanha, all kinds, "	46	137	656	959
Jalap, "	"	"	236	179
Nux Vomica, "	"	150	1,080	946
Quinine sulphate, ounces	4	54,128	2,068,768	2,840,816
Rhubarb, packages	22,962	60	1,029	1,129
Senna, all kinds, packages	625	804	2,832	2,457

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A NEW BOTANY.

The articles upon Botany in the Era's "Study of Pharmacy" course, by Professors Rusby and Jelliffe, have met with such popular acceptance, and furnish such an excellent means for the study of structural botany, both in the classroom and by the home student, that they have been reprinted in book form.

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THE OLD AND THE NEW.

With this issue terminates the first year of the experience of the Pharmaceutical Era as a weekly drug trade journal. Its publication weekly instead of semi-monthly, and a little farther back as a monthly, was not undertaken without most careful consideration of all the issues involved, and not without firm belief that a weekly drug paper would be appreciated by and of value to the drug trade, and that if conducted along the proper lines it would meet with success. We are happy to state that from the start favor has been accorded the weekly Era, and that all interested in its management and production are at the close of this first year stimulated and encouraged to better efforts for the satisfaction and service of its patrons. Since the foundation of this journal those in charge of its destinies ever bore in mind that the time was ripe for the establishment and maintenance of a weekly trade paper for druggists. The times are a little faster than they were when the old monthly drug paper best flourished, and even are faster, for the semi-monthly does not meet all the desires of its patronage. The drug trade of to-day wants all that its class papers can give it, and wants this just as promptly as possible. It wants editorial expressions upon the questions of the hour, while these questions are still full of interest, and not delayed for a couple of weeks or a month, until they have lost their freshness and pertinence. It wants early notification of the steps in scientific and professional advancement. It wants its news presented after the methods of the secular press, which depends for its success upon the telegraph and the cable. It wants its market reports and price quotations so promptly and frequently that there shall be no time for so many fluctuations in values that when reported in a journal they have lost their significance and importance to the reader. And the subscriber who finds the Question Box to his best service is pleased that he is not obliged to wait an unconscionable time for replies to his queries. It is not necessary to enumerate the advantages of a weekly drug trade journal any further. In this day of rapidity in all commercial affairs, when the locomotive and the telegraph key are such potent influences in the world's prosperity, the tendency of all publications which minister to the wants of the people in a trade and news way is toward a greater frequency of issuance, rather than a return to the old and already obsolete methods. The drug paper is no exception. We may see the day, and not very far distant, when the daily drug journal will be an accomplished fact. But as a weekly the Era has cause to congratulate itself, and to feel deeply thankful to the drug trade for the success which has rewarded its labors. We believe the paper reaching its subscribers once a week has been the greater appreciated by them for this very reason, and we believe further that its power for good service has been immeasurably increased thereby.

Next week there will be sent to all subscribers the index to the half year's volume, from July to December. This index, a very complete one, will show better than words can tell what has been accomplished by this journal during this period. For 1896 we present now no detailed programme or synopsis of features. We would say, however, that there are good things in store for the Era's readers, things which are perhaps better than any this journal has heretofore offered to them. It is better not to make promises, but to go ahead and do more than can really be expected, than it is to make a promise which cannot be fulfilled. We do not make promises, therefore, at this time, for we would not be bound to absolute adherence to such promises and to such programme, lest our sphere of activity and usefulness should perchance be thereby restricted. We want to be at liberty to exceed the limits of any promises which we might at this time be able to make. As a sort of salutatory upon entering upon the work of the year 1896 it may be said that the Era's readers need not fear any diminution of excellence in this journal, but may rather look for increased effectiveness to their service and satisfaction.

THE "STUDY OF PHARMACY" PAPERS.

A year ago the Era announced a series of papers with whose intent and purposes all its readers must now be thoroughly familiar. A programme was mapped out, and it was expected and planned to make the series continue throughout the year, terminating at its close. It is found, however, that because of the impossibility of confining the treatment of the several subjects within the limits first marked out, and because of the excellence and thoroughness characterizing the papers of the several contributors, this series must be extended over into the new year. We anticipate no objection on the part of our readers on this score, however, for there

are few who growl when they get more of a good thing than they were promised or expected.

Besides the three general and introductory essays, of sterling and notable worth, there have been treated in this course the subjects of chemistry (general, analytical, theoretical and mathematical), pharmacy in its manifold phases and applications, and botany, the gross and minute structure of vegetable organisms. There yet remain the important branches of materia medica, physiology, pharmacognosy, toxicology and urine analysis, and, as promised in the prospectus, there is to be a paper, to conclude the series, upon the vital question of the druggist's relation to the laws governing the conduct of his profession. These papers are ready for production in their order, and it may be said of them that in thoroughness of treatment, exhaustiveness and wise application to the needs of the pharmacy student, they are models of excellence and serviceability. It is estimated, therefore, that it will require several weeks during the next year to bring to completion this valuable and noteworthy series of contributions upon the methods of study necessary to the acquirement of a sound, practical pharmaceutical education.

Professor Sayre's paper upon "Physiology, Materia Medica and Therapeutics" was published in first installment last week, and will continue through one or two more issues. Of necessity, the paper is somewhat synoptical, a merit, however, rather than a fault, as the primary intent of this whole series has been to guide the student rather than to supply him with all fullness of knowledge upon the several subjects considered. Supplementary reading is necessary in all the branches, for it would be impossible within the limits assigned to the entire series to even treat in all its details and to its proper extent a single subject alone. But "Order is Heaven's first law," and nowhere are order and system more essential than in the prosecution of the study of pharmacy. We commend the present paper to the earnest attention and thorough study of those for whom it was designed.

THE SQUELCHING OF THE SUBSTITUTING DRUGGIST.

We took occasion in our issue of Dec. 12 to refer to what looked like a sort of union or compact among a certain class of medical journals, with reference to the substitution matter. A half dozen of these publications published almost simultaneously during the month of November an editorial, in exactly the same words, in which the intention was announced that they would publish in their columns the names of all druggists who were, upon satisfactory evidence, found guilty of substitution. At first we were amazed at this apparent synchronism of effort and coincidence of editorial opinion, and were inclined to jump at the conclusion that these editorial effusions emanated from some factory where medicinal compounds are manufactured. But, happily, the well-worn newspaper phrase, "epidemic of crime," caught our attention, and it required but the simplest logic to jump at another conclusion that there might be epidemics of virtue. We rather plume ourselves upon this easy explanation of a matter which was assuming a provoking depth and intricacy. We can now pass to the sequel.

We have for years labored and expostulated with the substituting druggist. We have poured out vials and other containers of wrath upon him and called him hard names. Even when one patent medicine man in righteous indignation compared him with the deadly "lupus" tree of Java, we becomingly repressed our mirth and applauded with due gravity. This crusade inaugurated by the medical journals referred to has evidently had the desired effect. We have looked anxiously through their columns for the names of offenders, but our search has been futile thus far. Either the substituting druggist is a bogey manufactured from suspicion, or he can't be discovered. The inability to put his name into print cannot be due to the fact that the solemn warnings of our medical contemporaries have reformed him, for he doesn't read medical journals, and we cannot go into the mysteries of telepathy, or that instinct which forewarns certain members of the animal kingdom to make preparations for a coming storm, to explain this phenomenon. We are heartily glad, however, to see others succeed where we have failed, but it all reminds us of an old story. A certain man of remote memory, an ancient Herr Ahlwardt, did not like the doings of a certain class of his fellow citizens and he offered to pay a goodly amount of silver into the treasury for the privilege of hanging a few of them upon a gallows several cubits high. The story ends with the statement that they hanged Haman upon the gallows which he had prepared for Mordecai.

A GOOD EXAMPLE.

A druggist, just a plain, practical, every-day druggist, writes to us this week in a plain and practical way, at our request, an outline of a system of instruction and aid which he is following out at the request of a number of earnest young drug clerks and students of pharmacy in his city. At the sacrifice undoubtedly of his convenience, and undoubtedly of his material affairs to some extent, he is doing what he can to instill into these young minds a love for the profession and to ground them in that fundamental framework of education which must be constructed to achieve later and best success. We let him tell his own story, for "good wine needs no bush," but we cannot feel satisfied to let the occasion pass without emphasizing his words and commending his action, holding his example up to the notice of other druggists who may wish, but have not known just how, to go about the instruction of that large class of young men who are deprived of the regular systematic courses of instruction in the college of pharmacy and who, therefore, must qualify themselves for their calling by individual and home study.

Many of the colleges of pharmacy in receiving applications of matriculating students require these students to state who have been their preceptors during the three or four years spent in drug stores before coming to the college. In many cases, we fear, the filling out of this blank for preceptor is purely a matter of form, perfunctory, and the term "preceptor" is sadly misapplied. If, however, more druggists would take that interest in their clerks which our contributor does in his and those of his brother druggists, there would come a time when there would be little to complain of on this score. The employing druggist has it in his power to do a great and good work in the training of his assistants, or he may allow them to grow up without systematic instruction, leaving them with an insufficient, incomplete foundation structure, which will require patching and filling up of chinks and crannies throughout the entire after business and professional career of the young men. If commendation can be made any stronger, we would make it so in speaking of the example of our correspondent, and if emphasis can be made more emphatic we would apply it to the advice, "Go thou and do likewise."

STOCK TAKING AND OLD ACCOUNTS.

"Stock taking" is now a frequently heard phrase in business affairs, and ordinarily it is not an operation presenting many intricacies, except such as attach to clerical work. The inventory, however, is but one factor in determining a merchant's financial condition. It may show a greater stock on hand than at previous periods, but the true nature of such an increase depends upon the condition of the account known as bills payable. The increased stock may not really belong to the dealer, if this account shows many unpaid obligations.

There is another feature in these periodical inquiries to determine the condition of a business which is cause for greater solicitude than any showing which the inventory may make, and that is the great number of small accounts which nearly every druggist has upon his books, and which in the aggregate amount to quite a sum and represent a portion of his capital upon which he is receiving no return, except a doubtful measure of good will. These accounts admit of a classification which every druggist mentally applies as he turns the pages of his books. There are the ones which he is reasonably sure he will never collect; there are the doubtful ones with the benefit of the doubt perhaps evenly distributed, and there are the ones which are good, but can only be collected through the disagreeable process of asking for the amount, in which asking is involved an exercise of courtesy and strategy, and in many cases some humiliating entreaty.

In no other business is there so much temptation or pressure brought to bear to induce the giving of credit as there is in the drug business. The emergency of illness calls for prompt relief. The grocer may refuse importunate hunger, for

hunger can wait or seek charity, but the druggist who asks for pay or security while death is impending is sure to be adversely criticised, for are not his profits enormous?

We can suggest nothing which will relieve this condition, except an application of that business principle which requires, when accounts are hard to collect, a greater effort and persistency to collect them. Persistency and regularity should be watchwords. Too many allow slow accounts to accumulate until their number becomes so great that in pure exasperation the druggist starts out with temper on edge endeavoring to collect them. When he contemplates the mountainous aggregate his disgust and indignation can hardly be excluded from his duns, and they are likely to be precipitated upon both the just and the unjust. The result is hardly ever satisfactory. This bunching of dunning operations into one period of the year puts too many disagreeable things too close together. To the irritating indignation caused by the slowness of some people in paying debts is added the positive knowledge that in the haste of indiscriminate dunning some good customers are lost.

Would it not be better to have this business of collecting accounts one of every day attention, the same as other disagreeable work around the pharmacy, like sweeping out or washing windows? Would it not be a good plan for every druggist who does a credit business to make it a rule to dun somebody every day, making it a part of the daily routine to study up a means for collecting one or two slow accounts? Constant attention to this great art argues a proficiency and skill within due time. It is apt to beget a suavity of manner in doing such things which only practice secures, and after a while people expect it, and begin dimly to understand that the druggist means business. The question is on the choice of having the miseries of slow accounts come in a bunch or in having them more evenly distributed.

DEPENDENCE OF THE LEAF ON ASSIMILATION.—From a series of experiments made, chiefly on phaseolus, acacia and mimosa, Dr. L. Jost comes to the conclusion that the substances formed in the parts of plants exposed to light may be used up in the parts not exposed to light for the formation of new organs or the development of those already formed. A leaf formed in the dark and continuing in it can, therefore, attain its normal size and functions without itself assimilating, while a leaf formed in the light will not unfold and become green in the dark or in an atmosphere free from carbon dioxide. It follows, therefore, that the production of the chlorophyll pigment is dependent directly on the power of assimilation of the leaf, while the development of the leaf is only indirectly dependent on that power. (Jahrbuch für wiss. Bot., Pharm. Jour.)

PRACTICAL HINTS.

There are many good, practical suggestions constantly appearing in trade journals, and for this week we have collected a few from various sources, modifying the wording wherever necessary to make them apply particularly to the drug trade and to pharmacists.

——When in doubt tell the truth.

——Clerk and shirk may rhyme, but they don't sound well together.

——The young man who knows only part of it earns more than he who knows it all.

——If you spend every cent you earn you won't wear out your shoe leather going to the savings bank.

——Try and think as much of your business when out of the store as you do of your pleasures when in the store.

——The merchant who can't laugh heartily can't make money, because he is too sour-natured to make and hold customers.

——No honor, no eminence, no success of any kind is worth enough to be purchased at the cost of compromising with your conscience.

——Politeness has been defined to be artificial good nature, but we may affirm with much greater propriety that good nature is natural politeness.

——Extravagant claims for anything on earth are sure to result in disappointment. Exaggeration in advertising does not blind, for the American people are too sensible to give heed to it long.

——Carrying fire insurance is like putting $1,000 of another man's money into the bank to your credit for a contingency. Failing to carry it is like staking your whole business on an uncertain game.

——Don't be so thoroughly satisfied with yourself and your business that you see no room for improvement. Be constantly on the lookout for desirable changes, additions, unique features, etc. Don't sit down and allow your business to stagnate after it has reached a certain point, but always be on the alert and keep things up to the top notch.

——Keep your windows clean. Have you ever seen store windows so dirty that the passer-by involuntarily exclaimed, "Mercy! Why don't that man clean his windows?" Windows should be as clean as soap, water and elbow grease can make them, and kept so. If people see your windows in a doubtful condition they will conclude that your stock is in keeping therewith, and consequently patronize another dealer.

——The department of agriculture of Pennsylvania has decided that the use of preservative agents composed of boracic acid, salicylic acid, etc., is injurious to public health and that these substances therefore come under the provisions of the pure food act of that State. Persons using or selling articles of food or drink containing them are liable to conviction and fine.

ALANTOLACTIN.—Synonym for helenin, prepared by Bredl, of Pesth, for the purpose of preventing confusion of the bitter principle, helenine, with inuline which is frequently called by that name.

ADVERTISEMENTS FOR RETAIL DRUGGISTS.

It seems quite proper to call attention to hot soda when people need it most. They ought to think of it during cold weather without the druggist going to the expense of reminding them, but a great many of them do not, and it is a good idea to have something fixed in their memories which will recall hot soda and its benefits when they are shivering and suffering and trying to think of the proper thing to relieve their discomfort. If they have read something like our sample advertisement it is pretty safe to anticipate what they will do.

The propriety of advertising the medicinal qualities of hot soda drinks is unquestioned, and there seems to be a wider field for this medicinal feature than exists in the cold soda business. Some advertising of the right kind ought to work up the winter trade at the soda fountain to a point very near that of the summer season.

No. 45.

A HOT DRINK

Of our Cocoa, Coffee, Tea, Fruit Juices, Lemonade, Ginger Tea, Beef Tea, Aromatic Bitters or a dozen other combinations will do wonders for you on a cold day, when you are chilled through and worrying about a spell of sickness which wind and weather are liable to bring on.

Our hot soda drinks are delicious, always ready to be served hot, and their bracing, tonic effect is just what you need when the weather is working against you.

KNIGHT & DAY, DRUGGISTS.

For the accommodation of subscribers, who have not the facilities for securing cuts, we will furnish duplicates of the above cut at 50 cents each, post paid. Order by number

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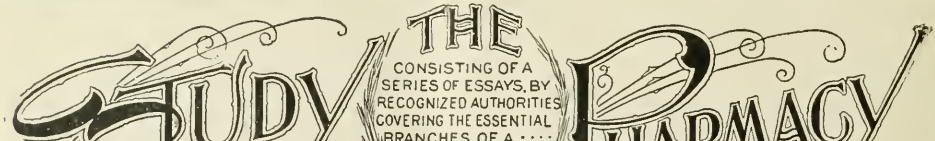
——Minnesota is the first State in the production of flaxseed, the fields of that commonwealth yielding 2,721,987 bushels of seed and 8,609 pounds of fiber; the second in rank is Iowa, with 2,282,359 bushels; the third being South Dakota, with 1,801,114 bushels of seed and 3,287 pounds of fiber.



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[Continued from page 773, December 19.]

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PART XXVI. PHYSIOLOGY, MATERIA MEDICA AND THERAPEUTICS.

(Continued.)

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ORGANIC MATERIA MEDICA.

RANUNCULACEÆ.

Cimicifuga. Black Snakeroot; rhizome and roots; antispasmodic and expectorant; 15 to 30 gr. (1 to 2 gm.).

Hydrastis. Golden Seal; rhizome and roots; astringent and sedative; 5 to 45 gr. (0.3 to 3 gm.).

Pulsatilla. Pasque Flower; the herb; cardiac sedative, antispasmodic and emmenagogue; 2 to 10 gr (0.13 to 0.6 gm.).

Staphisagria. Stavesacre; the seed; parasiticide; used externally.

Aconitum. Monkshood; tuber; cardiac and motor depressant; 1 to 2 gr. (0.06 to 0.13 gm.).

MAGNOLIACEÆ.

Illicium. Star Anise; fruit; carminative, stimulant and diuretic; 10 to 30 gr. (0.6 to 0.2 gm.).

MENISPERMACEÆ.

Calumba. Columbo; root; tonic; 9 to 30 gr. (0.6 to 2 gm.).

Pareira. Pareira Brava; root; diuretic and tonic; 30 to 60 gr. ((2 to 4 gm.).

Menispermum. Canadian Moonseed; rhizome and roots; alterative, tonic and diuretic; 15 to 60 gr. (1 to 4 gm.).

BERBERIDEÆ.

Caulophyllum. Squaw root; rhizome and roots; emmenagogue and diuretic; 5 to 30 gr. (0.3 to 2 gm.).

Podophyllum. May Apple; rhizome and roots; cathartic, cholagogue and alterative; 5 to 20 gr. (0.3 to 1.3 gm.).

PAPAVERACEÆ.

Opium. Opium; concrete milky exudation; narcotic, sedative and stimulant; 1 to 2 gr. (0.06 to 0.13 gm.).

Chelidonium. Celandine; the herb; cathartic and diuretic; 15 to 60 gr. (1 to 4 gm.).

Sanguinaria. Blood Root; rhizome; emetic and narcotic; 2 to 30 gr. (0.13 to 2 gm.).

CRUCIFERÆ.

Sinapis Alba. White Mustard; the seed; emetic, tonic and diuretic; 15 to 60 gr. (1 to 4 gm.).

Sinapis Nigra. Black Mustard; the seed; emetic, tonic and diuretic; 15 to 60 gr. (1 to 4 gm.).

POLYGALEÆ.

Krameria. Rhatany; root; astringent; 20 to 30 gr. (1 to 2 gm.).

Senega. Seneka; root; expectorant, diuretic and cathartic; 10 to 20 gr (0.6 to 1.3 gm.).

GUTTIFERÆ.

Cambogia. Gamboge; gum resin; hydragogue cathartic; 1 to 5 gr. (0.06 to 0.3 gm.).

MALVACEÆ.

Althaea. Marshmallow; root; demulcent; ½ to 2 dr. (2 to 8 gm.).

Gossypii Radicis Cortex. Cotton Root Bark; root bark; emmenagogue and oxytoxic; 30 to 60 gr. (2 to 4 gm.).

Gossypium. Cotton; hairs; dressings.

Oleum Gossypii Seminis. Cottonseed Oil; seed; demulcent.

STERCULIACEÆ.

Oleum Theobromatis. Cacao Butter; fixed oil from seed; demulcent and nutrient; 13 to 30 gr. (1 to 3 gm.).

LINEÆ.

Linum. Flaxseed; seed; demulcent; 1 to 2½ dr; (4 to 10 gm.).

Oleum Lini. Flaxseed Oil; oil; demulcent and laxative; 1 to 2 fl. oz. (32 to 64 cc.).

Coca. Erythroxylon; the leaves; stimulant and diuretic; 15 to 60 gr. (1 to 4 gm.).

ZYGOPHYLLEÆ.

Guaiaci Lignum. Guaiacum Wood; wood; diaphoretic; 15 to 60 gr. (1 to 4 gm.).

Guaiaci Resina. Guaiac wood resin; stimulant and alterative; 10 to 30 gr. (0.65 to 2 gm.).

GERANIACEÆ.

Geranium. Cranesbill; rhizome; astringent and tonic; 20 to 40 gr. (1.3 to 2.6 gm.).

RUTACEÆ.

Xanthoxylum. Prickly Ash; the bark; sialogogue, emetic and alterative; 10 to 20 gr. (0.65 to 2 gm.).

Buchu. Buchu; the leaves; stimulant and diuretic; 15 to 30 gr. (1 to 2 gm.).

Pilocarpus. Jaborandi; the leaflets; diaphoretic and sialogogue; 15 to 60 gr. (1 to 4 gm.).

Aurantii Cortex. Orange Peel; rind of the fruit; carminative and stomachic; 15 to 30 gr. (1 to 2 gm.).

Oleum Aurantii Corticis. Oil of orange peel; volatile oil; stimulant and irritant.

Limonis Succus. Lemon juice; fresh fruit; refrigerant; 2 to 5 dr. (8 to 20 gm.).

Limonis Cortex. Lemon Peel; rind of fresh fruit; stimulant.

Oleum Limonis. Lemon Oil; volatile oil from peel; aromatic and stimulant.

Oleum Bergamottæ. Oil of Bergamot; volatile oil from peel of fruit; aromatic, stimulant.

SIMARUBÆ.

Quassia. Quassia; wood; febrifuge and tonic; 20 to 30 gr. (1.3 to 2 gm.).

BURSERACEÆ.

Myrrha. Myrrh; gum resin; tonic, expectorant and emmenagogue; 5 to 30 gr. (0.3 to 2 gm.).

CELASTRINEÆ.

Euonymus. Wahoo; root bark; tonic, diuretic and aperient; 20 to 60 gr. (2 to 4. gm.).

RHAMNACEÆ.

Frangula. Buckthorn; bark; emetic, tonic and diuretic; ½ to 2 dr. (2 to 8 gm.).

Rhamnus Purshiana. Cascara Sagrada; bark; purgative, tonic and febrifuge; 15 to 60 gr. (1 to 4 gm.).

SAPINDACEÆ.

Guarana. Guarana; paste from seeds; astringent and tonic; 15 to 60 gr. (1to 4 gm.).

ANACARDIACEÆ.

Rhus Toxicodendron. Poison Ivy; fresh leaves; irritant and rubefacient; 2 to 5 gr. (0.12 to 0.3 gm.).

Rhus Glabra. Sumac; the fruit; diuretic and astringent.

Mastiche. Mastic; resinous exudation; stimulant.

LEGUMINOSÆ.

Glycyrrhiza. Liquorice Root; root; demulcent and expectorant; 15 to 60 gr. (1 to 4 gm.).

Extractum Glycyrrhizæ. Extract of Licorice; demulcent; 15 to 60 gr. (1 to 4 gm.).

Hæmatoxylon. Logwood; heart wood; tonic and astringent; 30 to 60 gr. (2 to 4 gm.).

Santalum Rubrum. Red Saunders; wood; dyestuff.

Senna. Senna; leaflets; cathartic; ½ to 2 dr. (2 to 8 gm.).

Scoparius. Broom; tops; diuretic; 15 to 30 gr. (1 to 2 gm.).

Cassia Fistula. Purging cassia; fruit; laxative; 1 to 2 to 8 dr. (4 to 8 to 32 gm.).

Tamarindus. Tamarind; pulp; refrigerant and laxative; 1 to 8 dr. (4 to 30 gm.).

Physostigma. Calabar Bean; the seed; poison, sedative; ½ to 2 gr. (0.03 to 0.13 gm.).

Acacia. Gum Arabic; exudation; demulcent.

Tragacantha. Tragacanth; exudation; demulcent.

Catechu. Cutch; wood; astringent and tonic; 10 to 30 gr. (0.65 to 2 gm.).

Kino. Kino; juice; astringent and tonic; 10 to 30 gr. (0.65 to 2 gm.).

Copaiba. Balsam Copaiba; oleoresin; expectorant and diuretic; 6 to 60 gr. (0.4 to 4 gm.).

Oleum Copaibæ. Oil of Copaiba; volatile oil; diuretic and irritant; 10 to 15 min. (0.6 to 1 cc.).

Balsam Peruvianum. Balsam of Peru; balsam; expectorant and stimulant; 10 to 30 gr. (0.6 to 2 gm.).

Balsamum Tolutanum. Balsam of Tolu; balsam; vulnerary and expectorant; 10 to 30 gr. (0.6 to 2 gm.).

ROSACEÆ.

Prunus Virginiana. Wild Cherry; bark; pectoral, tonic, sedative; 30 to 60 gr. (2 to 4 gm.).

Prunum. Prune; fruit; laxative and nutrient.

Amygdala Amara. Bitter Almond; seed; demulcent and sedative.

Oleum Amygdalæ Amaræ. Bitter Oil of Almond; volatile oil; sedative and poison; ¼ to ¾ min. (0.015 to 0.05 c. c.).

Amygdala Dulcis. Sweet Almond; seed; nutrient and demulcent.

Oleum Amygdalæ Expressum. Expressed Oil of Almond; fixed oil; lenitive (in liniments); 1 to 4 fl. dr. (4 to 16 cc.).

Quillaja. Soapbark; inner bark; stimulant and diuretic; 15 to 30 gr. (1 to 2 gm.).

Rosa Gallica. Red Rose; petals; astringent and tonic; 15 to 60 gr. (1 to 4 gm.).

Rosa Centifolia. Hundred-leaved or Cabbage Rose; petals; carminative and aromatic; (in making rose water).

Oleum Rosæ. Rose Oil; volatile oil; in perfumery.

Rubus. Blackberry; root-bark; astringent and tonic; 20 to 30 gr. (1.3 to 2 gm.).

Rubus Idæus. Raspberry; fruit; laxative and dietetic.

Cusso. Kooso; female inflorescence; anthelmintic and tænifuge; 2 to 6 dr. (8 to 24 gm.).

HAMAMELIDEÆ.

Hamamelis. Witch Hazel; leaves; astringent and sedative; 30 to 60 gr. (2 to 4 gm.).

Styrax. Liquid storax; balsam from inner bark; expectorant and diuretic; 10 to 20 gr. (0.65 to 1.3 gm.).

MYRTACEÆ.

Eucalyptus. Eucalyptus; leaves; febrifuge and stimulant; 15 to 60 gr. (1 to 4 gm.).

Oleum Eucalypti. Oil of Eucalyptus; volatile oil from leaves; diuretic and antiseptic; 5 to 10 min. (0.3 to 0.6 c. c.).

Oleum Myrciæ. Oil of Bay; volatile oil; used in the manufacture of perfumery.

Caryophyllus. Cloves; unexpanded flower; stomachic, stimulant and anti-emetic; 4 to 10 gr. (0.3 to 0.7 gm.).

Oleum Caryophylli. Oil of cloves; volatile oil from cloves; anti-emetic and stomachic; 1 to 5 min. (0.1 to 0.3 c. c.).

Pimenta. Allspice; fruit; carminative and stomachic; 10 to 40 gr. (0.65 to 2.6 gm.).

Oleum Pimentæ. Oil of Allspice; volatile oil; aromatic, stimulant and carminative; 2 to 6 min. (0.1 to 0.3 c. c.).

Oleum Cajuputi. Oil of Cajuput; volatile oil from leaves; carminative and rubefacient; 1½ to 15 min. (0.1 to 1 c. c.).

LYTHRARIEÆ.

Granatum. Pomegranate; bark of stem and root; anthelmintic and tænifuge; 20 to 30 gr. (1.3 to 2 gm.).

CUCURBITACEÆ.

Bryonia. Bryony; root; emmenagogue and cathartic; 10 to 60 gr. (0.6 to 4 gm.).

Colocynthis. Colocynth; fruit; purgative, irritant, poison (in excessive doses); 1 to 5 to 10 gr. (0.1 to 0.3 to 0.6 gm.).

Pepo. Pumpkin Seed; seed; tænifuge; 1 to 2 oz. (30 to 65 gm.).

UMBELLIFERÆ.

Anisum. Anise; fruit; carminative; 10 to 30 gr. (0.6 to 2 gm.).

Oleum Anisi. Oil of Anise; volatile oil; carminative and stomachic; 2 to 6 min. (0.12 to 0.4 c. c.).

Fœniculum. Fennel; fruit; carminative and stimulant; 15 to 30 gr. (1 to 2 gm.).

Oleum Fœniculi. Oil of Fennel; volatile oil; galactagogue and emmenagogue; 5 to 10 min. (0.3 to 0.6 c. c.).

Conium. Hemlock; fruit; narcotic; 1 to 5 gr. (0.1 to 0.3 gm.).

Carum. Caraway; fruit; carminative and diuretic; 8 to 30 gr. (0.5 to 2 gm.).

Oleum Cari. Oil of Caraway; volatile oil; local anæsthetic; 1 to 10 min. (0.06 to 0.6 c. c.).

Coriandrum. Coriander; fruit; stomachic; 8 to 30 gr. (0.5 to 2 gm.).

Oleum Coriandri. Oil of Coriander; volatile oil; aromatic, stimulant and stomachic; 1 to 5 min. (0.05 to 0.25 c. c.).

Thymol. Thymol; a phenol of the volatile oil; antiseptic (externally); 1 to 5 gr. (0.1 to 0.3 gm.).

Asafœtida. Asafœtida; gum resin from root; stimulant and anti-spasmodic; 3 to 15 gr. (0.2 to 1 gm.).

Ammoniacum. Ammoniac; gum resin; expectorant; 10 to 30 gr. (0.6 to 2 gm.).

Sumbul. Musk Root; root; antispasmodic; 10 to 20 gr. (0.6 to 1.3 gm.).

CAPRIFOLIACEÆ.

Sambucus. Elder; flowers; stimulant and diaphoretic; 30 to 60 gr. (2 to 4 gm.).

Viburnum Opulus. Cramp Bark; bark; antispasmodic (?); 30 to 60 gr. (2 to 4 gm.).

Viburnum Prunifolium. Black Haw; bark; nervine; 15 to 60 gr. (1 to 4 gm.).

RUBIACEÆ.

Ipecacuanha. Ipecac; root; emetic; 1, 5, 10 or 30 gr. (0.06, 0.3, 0.6 or 2 gm.).

Cinchona. Peruvian Bark; bark; febrifuge and tonic; 10 to 60 gr. (0.65 to 4 gm.).

Cinchona Rubra. Red Cinchona; bark; febrifuge; 10 to 60 gr. (0.65 to 4 gm.).

VALERIANEÆ.

Valeriana. Valerian; rhizome and roots; stimulant and antispasmodic; ½ to 1½ dr. (2 to 6 gm.).

Oleum Valerianæ. Oil of Valerian.

COMPOSITÆ.

Taraxacum. Dandelion; root; deobstruent; ½ to 2 dr. (2 to 8 gm.).

Pyrethrum. Pellitory; root; irritant; 30 to 60 gr. (2 to 4 gm.).

Inula. Elecampane; root; tonic; 20 to 60 gr. (1.3 to 4 gm.).

Lappa. Burdock; root; alterative; 15 to 60 gr. (1 to 4 gm.).

Arnicæ Radix. Arnica Root; rhizome and roots; irritant and vulnerary; 5 to 15 gr. (0.3 to 1 gm.).

Arnicæ Flores. Arnica Flowers; flower heads; same as preceding.

Eupatorium. Thoroughwort; leaves and flowers; stimulant and emetic; 20 to 30 gr. (1.3 to 2 gm.).

Grindelia. Grindelia; leaves and flowers; sedative; 15 to 60 gr. (1 to 4 gm.).

Tanacetum. Tansy; leaves and flowers; emmenagogue; 15 to 60 gr. (1 to 4 gm.).

Absinthium. Wormwood; leaves and flowers; tonic and febrifuge; 20 to 40 gr. (1.3 to 2.6 gm.).

Oleum Erigerontis. Oil of Fleabane; volatile oil; hæmostatic; 5 to 10 min. (0.3 to 0.6 c. c.)

Lactucarium. Lettuce-Opium; concrete milk-juice; anodyne; 10 to 20 gr. (0.65 to 1.3 gm.).

Matricaria. German Chamomile; inflorescence; stimulant; 15 to 60 gr. (1 to 4 gm.).

Anthemis. Chamomile; flower heads; tonic and carminative; ½ to 1 dr. (2 to 4 gm.).

Santonica. Levant Wormseed; unexpanded flower-heads; anthelmintic; 10 to 30 gr. (0.65 to 2 gm.).

Calendula. Marigold; flowers; alterative and vulnerary; 8 to 30 gr. (0.5 to 2 gm.).

LOBELIACEÆ.

Lobelia. Lobelia; leaves and flowers; emetic and expectorant; 1 to 10 to 20 gr. (0.06 to 0.6 to 1.3 gm.).

ERICACEÆ.

Uva Ursi. Bearberry; leaves; diuretic; 15 to 60 gr. (1 to 4 gm.).

Oleum Gaultheriæ. Oil of Wintergreen; volatile oil from leaves; diuretic, but chiefly as a flavor; 5 to 10 min. (0.3 to 0.6 c. c.)

Chimaphila. Pipsissewa; leaves; diuretic; 15 to 60 gr. (1 to 4 gm.).

STYRACEÆ.

Benzoinum. Benzoin; resin; stimulant; 10 to 40 gr. (0.6 to 2.6 gm.).

OLEACEÆ.

Manna. Manna; concrete saccharine exudation; laxative; 1 to 8 dr. (4 to 32 gm.).

Oleum Olivæ. Olive Oil; fixed oil from fruit; laxative and nutrient; 1 to 2 fl. oz. (32 to 64 c. c.).

APOCYNACEÆ.

Apocynum. Canadian Hemp; root; diuretic; 4 to 30 gr. (0.3 to 2 gm.).

Aspidosperma. Quebracho; bark; antispasmodic; 15 to 40 gr. (1 to 2.6 gm.).

Strophanthus. Strophanthus; seed; cardiac sedative; 1/20 to ¼ gr. (0.006 to 0.016 gm.) of powder.

ASCLEPIADEÆ.

Asclepias. Pleurisy Root; root; expectorant; 15 to 60 gr. (1 to 4 gm.).

LOGANIACEÆ.

Nux Vomica. Dog Button; seed; tonic and poison; 1 to 5 gr. (0.06 to 0.3 gm.).

Gelseminum. Yellow Jasmine; rhizome and roots; anti-spasmodic; 3 to 10 gr. (0.2 to 0.6 gm.).

Spigelia. Pinkroot; rhizome and roots; anthelmintic; ¼ to 2 dr. (1 to 8 gm.).

GENTIANEÆ.

Gentiana. Gentian; root; tonic; 10 to 30 gr. (0.6 to 2 gm.).

Chirata. Chiretta; entire plant; tonic; about 20 gr. (1.3 gm.).

HYDROPHYLLEÆ.

Eriodictyon. Yerba Santa; expectorant; 30 to 60 gr. (2 to 4 gm.).

CONVOLVULACEÆ.

Jalapa. Jalap; root; cathartic; 8 to 30 gr. (0.5 to 2 gm.).

Scammonium. Scammony; resinous root exudation; hydragogue cathartic; 5 to 15 gr. (0.33 to 1 gm.).

SOLANACEÆ.

Belladonnæ Radix. Belladonna Root; root; narcotic; 1 gr. (0.06 gm.).

Belladonnæ Folia. Belladonna Leaves; narcotic; 1 to 2 gr. (0.06 to 0.13 gm.).

Stramonii Folia. Stramonium Leaves; narcotic; 1 to 3 gr. (0.06 to 0.2 gm.).

Stramonii Semen. Stramonium Seed; seed; narcotic; 1 to 2 gr. (0.06 to 0.12 gm.).

Hyoscyamus. Henbane; leaves and flowers; narcotic; 5 to 10 gr. (0.33 to 0.65 gm.).

Tabacum. Tobacco; dried leaves; sedative and emetic; ½ to 6 gr. (0.03 to 0.4 gm.).

Dulcamara. Bittersweet; branches; alterative and anodyne; 30 to 60 gr. (2 to 4 gm.).

Capsicum. Cayenne Pepper; fruit; stimulant and rubefacient; 5 to 10 gr. (0.3 to 0.6 gm.).

SCROPHULARINEÆ.

Digitalis. Foxglove; leaves; narcotic and diuretic; 1 to 2 gr. (0.06 to 0.12 gm.).

Leptandra. Culver's Root; rhizome and roots; alterative and cathartic; 20 to 60 gr. (1.3 to 4 gm.).

PEDALINEÆ.

Oleum Sesami. Teel Oil; fixed oil from seed; demulcent; 1 to 2 fl. oz. (32 to 64 c. c.).

LABIATÆ.

Mentha Piperita. Peppermint; leaves and inflorescence; carminative and stimulant; 15 to 60 gr. (1 to 4 gm.).

Oleum Menthæ Piperitæ. Oil of Peppermint; volatile oil; carminative and anodyne; 1 to 3 min. (0.05 to 0.15 c. c.).

Menthol. Menthol; stearopten from oil of peppermint; anodyne and rubefacient; 1 to 2 gr. (0.06 to 0.12 gm.).

Mentha Viridis. Spearmint; leaves and flowers; carminative and nervine; 30 to 60 gr. (2 to 4 gm.).

Oleum Menthæ Viridis. Oil of Spearmint; volatile oil; carminative; 2 to 5 min. (0.1 to 0.3 c. c.).

Hedeoma. Pennyroyal; leaves and inflorescence; carminative and emmenagogue; 15 to 60 gr. (1 to 4 gm.).

Oleum Hedeomæ. Oil of Pennyroyal; volatile oil; carminative and emmenagogue; 2 to 5 min. (0.12 to 0.6 c. c.).

Marrubium. Horehound; leaves and flowers; tonic; 20 to 60 gr. (2 to 4 gm.).

Melissa. Balm; leaves and inflorescence; carminative and emmenagogue; 15 to 60 gr. (1 to 4 gm.).

Scutellaria. Skullcap; herb; tonic; ½ to 2 dr. (2 to 8 gm.).

Salvia. Sage; leaves; diuretic; 15 to 60 gr. (1 to 4 gm.).

Oleum Rosmarini. Oil of Rosemary; volatile oil from leaves; stimulant; 1 to 2 min. (0.05 to 0.1 c. c.).

Oleum Thymi. Oil of Thyme; volatile oil from leaves; carminative and anodyne; 1 to 5 min. (0.06 to 0.3 c. c.).

Oleum Lavandulæ Florum. Oil of

Lavender Flowers; volatile oil; stimulant and carminative (in perfume); 1 to 5 min. (.06 to .3 c. c.).

CHENOPODIACEÆ.

Chenopodium. American Wormseed; fruit; anthelmintic; 15 to 45 gr. (1 to 3 gm.).

Oleum Chenopodii. Oil of Chenopodium; volatile oil; anthelmintic; 5 to 10 min. (0.3 to 0.6 c. c.).

PHYTOLACCACEÆ.

Phytolaccæ Radix. Poke Root; root; alterative and emetic; 1 to 30 gr. (0.6 to 2 gm.).

Phytolaccæ Fructus. Pokeberry; fruit; alterative and emetic; 5 to 15 gr. (0.3 to 1 gm.).

POLYGONEÆ.

Rheum. Rhubarb; root; tonic and purgative; 5 to 30 gr. (.3 to 2 gm.).

Rumex. Yellow Dock; roots; alterative; 15 to 60 gr. (1 to 4 gm.).

ARISTOLOCHIACEÆ.

Serpentaria. Virginia Snake-Root; rhizome and roots; tonic; 5 to 30 gr. (0.3 to 2 gm.).

PIPERACEÆ.

Cubeba. Cubebs; unripe fruit; stimulant and diuretic; $^1/_7$ to 2 dr. (0.5 to 8 gm.).

Oleum Cubebæ. Oil of Cubeb; volatile oil; stimulant; 10 to 15 min. (0.6 to 1 c. c.).

Piper. Pepper (Black); unripe fruit; tonic; 5 to 25 gr. (0.3 to 1.5 gm.).

Matico. Matico; leaves; tonic; ½ to 2 dr. (2 to 8 gm.).

MYRISTICACEÆ.

Myristica. Nutmeg; seed; stomachic; 5 to 20 gr. (0.33 to 1.3 gm.).

Oleum Myristicæ. Oil of Nutmeg; volatile oil; stomachic; 2 to 3 min. (0.12 to 0.18 c. c.).

Macis. Mace; arillode of the seed; flavoring agent.

LAURINEÆ.

Cinnamomum Zeylanicum. Ceylon Cinnamon; inner bark; carminative; 10 to 30 gr. (0.6 to 2 gm.).

Cinnamomum Cassia. Cassia Cinnamon; bark; carminative and astringent; 10 to 30 gr. (0.6 to 2 gm.).

Oleum Cinnamomi. Oil of Cinnamon; volatile oil; carminative; 1 to 3 min. (0.05 to 0.2 c. c.)

Cinnamomum Saigonicum. Saigon Cinnamon; bark; carminative and astringent; 10 to 30 gr. (0.6 to 2 gm.).

Sassafras. Sassafras Bark; root-bark; diaphoretic and alterative; 15 to 60 gr. (1 to 4 gm.).

Oleum Sassafras. Oil of Sassafras; volatile oil; anodyne; 2 to 10 min. (0.1 to 0.6 c. c.).

Sassafras Medulla. Sassafras Pith; demulcent.

Camphora. Camphor; stearopten; antispasmodic; 1 to 20 gr. (0.06 to 1.2 gm.).

Oleum Camphoræ.

THYMELACEÆ.

Mezereum. Mezereon; Bark; sialagogue; 2 to 10 gr. (0.1 to 0.6 gm.).

SANTALACEÆ.

Oleum Santali. Oil of Sandal Wood; volatile oil from wood; sudorific and stimulant; 5 to 20 min. (0.3 to 1.3 c. c.).

EUPHORBIACEÆ.

Stillingia. Queen's Root; root; alterative; 15 to 30 gr. (1 to 2 gm.).

Elastica. Caoutchouc; prepared milk-juice; for plasters, etc.

Cascarilla. Cascarilla Bark; tonic and febrifuge; 15 to 30 gr. (1 to 2 gm.).

Oleum Ricini. Castor Oil; fixed oil from seed; demulcent and purgative; 1 to 4 fl. dr. (4 to 16 c. c.).

Oleum Tiglii. Croton Oil; fixed oil from seed; drastic purgative and poison; ¼ to 2 min. (0.016 to 0.12 c. c.).

Kamala. Rottlera; glands and hairs; tænifuge; 1 to 2 dr. (4 to 8 gm.).

URTICACEÆ.

Ulmus. Slippery Elm Bark; inner bark; demulcent and emollient; 1 to 2 dr. (2 to 8 gm.).

Humulus. Hops; strobiles; tonic and sedative; 30 to 60 gr. (2 to 4 gm.).

Lupulinum. Lupulin; granular powder; anodyne and tonic; 5 to 15 gr. (0.3 to 1 gm.).

Cannabis Indica. Indian Hemp; female inflorescence; nervine; 2 to 15 gr. (0.13 to 1 gm.).

Ficus. Fig; fleshy receptacle; laxative.

JUGLANDACEÆ.

Juglans. Butternut; root; bark; cathartic; 1 to 2 dr. (4 to 8 gm.).

CUPULIFERÆ.

Quercus Alba. White Oak; bark; astringent; 15 to 60 gr. (1 to 4 gm.).

Galla. Nutgall; excrescence; astringent (external).

Acidum Tannicum. Tannic Acid; powdered galls; powerful astringent.

Acidum Gallicum. Gallic Acid.

Pyrogallol. Pyrogallic Acid.

Castanea. Chestnut; leaves; tonic and astringent; ½ to 2 dr. (2 to 8 gm.).

Oleum Betulæ Volatile. Oil of Sweet Birch; volatile oil from bark; antiseptic and poison; 5 to 30 min. (0.3 to 1.8 cc.).

CONIFERÆ.

Sabina. Savine; tops; irritant, diuretic and emmenagogue; 5 to 15 gr. (0.3 to 1 gm.).

Oleum Sabinæ. Oil of Savine; volatile oil; irritant; 2 to 10 min. (1 to 0.6 cc.).

Oleum Juniperi. Oil of Juniper; volatile oil from fruit; diuretic and carminative; 5 to 15 min. (0.3 to 1 cc.).

Oleum Cadinum. Oil of Cade; heartwood; insecticide and anthelmintic; 2 to 5 drops (0.15 to 0.3 cc.).

Terebinthina. Turpentine; oleoresin; diuretic and hæmostatic; 10 to 30 gr. (0.6 to 2 gm.).

Oleum Terebinthinæ. Spirits of Turpentine; volatile oil; diuretic and rubefacient; 5 to 30 min. (0.3 to 2 cc.).

Resina. Resin; residue from spirits of turpentine; for plasters.

Pix Liquida. Tar; oleoresin; stimulant; 5 to 20 gr. (0.3 to 1.3 gm.).

Oleum Picis Liquidæ. Oil of Tar; volatile oil; stimulant and insecticide; 1 to 5 min. (0.06 to 0.3 cc.).

Terebinthina Canadensis. Canada Turpentine; liquid oleoresin; diuretic; 20 to 60 gr. (1.3 to 4 gm.).

Pix Burgundica. Burgundy Pitch; resinous exudation; irritant; for plasters, etc.

ORCHIDEÆ.

Cypripedium. Ladies' Slipper; rhizome and rootlets; anti-spasmodic; 8 to 15 gr. (0.5 to 1 gm.).

Vanilla. Vanilla; fruit; aphrodisiac and flavoring agent; 5 to 30 gr. (0.3 to 2 gm.).

SCITAMINEÆ.

Zinziber. Ginger; rhizome; stimulant and stomachic; 10 to 20 gr. (0.65 to 1.3 gm.).

Cardamomum. Cardamom; fruit; aromatic; 6 to 15 gr. (0.3 to 1 gm.).

IRIDEÆ.

Iris. Blue Flag; rhizome and roots; alterative and cathartic; 10 to 20 gr. (0.6 to 1.3 gm.).

Crocus. Saffron; stigmas; carminative and dye; 5 to 30 gr. (0.3 to 2 gm.).

LILIACEÆ.

Sarsaparilla. Sarsaparilla; root; alterative; 30 to 60 gr. (2 to 4 gm.).

Convallaria. Lily of the Valley; rhizome and roots; heart tonic and poison; 1 to 6 gr. (0.1 to 0.4 gm.).

Veratrum Viride. American Hellebore; rhizome and roots; emetic and cardiac depressant; 1 to 2 gr. (0.06 to 0.12 gm.).

Allium. Garlic; bulb; expectorant and diuretic; 30 to 60 gr. (2 to 4 gm.).

Scilla. Squill; bulb; expectorant and diuretic; 1 to 10 gr. (0.06 to 0.6 gm.).

Colchici Radix. Colchicum Root; tuber; cathartic; 1 to 6 gr. (0.1 to 0.4 gm.).

Colchici Semen. Colchicum Seed; cathartic; 1 to 6 gr. (0.1 to 0.4 gm.).

Aloe Socotrina. Socotrine Aloes; juice from leaves; cathartic and emmenagogue; 3 to 10 gr. (0.2 to 0.6 gm.).

Aloe Barbadensis. Barbadoes Aloes; juice from leaves; emmenagogue and cathartic; 3 to 10 gr. (0.2 to 0.6 gm.).

AROIDEÆ.

Calamus. Sweet Flag; rhizome; tonic; 15 to 60 gr. (1 to 4 gm.).

GRAMINEÆ.

Triticum. Couch Grass; rhizome; diuretic; ½ to 2 dr. (2 to 8 gm.).

Saccharum. Cane Sugar; demulcent.

Zea. Corn silk; styles and stigmas; diuretic; 20 to 30 gr. (1.3 to 2 gm.).

Amylum. Starch; fecula of seed; nutrient and demulcent.

LYCOPODIACEÆ.

Lycopodium. Club Moss; spores; absorbent.

FILICES.

Aspidium. Male Fern; rhizome; tænifuge; 30 to 90 gr. (2 to 6 gm.).

FUNGI.

Ergota. Ergot; sclerotium; ecbolic and poison; 5 to 60 gr. (0.3 to 4 gm.).

LICHENES.

Cetraria. Iceland Moss; thallus; demulcent; 30 to 60 gr. (2 to 4 gm.).

ALGÆ.

Chondrus. Carragheen; thalli; demulcent; 1 to 2 gr. (4 to 8 gm.).

Animal Drugs.

Cantharis. Spanish Flies; bodies; irritant, diuretic and aphrodisiac (poison); ½ to 2 gr. (0.032 to .013 gm.).

Coccus. Cochineal; female insect dried; (dye); anti-spasmodic; 1 to 15 gr. (0.6 to 1 gm.).

Ichthyocolla. Isinglass; bladder; emollient and nutrient.

Oleum Morrhuæ. Cod Liver Oil; fixed oil from liver; alterative and demulcent; 1 to 2 fl. dr. (4 to 8 cc.).

Cetaceum. Spermaceti; fatty substance; lenitive (in ointments).

Mel. Honey; saccharine secretion; demulcent and laxative.

Cera Flava. Yellow Wax; honey comb; protective (in ointments).

Cera Alba. White Wax; bleached yellow wax.

Vitellus. Yolk of Egg; nutrient.

Moschus. Musk; dried preputial secretion; stimulant; 1 to 10 gr. (0.06 to 0.6 gm.).

Fel Bovis. Ox Gall; fresh ox bile; tonic and laxative; 5 to 10 gr. (0.33 to 0.65 gm.).

Fel Bovis Purificatum. Purified Ox Gall; the form in which ox gall is always administered as a medicine.

Acidum Lacticum. Lactic Acid; milk.

Saccharum Lactis. Sugar of Milk; milk; nutrient.

Sevum. Mutton Suet; sheep fat; lenitive.

Adeps. Lard; hog fat; emollient (in ointments, etc.).

Oleum Adipis. Lard Oil; fixed oil from lard; used in ointments.

Pepsinum. Pepsin; prepared from mucous membrane of the hog; to assist digestion in the stomach; 1 to 5 gr. (0.6 to 0.3 gm.).

Pancreatinum. Pancreatin; pancreas of the hog; digestive agent; 5 to 15 gr. (0.3 to 1 gm.).

Adeps Lanæ Hydrosus. Hydrous Wool Fat; sheep wool; protective (in ointments).

COLLECTION AND PRESERVATION OF VEGETABLE DRUGS.

Upon the manner of collecting and preserving depends the medicinal value of vegetable drugs. Various conditions of soil, climate, development, etc., are to be taken into consideration.

One thing it is always necessary to remember with regard to drug preservation: Vegetable substances are sensitive to exposure and if not kept in proper condition they deteriorate very rapidly. A drug, whether it be collected as a root, stem, leaf or flower, should be secured

at the time when it is in its best condition—when the principles upon which it depends for its activity as a remedy are best represented. Taraxacum, for example, should be collected it is said (in the U. S. P.), in the fall, because at this season it contains least sugar, and the bitter principle taraxacin is most pronounced, and is best associated as regards other constituents of the plant. This drug and many others like it should be renewed annually, because it can scarcely be preserved through one season without some deterioration. Such drugs as ergot, digitalis, belladonna, pilocarpus, many of the herbs and flowers, are especially liable to deterioration.

We have found that the most common insect attacking drugs, either in the whole or powdered state, is that known by entomologists as Sitrodrepa panicea, a small brown beetle belonging to the family Ptinidæ, many of the larvæ of which thrive on drugs, eating with a relish even pepper, tobacco, etc., etc. One of the most effective methods of destroying both larva and beetle is to put a small quantity of carbon bisulphide in the can or container, in a small cup or pledget of cotton, on top of the drug or powder. The vapor, being heavier than the air, will permeate the drug or powder effectually. Simply heating the drug or powder afterwards will remove all traces of the bisulphide of carbon. Whether this method can be made practical for druggists remains to be seen. Chloroform is recommended by the Pharmacopœia instead of carbon bisulphide.

An overgrown or a too old plant will not yield active drugs. Belladonna roots which are tough and woody and which break with a splintery fracture should be rejected. Rhubarb which is woody, soggy or decayed in the center should also be rejected. Generally speaking, it is safe to assume that a drug which retains its natural color and other physical properties of odor and taste is well preserved and possesses the proper activity of the drug. If its color is unnatural, its odor and taste not characteristic, it is of inferior quality.

Care should be taken that no other part of the plant than the desired one is represented in the drug kept on hand in the drug store. If, for example, we have pareira brava, we should see to it that it is the root and not the stem of chondodendron tomentosum. It is well known that the stem is frequently mixed with the root in the market. The Pharmacopœia particularly guards against such accidental or intended admixtures by defining exactly what should constitute the drug named. In doing this it gives the technical name of the drug, the botanical origin, the part of the plant and the precise portion or condition—sometimes the exact period of collection—of this part. To illustrate this precision of the Pharmacopœia we will select a few cases from its pages and take as examples different parts of the plant:

Root:

Taraxacum; dandelion. The root of Taraxacum officinale Weber (natural order Compositæ), gathered in autumn.

Bark:

Frangula; buckthorn. The bark of Rhamnus frangula Linne (natural order Rhamnaceæ), collected at least one year before being used.

Juglans; butternut. The bark of the root of Juglans cinerea, Linne (natural order Juglandaceæ), collected in autumn.

Leaves:

Digitalis; Foxglove. The leaves of Digitalis purpurea Linne (natural order, Scrophularineæ), collected from plants of second year's growth.

Eucalyptus. The leaves of Eucalyptus globulus, Labillardiere (natural order, Myrtaceæ), collected from the older parts of the tree.

Flower:

Anthemis; Chamomile. The flower-heads of Anthemis nobilis, Linne natural order Compositæ), collected from cultivated plants.

Herb.

Pulsatilla. The herb of Anemone pulsatilla and of Anemone pratensis, Linne (natural order Ranunculaceæ), collected soon after flowering. It should be carefully preserved and not be kept longer than one year.

Fungus Growth:

Ergota; Ergot of Rye. The sclerotium of Claviceps purpurea (Fries), Tulasne (class Fungi), replacing the grain of rye, Secale cereale Linne (natural order Gramineæ).

Ergot should be only moderately dried. It should be preserved in a close vessel, and a few drops of chloroform should be dropped upon it from time to time to prevent the development of insects. When more than one year old it is unfit for use. Old ergot which breaks with a sharp snap, is almost, or entirely, devoid of a pinkish tinge upon the fracture, is hard and brittle between the teeth, and is comparatively odorless and tasteless, should be rejected.

Excrescence:

Galla; Nutgall. An excrescence on Quercus lusitanica, Lamarck (natural order Cupuliferæ), caused by the punctures and deposited ova of Cynips Gallæ tinctoria Olivier (class Insecta; order Hymenoptera. Light, spongy and whitish colored nutgalls should be rejected.

Arrangement and Classification of Materia Medica.

In the preceding pages a general idea of the materials of medicine has been given, the classification being mainly that of the botanist and chemist. It has been suggested, however, at the same time that several other methods present themselves for the arrangement of the vast number of remedial agents within our reach.

An alphabetical arrangement has the advantage of ready reference, but is wanting in that essential quality of systematic presentation so necessary to the student and for practical scientific work.

A classification founded upon chemical relationship of constituents is impracticable from a therapeutical standpoint, and the same may be said of the botanical arrangement (of vegetable drugs) so convenient for the pharmacist.

A classification based upon the physiological action upon the human economy and medicinal uses presents, however, many advantages to the physician, and will obviously be convenient for the following paragraphs which will again consider the subject of therapeutics in connection with materia medica. In this connection let it not be understood that the writer designs to give practical instruction in the therapeutical application of medicines. His object is merely to present such important information as the pharmacist should have in this direction and to give this somewhat after the manner of the later text books, modifying the arrangement and substance of the material to suit the purpose of the present article.

(To be continued.)

THE LIFE OF WATER PLANTS.*

By M. Büsgen.

(Concluded from page 775.)

Submerged plants, as we have already said, are less well provided as to the reception of light than those with floating leaves. Hence those are chiefly small forms which we find at the bottom of our waters. Of these the Algæ are the most numerous. There are, indeed, on the whole earth no wet, only moderately light places, where Algæ have not established a home. Insensible in a high degree alike to heat and cold, they are capable of growing on the snow of the Alps and on the edges of hot springs. We find them in the stones of rushing mountain torrents, in the plunge of the steepest waterfalls and in the surf of the seacoast, and again at the bottom of the nearly motionless waters of ditches and ponds. The diversity of their habitats corresponds with the immense multitude of their forms. In the form of microscopic dots they will gradually change all the water of a pond or lake into a disagreeable, turbid, green, often rank-smelling fluid; sometimes floating on its surface as green or yellow wads dotted with air bubbles; sometimes they appear at the bottom of the water as thick, roundish bundles of green, tangled threads; sometimes as slippery brown coatings.

The Algæ of the sea, or seaweeds, are strikingly rich in coloring. Besides green, there are in the sea black, brown and red forms, the last, under favorable conditions of light, often attaining great size. They seem to be adapted by their peculiar coloring to the tempered blue light of the deeper strata of water. In the great deeps the plant life of the sea is extinguished for want of light. At a hundred meters beneath the surface only a few Algæ are found. Some of them continue to grow without interruption through the three months' polar night of

*Translated for The Popular Science Monthly from the Deutsche Rundschau.

Spitzbergen and develop their invisible flowers and fruits at this season with the temperature of the water below the freezing point. The giants of the Algæ seek the enjoyment of uninterrupted sunlight. They grow in the deep waters near the shore and send up slender stalks which pass at the surface of the water into long, shredded leaf forms. Algæ of this kind form, on the Chilian coast, for instance, forests in which specimens may be found more than 200 meters long.

We return, after this excursion into the curious world of the Algæ, to the higher plants, and inquire whether there are not special adaptations to a life in the water in the conditions of their blossoming.

The flower of the phanerogam is adapted in general to life in the air and the light. We find, therefore, that the flowers of many water plants with floating leaves aim to reach the surface of the water. They require for the transfer of the pollen to the ovule the aid of the wind or of the insects which hover thickly over the water. Their emergence is effected with the help of floats of various kinds, of which it is sufficient to recall here a much-cited example. In the Vallisneria, the long, grass-like leaves of which form a kind of turf at the bottom of some of the south European lakes, the inconspicuous male flowers rise in knobby bunches protected by a turgid envelope at the bottom of the water. The female flowers stand singly on very long, threadlike stems which rise to the top of the water. When the pollen has matured the covering of the male flower opens and the flowers escape in the form of little balls, which, being very light, rise at once to the surface of the water. Here are unfolded three white leaves, which, to use a figure of Kerner's, float around like pollen-laden canoes, and are so wafted by the wind as to convey their freight to the female flowers. While the fruit is forming the stems of the female flowers roll up spirally and draw the seeds down into the protecting deeps, to remain there undisturbed till the time of germination. The flowers of many water plants, except for these processes, remain concealed in the deep throughout their lives. They do not there bring all their functions to fruiting, which can be accomplished only in the air. Without color or fragrance, they are inconspicuous; their structure is distinguishable only under close examination and they are proved to be real flowers only by their pollen-shedding and their formation of seeds. Again arise in water plants special tasks. It is incumbent upon one to spread itself as widely as possible and establish its posterity in new places, where it may obtain room for free development and will not be dwarfed under the shadow of larger plants. The seeds, therefore, must not stay where they have fallen when ripened. They must be scattered and by all means carried away from the immediate neighborhood of the mother plant. The fruits or seeds of water plants are therefore largely endowed with aids to swimming, by the help of which they can accomplish long distances. They share this provision with many shore plants, the whole existence of which is connected with the water in more than one respect. Among these is the cocoa palm, the gigantic fruits of which are comparatively very light. Filled within with cocoanut milk and cocoa butter, food for the young sprout, they possess a thick hull of loosely woven fibers, which forms a most excellent raft to carry the fruit far over the sea till it is stranded on some island to grow there into a new tree. Hence the cocoanut palm is the first settler on all coral reefs that rise above the sea, and becomes the most characteristic element of tropical landscapes.

Other water plants employ animals as means of transport. They are swallowed by fishes, from the intestines of which they pass undigested.

The method of dispersion of many of the Algæ is especially interesting. They produce wandering cells which, endowed like the infusoria with free motion, shoot round in the water till they find a point on which they can settle themselves and grow. The lens will show us on a stone in the brook or on a dry limb that has fallen into the water a small group of slender threads, perhaps about a third of an inch high, each of which consists of a row of cylindrical cells set one upon another. If we take the plants home, wrapped with their support in round paper or moss, and put them in a dish of fresh water, we shall often be able in a short time to observe the spectacle of the formation of wandering cells. With a microscope we can see the individual cells breaking up and their contents creeping out of the cleft in the form of oval bodies. At the forward end of these swarms we may observe a number of fine threads which swing rapidly back and forth till they acquire a rotary motion, by means of which they swim spirally forward. The Austrian botanist, Unger, who was among the first to observe the formation of wandering cells, believed at the time that he had surprised the plants in the act of becoming animals. The vegetable wanderers are, in fact, wonderfully like minute water animals. Many of them have red spots in front, which some have not irrationally supposed were light-perceiving organs or eyes of the simplest sort.

The question whether plants have a consciousness meets us here more impressively than anywhere else in the vegetable kingdom. As we observe how wandering cells swim toward foodstuffs and avoid poisons, seek moderate light and retire from strong light, and distinguish their own likes from the wandering cells of other plants, we find also really no difference. We have to concede that the same feelings and expressions are apparent in both, and if we ascribe a kind of soul to the animals, we cannot deny it to the plants. We cannot expect to find thought and reason in these circles of simplest light. Those are the prerogatives of the highest inhabitants of earth. The whole existence of these lower beings consists in the unconscious reception of impressions and the unconscious movements occasioned by it. The vital career of the annual water plants closes with the formation of the seed. They die and fall into decay through the agency of the water bacteria, whose activity carries their substance on to renewed life in the circulation of matter. The vegetation of most of our northern perennial water plants is interrupted during the winter. Some of them, like the pond lily, have long rootstocks, in which superfluous food is deposited, as in a storehouse, in the course of the summer, to serve in the spring for the formation of the new leafy growth; others form special winter buds, which, likewise filled with food, separate from the mother plant, sink to the ground, or are frozen in the ice, till the returning warmth of the sun revives them.

Having sought to uncover the mysteries of the household life of the water plants, we now turn to their relations to other families. No group of organisms has ever been able to develop itself independently of all other living beings. Individuals have to acquire the useful properties we admire in them in constant conflict—plants especially, in conflict with the animal world; and the vegetation of the water is as much subject to it as any other. Besides the fishes there are the water snails and innumerable crustaceans, large and small, turning to water plants for food. Some plants are protected against these creatures by the presence of substances that give their leaves a bitter taste; some have many pointed prickle cells in the interior of their leafstalks which make it impossible for their enemies to bite through them. Most of the seaweeds are furnished with slimy cell walls, on which the water snails try their teeth in vain. The calcareous Algæ of the sea enjoy the best protection in the shape of a knotty or coralline form which has little resemblance to a plant, and through the deposition of carbonate of lime in their cell walls, almost turning them into real stone. Only a few marine animals know how to attack them. Among these is a snail that dissolves the lime by means of a secretion of sulphuric acid. With the same material, as Semon has shown, these snails also make sea urchins and starfish digestible and are therefore brought in reach of an unusual variety of food, in which they are rivaled only by the lobster with his strong cutting jaws.

There are, besides, animal-catching plants among the water vegetation—as the common bladderwort (Utricularia), a yellow-flowering plant, with slender stem and finely dissected leaves, which is abundant in still waters in summer. Its leaves bear on and between their points round bladders about as large as the head of a pin, which serve as animal traps. The most interesting part is an elastic lid, which opens only toward the interior. A wreath of glandular hairs surrounding the entrance of the bladder secretes a slimy material which entices the smaller water crustacea to their destruction. They swim up greedily and

collect at the mouth of the bladder to enjoy their feast. One of the guests ventures to get upon the lid. He remains there at first quietly held; but upon his making a more vigorous motion, the lid opens suddenly, swallows the little animal and then closes again. The captive struggles a while to escape from his prison, but gradually his movements become weaker and he dies at last. Now the hairs clothing the interior walls of the bladder begin their work of imbibing food from the softer parts of the animal. When we reflect that a length of a finger and a half of a branch of the bladderwort can thus entrap two hundred of the little crustaceans, we can easily comprehend how the plant can do without roots, upon which it would otherwise depend for its supply of nitrogenous food.

In view of certain investigations which have been made of water flora and fauna for special purposes, I add a few words on the place of the water flora in the economy of nature. The lower vegetation is of very great importance, especially the microscopic plants, innumerable plantations of which inhabit extensive tracts of all, and especially of northern, lakes. They move around in the water in masses or singly, changing the deep blue color of the spots destitute of organisms into green or dirty yellow. Most numerous among these minute plants wandering in lakes are the diatoms or siliceous Algæ, the richness of the forms of which surpasses all imagining. They consist of a nucleus of living substance inclosed as in a box between two siliceous shells. These shells bear markings so fine that they are used, in the same way as the dust of butterflies' wings, as tests for the delicacy of our best microscopes. The diatoms move through the water by the aid of a peculiar propulsory apparatus till they, dying, sink to the bottom, and there go to help form the slime which is of great importance in the evolutionary history of the crust of the earth. There are also diatoms in fresh water. They are the principal constituents of the brownish-yellow slippery coating of the stones in the beds of brooks.

The work of these and other similar living beings in the economy of nature is not, therefore, lost, because they help with their dead remains to build up the dry land and prepare the ground for future generations. Their existence is thus of benefit to their fellow creatures. As on the land, so there are plants in the sea which elaborate the uninvigorated substances of the air and of the mineral kingdom and convert them into matter to become constituents of the bodies of living beings. Inasmuch as they serve as food, or as animals living upon them fall victims to the larger animals, they are the support of the whole animal life of the ocean. When we consider that twelve million individuals of one species of these sea plants hardly contain a half gram of organic substance, the endless mass of life that perishes to form the material for a whale, for instance, becomes inconceivable.

THE DRUGGIST PRECEPTOR.

To the Editor:

It gives me great pleasure to furnish you with an outline of the manner in which I am conducting the series of lectures on pharmacy to young men. Some four or five weeks ago several young clerks in pharmacies in this section of the city came to me and requested that I assist them in the study of pharmacy. I was pleased with the interest shown, and, although my spare moments are few, I consented to devote one evening each week to them and teach them all I could. They obtained a room near my place of business and we began work. My first lecture consisted of a short talk on pharmacy, an abstract of which I enclose. I gave them each a number of subjects to study on, and requested each to be prepared to answer at next meeting such questions as I might ask about subjects given out at last meeting; this plan will be continued throughout the course. I supplement my lecture with practical work and blackboard illustrations, also exercises in chemistry. At the close of the course it is my intention to devote a number of evenings to a review of all the lectures, and I shall test the pharmaceutical knowledge of each one by examination questions, conducted after the manner of boards of pharmacy. I enclose you a condensed prospectus of my whole course. I have suggested to my class the reading of the Era lectures, as much very valuable information could then be obtained.

RICHARD KIMBALL.

Hartford, Conn.

LECTURE No. 1.

I am pleased to see that you take so much interest in this matter and trust as we continue on in our search after pharmaceutical knowledge your interest will increase. I shall try and give you the benefit of my twenty-eight years of practical work and study. But you must bear in mind that without giving some of your time to the study of the Pharmacopœia, the Dispensatory and such other books as we have selected, these lectures will be of little value to you. The advantages for study of to-day far exceed those of the past. There can be no reasonable excuse why young men of your education, providing you apply yourselves to study, should not in a reasonable time fit you to pass the State examination. Of course you need practical work, and that you are getting each day behind the counters of the pharmacies in which you are employed. The object of these lectures is to give you an idea of what to study, how and where to begin; also to explain and exemplify the various processes of the Pharmacopœia and the Dispensatory, the dispensing of prescriptions and general manufacturing, such as is required in most pharmacies.

The contrast between pharmacy of the past and that of to-day is very marked indeed. We now have every facility for learning, every advantage that the researches of learned men can offer, all the improved apparatus and methods for conducting chemical experiments, and most excellent books of reference. So you see it all lies with yourselves whether you gain knowledge or not. As in the building of a house, we begin at the foundation, so shall it be with these lectures. There may be some things mentioned with which you are already familiar; if so, so much the better. We will now begin with the term Pharmacy. (Then followed Specific Gravity, Specific Volume, Thermometers, Weights and Measures, Metric System.)

LECTURE No. 2.

Heat.
Latent Heat.
Drying of Drugs.
Grinding of Drugs.
Vaporization.

LECTURE No. 3.

Evaporation.
Distillation.
Fusion.
Crystallization.
Precipitation.
Dialysis.
Extraction.
Percolation.
Solution.
Mixtures.
Infusion.
(Liquors—Solution.)
(Syrups—Chemical.)

LECTURE No. 4.

Mucilages.
Spirits.
Oleates.
Medicated Wines.
Glycerites.
Elixirs.
Mixtures.
Liniments.
Ethereal Solutions.
Products by Extraction.
Vinegars.
Tinctures (per cent. of drug, part used, menstrua)
Fluid Extracts (per cent. of drug, number powders, menstrua).
Extracts.
Oleoresins.
Resins.
Powders.
Triturations.
Masses.
Confections.
Troches.
Pills.

LECTURE No. 5.

Liquid Excipients.
Solid Excipients.
Ointments.
Suppositories.
Plasters.
Cerates.
Papers.
Organic Acids.
Alcohols.
Wines.
Ethers.
Starches and Sugars.
Cotton.

LECTURE No. 6.

Gums.
Essential Oils.
Nitrogenated Oils.
Sulphurated Oils.
Empyreumatic Oils.
Resins.
Oleoresins.
Turpentines.
Balsams.
Gum Resins.
Fatty Oils.
Drying Oils.
Non-Drying Oils.

LECTURE No. 7.

Castor Oil Group.
Soaps.
Soluble Soaps.
Insoluble Soaps.
Solid Fats.
Non-Odorous Fats.
Waxes and Petrolatum.
Emulsions.
Organic Drugs.
Aromatic Drugs.
Unofficinal Drugs.
Resinous Drugs.

LECTURE No. 8.

Vegetable Astringent Drugs.
Refrigerant Drugs.
Glucosidal Drugs.
Glucosides Officinal.
Alkaloidal Drugs.

LECTURE No. 9.
Cinchona.
Unclassified Drugs.
Inorganic Acids.
LECTURE No. 10.
Nitrogen Compounds.
Boron.
Carbon Compounds.
Chlorine.
Iodine and Compounds.
Phosphorus.
Sulphur and Compounds.
Alkali Metals.
Potassium Compounds.
LECTURE No. 11.
Sodium Compounds.
Lithium Compounds.
Magnesium Compounds.
Calcium Compounds.
Aluminum Compounds.
Zinc Compounds.
Manganese Compounds.
Cerium.
Iron Compounds.
LECTURE No. 12.
Tin.
Lead Compounds.
Copper Compounds.
Silver Compounds.
Mercury Compounds.
Antimony Compounds.
Arsenic Compounds.
Bismuth Compounds.
LECTURE No. 13.
Dispensing.
Prescriptions.
LECTURE No. 14.
Incompatibility.
LECTURE No. 15.
Toxicology.
Nos. 16, 17 and 18 will consist of Examination Questions, and a general review of all the lectures.

MANDRAKES.

At a meeting of the Brighton Junior Pharmacy Association Mr. C. S. Ashton read a paper on mandrakes. For a very careful abstract of his remarks we are indebted to Chem. and Drug. He commenced with a description of the leading members of the solanaceous family, to which the mandrake belongs, especially of the poisonous properties which such plant as belladonna and henbane have long been known to possess, pointing out that the alkaloids, atropine, hyoscyamine, daturine and mandragorine, $C_{17}H_{23}NO_3$, are isomeric. The whole of these narcotic plants are in a greater or less degree surrounded by a halo of romance, but far ahead of them all stands mandragora, an herb which for mystic and romantic associations is probably without a rival in the whole vegetable kingdom.

The mandrake is rather a handsome plant, and though it does not assume as large dimensions above ground as any of its fellow-poisons, its root probably outdoes them all. This is from 1 to 2 feet long, and from 2 to 3 inches in diameter. It is usually single but not infrequently forks into two or more divisions. The plant occurs plentifully in the East, Greece and Italy, and is also found in Spain, Germany and Switzerland, although it is not native there. It has rejoiced in a variety of names, most of them suggested by some real or fancied properties possessed by the plant. Thus mandragora is derived from two Greek words, "mandra," pertaining to cattle, and "agauros," hurtful. Its deadly nature is further illustrated by the generic name Atropa, one of the Fates. Pythagoras called it 'anthropomorphos," and Columella, "semihomo," in allusion to the shape of the root. Pliny called it "arsen" for the same reason. "Circaen" and "Morion" were other ancient names for it. The modern "mandrake" comes to us thus: Mandragore, mandragon, mandragge, mandrage, mandrag, and, finally, mandrake. The accidental fact of its first syllable being "man" has materially assisted the propagation of the various myths connected with the herb. Some writers of whom we might have expected better fall into this error. We even find it in Bentley's "Manual," where it entered probably while the professor was nodding one day. The most important of the myths appear to have originated in the singular shape of the root, which, as already stated, is frequently divided into two main forks, and at the junction there is a smaller root, so that it is not difficult to make out of it the figure of man. In consequence, the root early became endowed with quite magic virtues owing to the prevalence of various forms of priapic worship. To these matters the author referred and pointed out that the doctrine of signatures is one of the oldest medical creeds in the world. It is the notion that every natural substance which possesses medicinal virtues shows by its external characteristics the disease for which it is a remedy. Thus lungwort was good for pulmonary disease on account of the shape of its leaves; eyebright, being something like the pupil of the eye, was good for diseases of that organ, and mandrake root, having the form of man, was to be used as a sexual stimulant, and to make women fruitful. The same wonderful powers are attributed to ginseng by the Chinese, and for the same reason. In the Hebrew mandrake is known as Dudâim, a word derived from a root meaning to love, and in the Bible the margin gives "love-apples" as an alternative reading to mandrakes. There are references to it in Genesis xxx., 14 to 16, and Solomon's Song, vii., 13, and from Leah's time, if not before, the drug was used by sterile women to remove their infirmity; while the expressions of Solomon in regard to using the drug as a love-philter has their equivalents in Grecian and Roman writings. The amorous potion by which the Emperor Caligula lost his reason was given to him by his wife Cæsonia, and was a draught of mandrake, probably; and there is evidence enough in the writings of those times to show the almost universal use of mandrake, intentionally and surreptitiously, as a sexual stimulant. The signature doctrine and the intoxicating properties of the plant were responsible for these curious beliefs, and the second of the suppositions had a germ of truth in it, for the mild delirium which moderate doses of the drug would cause was doubtless accompanied by voluptuous imaginings, and so the root came to be regarded as a true aphrodisiac. The author then proceeded to refer to the curious superstitions which surrounded the withdrawal of the root from the ground, quoting from many ancient and modern authors, and he also referred to its use as an ingredient in witches' drinks since the time of the dread enchantress Circe, who used the root as the chief ingredient in her daily draughts; hence the name "Circæn." Mandrake, belladonna, henbane and stramonium have ever been the instruments of false prophets.

The next curious phase of the mandrake myth was its use as a charm. Germany seems to have been the first home of these curious little figures. There the plant was called Hexenkraut or Zauberwurtzel (witches' herb), and Alraun (from Alraune, sorceress). The figures were called Alrauniken (little alrauns); Galgemännlein (little gallows men, from the early association of the mandrake with the gallows, under which the best root was thought to be got), and Goldmäunchen (little gold men). The images were consulted as oracles, and were believed to bring health, prosperity and good fortune into every house they entered. But the manikin had to be tended with great care, wrapped in silk, lodged in a special cabinet, and once a month washed in new wine. Mr. Ashton quoted from old writers some curious references to these images. In Henry VIII.'s time the images were introduced into England from Germany, and found a ready sale, but before long they were imitated by bryony root, and as mandrakes are not indigenous to this country, bryony became a common substitute for the mandrake. Among the properties possessed by mandrake to which the author referred is the local anæsthetic effect, mentioned by Pliny as being exhibited by the juice, which was used to smear parts of the body before they were operated upon. He also quoted largely from English literature in reference to it, and especially in request to the influence which it has upon the brain, inducting temporary madness. Shakespeare was familiar with it, mentioning it often by name, and Mr. Ashton thought that his insane root (Macbeth" 1, 3,) is mandrake, and not belladonna or henbane, as is generally supposed.

At present mandrake is thoroughly discredited; indeed, in English herbal medicine the mandrake appellation has been monopolized by the common white bryony, Bryonia dioica, which, as stated, used to be substituted for mandragora. The same name was introduced on the other side of the Atlantic by early settlers from the old country, who found the May apple (Podophyllum peltatum) employed for the same purposes, possessing the same hydragogue cathartic properties as the bryony which they used at home.

QUEBRACHO AS A TANNING MATERIAL.*

German tanners have adopted quebracho and other tanning materials, such as divi-divi, myrobalans, japonica, mimosa, valonia, algarrovilla, etc., in place of oak bark. The leather industry of Germany has shown great progress in recent years, and quebracho, the new tanning material, has produced a revolution in tanning upper and sole leather. Quebracho is now used all over Germany and other countries on the Continent.

Quebracho wood is imported princi-

*U. S. Consular Report from information furnished by W. M. Kuhlow.

pally in logs, and on sailing vessels. It came originally from the province of Santiago, in Chile, but this source of supply is gradually becoming exhausted. In recent years, in the Argentine Republic, extensive forests of quebracho have been opened up. Of quebracho two varieties are known, the red and the white. Red quebracho is richer in tannin than the white, the average contents being from 18 to 20 per cent. Considering the intrinsic value of this tanning material, it is cheaper than oak bark and nearly as cheap as hemlock. Owing to its very high percentage of tanning qualities, quebracho contains relatively a small proportion of so-called nontanning substances, and in this respect has much resemblance to gambier. These nontanning substances are an important factor in the manufacture of leather, as they fill and nourish the leather, and also impart the necessary acidity to liquors, although not assimilating in a direct manner with the fiber of the hide. Quebracho, it is stated, does not possess a sufficiency of these nontanning properties to yield well-nourished leathers, and its use, therefore, is only to be recommended in combination with other agents stronger in nontanning substances.

The supply of quebracho may be considered inexhaustible. Nearing the 31° of longitude in the Argentine Republic, the pampas, the largest grazing lands known in the world, gradually develop into immense forests known as chaco. The chaco is wonderful for its luxuriant and varied vegetation. Within its limits are found all kinds of tropical trees, among these, in abundance, the red and white quebracho. The red quebracho, like all other trees found in these regions, with the exception of the palm, does not attain a great height, although the trunk is well developed. Of a reddish brown, this wood is heavy and hard, and has tanning qualities which, of late years, have become highly appreciated in Europe. Formerly quebracho wood was obtained only from the forests bordering on the Parana River, but now transportation by rail is possible, and gigantic sawmill enterprises have been started, which develop the untold wealth of the chaco and send their products to market. It is stated that the tract of country can furnish a fabulous amount of quebracho wood, practically an inexhaustible amount, while the present yearly consumption is but 1,000,000 tons.

Ten years ago the exports of wood from the Argentine Republic aggregated in value $75,000; during 1892 this value increased to $1,500,000. Very recently a sawmill has been erected at each of the ten railway stations between Rosario and Benrequisite. The government allows the privilege of cutting timber within its boundaries, but makes no grants for more than 13 leagues. One league of forest in the vicinity of the railway is worth from $7,500 to about $10,000. On the value of the woods arriving at the sea a tax of 3 to 7 per cent. is levied. The unlimited supply and low cost of production make quebracho wood one of the cheapest vegetable tanning materials known.

About 100 blows with an axe and a few hours' labor spent in peeling the bark and sawing the logs, suffice to secure a ton of wood, whereas it is estimated that about 150 working hours are required to supply a ton of oak bark. The grinding and cutting of quebracho wood is naturally a more difficult operation than gettting out hemlock or oak bark, but, considering the original cost, this is relatively an unimportant item.

Transportation from the Argentine Republic to Europe can be effected so cheaply that many firms ship their rough lumber to Europe to be worked into extract there.

The red quebracho contains in considerable quantity a red coloring matter, which is hardly soluble in cold water, but will dissolve readily in warm water. For this reason, quebracho extracts, if not properly treated, will impart a reddish tint to leather. Used alone, quebracho extract will only yield a leather of poor color, but when combined with alum and salt it yields finer results even than gambier. Leather tanned with quebracho, alum and salt has a pale, straw-yellow appearance, the flesh side being almost white. In first using quebracho extract it is important to use much weaker liquors than those needed with other tanning agents.

There are large extract works in Renners and Benrath, near Hamburg; also in Oberlabnstein-on-the-Rhine and Frankfort-on-the-Main. In these factories the wood is cut by machines specially built for that purpose. It is cut from the log in two different ways—side and head cut. The side cut is of fine, thin, small chips, up to about one inch long, and the head cut consists of smaller and coarser pieces. Quebracho extract is manufactured in crystal and soft paste, the crystal is put up in cases of 150 kilograms (330 pounds) and costs about $10.75. It contains about 65 to 70 per cent. of tannin. The paste is put up in barrels of from 230 to 250 kilograms (507 to 551 pounds), and contains about 45 per cent. of tannin.

THE BASIS OF CHEWING GUM.

By Gustav Heinsohn.

Why people chew gum is a question which probably few of them pause to consider. It would be a question which the medical profession might investigate, since the chewing of something, under certain circumstances, is an almost world-wide tendency which must mark a positive human need. Thomas Adams claims to have been the pioneer in the use of chicle for chewing gums. He had imported some of the article from Mexico for other purposes, but he was not driven by failures to the belief that chicle was a useless product of nature. Remembering then the habit among the Mexican natives of chewing the pure gum of the chicle shrub, he turned his attention to its use in making chewing gum. In 1871 he obtained a patent on chewing gum made from chicle, and in a certain specified manner, as a new article of manufacture. Since that time his business has grown steadily, although many competitors have come into the field. No doubt the use of such gums has done much to check tobacco chewing. Besides, many physicians prescribe them as tending to promote the appetite and to facilitate digestion—properties ascribed to the juices of the tree by the Mexicans—and also as a substitute for smoking, in the belief that the nicotine habit in many persons is a result less of craving for tobacco than of a certain nervous derangement which will be corrected by holding something in the mouth, or chewing it. As above suggested, the whole subject is one that ought to be of interest for study by medical men.

Chicle.

Chicle is yielded by a kind of wild pear tree of the genus Achras, of the natural order Sapotaceæ. There is but a single species, the Achras sapota. The same natural order, by the way, embraces the genus Isonandra, which yields gutta percha, and the genus Mimusops, which includes the bully tree, or balata. Indeed, the chicle and balata trees are confounded to this day by such accepted authorities in medicine as the National Dispensatory and Foster's Medical Dictionary. It is an evergreen tree, with thick shining leaves and milky sap, and has been cultivated in places for its edible fruit—the "sapodilla plum," which is about as large as a quince and as yellow inside as a carrot, having two seeds. It flourishes in rich, loamy soil, and can be propagated from cuttings. The bark (sometimes described as "Jamaica bark") is astringent and has been used as a febrifuge, instead of the cinchona bark. The seeds, also used medicinally, are aperient and diuretic. The Aztec name for the tree was cochitzapotl; the origin of the name "chicle" has not been traced by the writer of this article.

The gum is more plastic and more easily kneaded than caoutchouc and is more elastic than gutta percha. At ordinary temperature it is solid and horny, but it softens at 49° C., and can then be molded. Toward solvents it behaves like gutta percha, and when bleached it is very white.

Chewing Gum Patents.

The list of chewing gum patents in the United States is as follows:

No. 93,141.—Chewing Gum Compound. Amos H. Tyler, Toledo, O., July 27, 1869.

No. 98,304.—Chewing Gum. William F. Semple, Mount Vernon, O., Dec. 28, 1869.

No. 107,693.—Chewing Gum. Weston W. Kilbourn, Sanford, N. Y., Sept. 27, 1870.

No. 111,798.—Chewing Gum. Thomas Adams, assignee to John D. Adams, Hudson City, N. J., Feb. 14, 1871.

No. 134,022.—Chewing Gum. Nathan Wood, Portland, Me., Dec. 17, 1872.

No. 195,579.—Preparation of Chewing Gum. Robert Cotter, Houston, Tex., Sept. 25, 1877.

No. 280,115.—Chewing Gum and the

Manufacture of the Same. Auguste H. Aubin, New York City, June 26, 1883.

No. 378,637.—Machine for Manufacturing Chewing Gum. William J. White, Cleveland, O., Feb. 28, 1888.

The details of Tyler's patent and of some of the others cannot be given here, since the United States patent specifications for those years were not published in full as at present. Semple's claim was on "the combination of rubber with other articles, in any proportion adapted to the formation of an acceptable chewing gum." It is not known to the writer what Kilbourn claimed under his patent, but Thomas Adams, as above pointed out, introduced chicle in his specification, and thus became the pioneer in this use of gum. The methods pursued, however, cannot be stated. The Adams patent expired long ago, but the processes employed in the factory are still a guarded secret. It may be of interest, however, to study the specifications of the later patents as revealing something of the art.

Thus Nathan Wood (patent No. 134,022) specified chicle as the base of his compound. He refined by the common methods for purifying vegetable gums, resins and balsams, after which he added spruce gum or other vegetable aromatic gum or resin, in the proportion of 1 part of the latter to 2 parts of chicle. The gums were combined and worked together by the use of heat, until the mass was homogeneous, after which it was allowed to cool and was cut into cakes of marketable size. "Tolu" gum was specified as a desirable gum to combine with chicle. The latter, according to this inventor, "supplies all the needed mechanical qualities of durability, elasticity and ductility—while in the range of vegetable gums almost any desirable flavor or medicinal effect may be produced or exhibited."

Cotter's patent (No. 195,579) related to the reduction of "the gum of the sapota tree" by first pulverizing, then sifting, and afterward subjecting it to a gentle heat—whether by water-bath, steam or other means of applying heat gradually. It was claimed that by the treatment proposed the chicle was ready for use without combination with any other substance, "the gum itself containing sufficient aqueous properties to cause it to remain in this state. Aubin's patent covered a preparation of paraffin and sugar, in proportions of 1 to 3, without any reference to chicle.

The last patent on this list relates to an improved mechanical plant for chewing gum manufacture, involving the use of chicle. The inventor, White, like Adams, became the head of a great manufacturing business built upon chewing gum alone. As set forth in this specification, which bears a date seventeen years later than the Adams patent, all the mixing of gums was done in small kettles, of only a few gallons capacity, provided with hot water packets. Each of these kettles required a separate furnace and an attendant to stand by to attend to the stirring. His invention consisted of "a cylindrical kettle," having outside a heating jacket, and inside a combined scraper and stirrer.—The India Rubber World.

A PLEA FOR STATISTICS.

Statistics, it has been observed, are invariable accompaniments of advancing civilization. As the activities of life become more complex general observation fails to convey an idea of the real progress which is being made, and the only means for determining this is to state the result of these many activities in figures and then compare the figures. The statistics for a given period only attain their greatest value when there are other figures for other periods with which to compare them. Thus those bearing upon mortgages gathered by the last Census Bureau could be compared with no others and the deductions drawn from them were mainly used for political purposes, and the figures themselves will only be fully appreciated when the census of 1900 is taken. There are many impatient people who feel quite indignant that our otherwise esteemed predecessors were so lax in this matter of statistics. Those optimists who are reminded of "good old times" are not slow to anger when they realize that this relative goodness of times past is a thing purely conjectural, as there are no figures to prove it, either affirmatively or negatively. It is one of those exasperating things which can only be guessed at, or in case of argument defended only by a ready flow of words or emphasis of expression.

We must confess that we have some sympathy with these impatient people who bemoan the absence of statistics when we think of the paucity of such material bearing upon the drug trade of the United States. By this we mean some really valuable records, by which the retail druggist of to-day could tell with precision whether he is in a better or worse condition than his predecessor of ten, twenty, thirty or forty years ago. We are quite frequently reminded that he is in a worse position and that he is slowly drifting towards that rather indefinite destination so often referred to by Mr. Mantalini, "the demnition bowwows." But when we think that our present boil or sore finger hurts worse than did the similar afflictions of last year, and that our present cold is the worst we ever had, we wonder if this trait of human nature which magnifies present ills may not be at fault when we compare conditions past and present in the drug trade. In spite of our suspicion that we really are in a pretty bad way we would like some figures to prove it.

To-day we find the drug store the most handsomely-appointed business place to be found, and if there is a prominent location demanding high rental the druggist usually occupies it. The furniture of his place of business and the appearance of his goods indicate to the laity an undoubted prosperity. But he finds that his expenses for carrying on business are increasing and notes that there is a constant tendency to lower the price of the goods which he sells, and thus correspondingly reduce the volume of profit. How can this state of affairs be explained? The druggist explains it by saying that he is making no money, that is, he merely makes enough to live upon, and is accumulating no surplus for rainy days. But when we look about us we find that nearly all tradesmen make the same explanation. The great railways are building faster engines, better cars and buildings, but are compelled at the same time to unwillingly reduce transportation rates. As a matter of course, none of us is making as much money as he desires, but the main question is, are we losing ground? We fear that we cannot tell. We haven't the statistics. The fact that we now sell a dollar article for 75 cents, which costs 65 cents, does not entirely prove that we are not making as much as formerly. If the plaints of other tradesmen are justified, then we are purchasing nearly everything we need for personal use at cut prices, and we are not greatly displeased thereat. If we could now get a dollar for the 65-cent article there would surely be more druggists in business and the young man in search of a good thing would surely attend a college of pharmacy.

It is generally accepted as a fact that as things get cheaper people purchase more of them. We are told, however, that this does not apply to drug store goods. In the hope of inciting some one to come forward with statistics to prove us wrong we will contend that it does so apply. We will claim that people are spending more money than ever before for medicines of all kinds. The slight ailment which was formerly allowed to get well of itself or progress into something requiring skilled treatment is now attended to in its incipiency by the self-medicator, who knows that quinine pills are now 19 cents per hundred instead of $2 or $3, as they were ten years ago. He therefore uses two or three hundred per cent. more than he did a decade ago. We have no statistics to prove this and feel sure that those who may question the contention are laboring under the same disadvantage.

But isn't it about time that we commenced to pay some attention to this matter of statistics so that we can in the future see how we really stand. We can imagine no more appreciable bequest which a druggist of two, three or four decades ago could have made to his professional posterity than a well-kept system of accounts, showing the cost of everything he purchased, the selling price, daily sales, inventories of stock, expenses of store and household, with frequent balance sheets. Such would give us the very data we are looking for. But how many druggists of to-day are doing as much either for themselves or their successors or assigns? There is no question that a complete showing of the business transactions of the pharmacist of 1895 will be of great interest to that same pharmacist when he is writing 1905 or 1915 at the top of his ledger pages. The questions which we are now asking ourselves in vain might find a ready answer then, if he will commence now to estimate the true value of bookkeeping and the statistics to be gained therefrom.

PRESCRIBER AND DISPENSER.

At a recent meeting of the Edinburgh District Chemists' Trade Association, Mr. Peter Boa, the chairman, opened a discussion on "Some Relations Between Prescriber and Dispenser." We take a portion of this discussion from the report in the Phar. Jour.: The chairman said that the manner in which the prescriber and dispenser were educated, to a certain extent gave rise to a necessity for the discussion of these heads. The medical man, in the course of his professional studies, received a certain amount of education relating to the practice of pharmacy, and the dispenser, in the ordinary course of his business, acquired a certain knowledge of the kind of complaints for which certain drugs were used. In the one case the prescriber, even if he did not take up dispensing as part of his practice, was occasionally under the necessity of putting a few medicines together in order to give a patient a dose, and in the case of the chemist, he might from time to time be asked by some of his clients to prepare for them a dose for some ailment they knew or fancied they had. If dealing with drugs from a pharmaceutical point of view were confined to such small matters as those he had mentioned there would not arise probably the friction which occasionally happened. They in Edinburgh were scarcely in a position to appreciate to its fullest extent the nature of dispensing by medical men as it was carried out in some parts of the country, because in their district they had very little of it. In some parts of the country almost every medical man not only prescribed but dispensed—he provided both advice and medicines for his patients. When that condition of things existed in large towns it could scarcely be expected but that there would be a few chemists in business who, if they did not get a sufficient amount of what might be called legitimate dispensing, would not be above the temptation of exercising a certain amount of dispensing their own prescriptions. It was quite natural to suppose that the medical dispenser would entertain a certain amount of jealousy with regard to his pharmaceutical brother in these circumstances.

Looking at medical dispensing from a pharmaceutical point of view, one was led to the conclusion that it was apt to be performed in a somewhat rough fashion, so that it led the prescriber very often to use ready-made preparations. That was to say, he got a certain number of formulæ—pills, capsules, mixtures and certain prescriptions—prepared and had them always at his hands, so that when a patient required medicines he gave one of these, which might be nearest what was likely to suit. He did not say that was always the case, but he merely said that dispensing by a medical practitioner was more or less liable to give rise to these conditions. In the case of chemists it some times was a very difficult matter to avoid prescribing in a small way. He had no doubt that they all experienced that, and in proportion to the amount of medical dispensing carried on in a town he should say that chemical prescribing would be carried on in the same proportion. The greater the number of medical men in a town who did their own prescribing, there would probably be a proportionate number of chemists prescribing. The Pharmacy Act began with a preamble to the effect that whereas it was expedient for the safety of the public. He thought the safety of the public demanded some modification of the present system of medical dispensing in certain districts. That was the point of view from which any modification of this condition could arise, because he had seen the view expressed once or twice that when a medical man gave medicine as well as advice, there was no check whatever on the accuracy of the preparation of the medicine. And as medicine men had to give the certificate of death, the suggestion by a member of the public was that in case of any accident arising from their own dispensing, they probably would not refer to the matter in the death certificate.

To leave that part of the subject and come to one which was less controversial, when they came to deal with prescriptions they had some difference of opinion in some quarters about ownership. The view he took was that if a patient went to a physician and got a certain amount of advice and paid the medical man a fee, in that way he acquired the advice and the prescription by purchase. When a patient presented a prescription to a chemist to be dispensed, the chemist took a copy of the prescription and gave the original back to the patient. In some cases the chemist was asked for a copy of the prescription. In regard to copies of prescriptions, certain delicate points arose. There could scarcely be any objection to giving the original owner of the prescription a copy of it, provided it was for his own use in the event of the original being lost, but if the original owner wanted a copy of it to give to another, perhaps it would be a matter for consideration whether he should get it or not. It was a rather difficult matter for a chemist to refuse a regular customer in such circumstances. On the other hand, the chemist must take copies of certain prescriptions if they contained scheduled poisons, and he kept those in order to conform with the law on the subject. If he gave a copy of such prescriptions, even to the original owners, he issued what might be called an order for poisons to persons for whom the poison might be totally unsuited, and if anything were to happen through the possession of that prescription, it might be a serious question how far the chemist was to blame in the matter. In regard to prescriptions containing scheduled poisons, it was his opinion that the chemist would be perfectly justified in refusing to give a copy unless he was satisfied that it was for the use only of the original owner of the prescription. Chemists often got copies of prescriptions presented to them, and they took them to be bona-fide prescriptions, but there was just the possibility of such a prescription being used for illicit purposes, and it was in such circumstances that he feared some blame would be laid on the man who gave the copy. That was, perhaps, taking too strong a view of the matter, but that was how it presented itself to him.

In regard to the discretion which might be allowed to a chemist in dealing with the ingredients of a prescription, there was some difference of opinion. It was stated the other day by a medical man that a certain prescription which he had given (in which he wrote the ingredients and gave the name of a certain firm as the maker) might have been made up by any chemist. He did not think that many of them would agree with that statement. He did not think the dispenser's discretion was necessary in such a case at all. The prescription indicated what was to be given, and the dispenser's duty was to give it, even though he knew it to be inferior to what he could have made himself. When a medical man wrote a prescription and gave it to his patient, he committed it, as it were, to the good faith of the dispenser. There were, however, circumstances in which the dispenser might judiciously use his discretion. If the prescriber wrote "q. s." after an ingredient—such as a flavoring in a prescription—he clearly left it to the dispenser to put in the quantity he thought suitable. In the case of expensive medicines prescribed for poor people, he thought the dispenser might at his discretion send less than the quantity ordered, if he thought it more than the patient would be likely to use. Medical men could not be expected to know the cost of drugs.

PHARMACY.

THE PREPARATION OF LIQUID AIR.—A new apparatus for the production of liquid air was exhibited at the Royal Institution a few days ago by Professor Dewar. In this, as described by Phar. Jour., one of the cylindrical vacuum-jacketed vessels devised by Professor Dewar is closely surrounded by a coiled metallic tube, and the whole arrangement is inclosed in a second vacuum-jacketed vessel just wide enough to receive it. The metal coil is thus protected from external heat by vacua on both sides. The outer extremity of the tube is connected with a vessel containing air condensed at a pressure of about 200 atmospheres, and on opening the stopcock the condensed air passes through the coil and escapes through a pinhole at the inner extremity of the tube into the bottom of the outer vacuum vessel. It is greatly cooled in its passage through the coil, and the expansion that occurs as it escapes from the pinhole lowers the temperature still further. After the process has been carried on a few minutes liquid air begins to collect in the outer vacuum vessel and in a brief space of time seventy or eighty cubic centimeters of the liquid can be obtained with ease. If the condensed

air employed in the process be first cooled by passing through solid carbon dioxide on its way to the coil it can be obtained in the liquid state in three or four minutes, collecting very rapidly. The process is so simple and cheap that liquid air can now be readily obtained by every one requiring it as an aid to investigation.

CLOSE OF WOOL-FAT LITIGATION. — Uncorroborated reports have been going the rounds, according to Chem. & Drug., to the effect that the litigation in Germany between Messrs. Benno Jaffé & Darmstädter, the owners of the lanolin patents (which, by the way, will expire in a year or two), and the Norddeutsche Wolkammerei und Kammgaruspinnerei, the makers of Adeps Lanæ N. W. K., had been settled by compromise. The Pharmaceutische Zeitung in its latest edition corroborates these reports. It states that in consideration of a compensation fixed by arbitration Messrs. Benno Jaffé & Darmstädter have granted permission to the N. W. K. factory and the customers of that concern to mix adeps lanæ with water, with or without the addition of other substances, and for all purposes. Messrs. Thomas Christy & Co., who represent the N. W. K. works, state that the agreement applies to the whole world and that all pending litigation has been quashed.

ARGON AND HELIUM IN WATER.—Some months ago, in analyzing the water obtained from the Railliere spring at Cauterets, MM. Troost and Bouchand discovered that it contained a certain proportion of argon and helium. To ascertain whether the presence of these elements was due to the atmosphere or to chemical action during the course of the water through the ground, M. Troost has made a series of experiments in collaboration with M. Ouvrard. These gentlemen, says Ch. & Dr., have analyzed sea water, as well as water from the River Seine, after long exposure to the air. A little argon was found, but no helium. MM. Troost and Ouvrard consequently came to the conclusion that the helium found in certain mineral waters, and which may perhaps form a part of their physiological action, is the result of these waters coming in contact with certain minerals in their subterranean course.

NEW REMEDIES AND CHEMICALS.

SPHACELOTOXINE.—Synonym for spasmotine.

STYPTICINE.—Name given to the hydrochlorate of cotarnine.

SALAZOLON.—A new and unnecessary synonym for antipyrin. The same may be said of salypyrazolon.

PINAPINE.—A preparation of the juice of the pineapple, recommended in catarrhs, stomach troubles, etc.

ANTICONTAGION.—A prophylactic against infection from venereal diseases, introduced by F. S. Kamp, of Berlin.

FER CREMOL.—According to Merck (Pharm. Centralh.) this is a combination of iron and the coloring matter of the blood. It is patented.

NUTROL.—A new "predigested food" put on the market by Klewe & Co., of Dresden. Great "reclamen" are made for it, but the Pharmaceutische Centralhalle doesn't appear to have a very high opinion of the stuff.

TRAUMATOL.—This name, hitherto used for a surgical dressing, analogous to collodion, has recently been applied to a new iodoresol. It is recommended as a substitute for iodoform. It is also used as a dyestuff, producing a fine purple red color.

GALACTON. — A preparation of skimmed milk, made by a special fermentative process which gives a much pleasanter product than kefir, etc. It is used in the preparation of a beer and a wine, both of which are said to be rich in soluble albuminoids and of most pleasant odor and taste.

HYPNOACETINE. — Acetylparamidophenol, in which the phenylic molecule is replaced by the acetophenone or hypnone group. Recommended as a hypnotic and antipyretic. Appears in the form of translucent crystals, melting at 160° C., almost insoluble in water and ether, and soluble in alcohol and acetic ether. It dissolves with difficulty in chloroform, carbon disulphide and benzin.

CORNESIN.—An oily liquid with an intensely fishy smell, a bright, clear yellow color, and closely resembling cod liver oil. It is put on the market by the "Bieler Augenoel Compagnie" of Hamburg, and recommended as a wonderful cure-all in eye troubles. The bottle bears a label on which appears "no cod liver oil." Examination proves the stuff to be seal oil, and to have absolutely no effect on the eye. A writer in the Pharmaceutische Centralhalle (W. Sick) declares it to be the "freshest swindle" that ever came under his notice. As an effect of the exposure the director of the Bieler company, a boy named Altmeyer, about twenty years old, has been arrested and cited before the Strafkammer of Hamburg.

UROTROPIN.—Name given by its discoverer, Nicolaier, to a compound formed by the action of ammonia on formaldehyd, chemically a hexamethylen-tetramin. In doses of 24 grains daily it has been found an efficient diuretic without any apparent effect upon the heart. Uric acid salts disappear from the urine under its influence, and it is claimed that under continued use of it uric calculi are dissolved. Nicolaier is responsible for these statements.

FORMYLPIPERIDINE. — A substance obtained by treating chloral hydrate with piperidine, and also by distillation of piperidyl-carbamic acid, also by treatment of formamid by piperidine, and finally by treatment of piperidine by chloroform in the presence of potassium hydrate. It is an oily liquid of very pleasant odor, boiling at 220° to 221° C., and soluble in all proportions in alcohol and in water. Its therapeutical properties are still undergoing investigation.—(Nat. Dr.)

QUESTION BOX

The object of this department is to furnish our subscribers with reliable and tried formulas and to discuss questions relating to practical pharmacy, prescription work, dispensing difficulties, etc.

Requests for information are not acknowledged by mail and ANONYMOUS COMMUNICATIONS RECEIVE NO ATTENTION.

Legal Requirements for the Practice of Medicine.

(C. J. J.) See May 15, 1895, Era, p. 624.

Silvering Mirrors.

(C. P.) See Aug. 15, 1895, Era, p. 207.

Egg Shampoo.

(M. L. B.) See last issue of the Era, p. 782.

Library Paste.

(Quercus.) See reply to a similar query in the Sept. 19, 1895, Era, p. 368.

"Sure Shot" for Dogs.

(H. K. P.) Write the Polk-Miller Drug Company, 900 East Main street, Richmond, Va.

Books on Mineralogy.

(Diethylamine.) A voluminous work on this subject is Dana's new "System of Mineralogy," price $12.50. A much smaller work and one which may answer your purposes is Dana's "Text Book of Mineralogy," price $3.50.

Books on Toxicology.

(Diethylamine.) The following are standard works: Wormley, "Micro-Chemistry of Poisons," $7.50; Reese, "Medical Jurisprudence and Toxicology," $3; Taylor, "On Poisons," $5.50; Chapman, "Medical Jurisprudence and Toxicology," $1.25.

Welding Compound or Soldering Stick.

(A. W. H.) Try the following: Rosin, 8 oz.; powdered salammoniac, 2 oz. Melt the rosin, stir in the salammoniac and cast into sticks. Sometimes a little chloride of zinc is added to the above mixture, and again, rosin is used as a flux without any additions whatever.

Dorsey's Mixture.

(F. W. B.) In reply to your query in the Dec. 12, 1895, Era, p. 749, C. L. Katz, Terre Haute, Ind., writes that "Dorsey's Mixture" is a saturated aqueous solution of sulphate of magnesium to which has been added aromatic sulphuric acid in the proportion of ½ dram to the ounce.

Syrup Hydriodic and Peroxide of Hydrogen.

(D.) asks criticism upon the following:

Syrup hydriodic acid.....
Peroxide of hydrogen....
Distilled water, of each..1 ounce

Give one teaspoonful every hour.

The above prescription is an incompatible one, syrup hydriodic acid being decomposed by peroxide of hydrogen, with the formation of free iodine, which is afterwards oxidized to iodic acid. The reactions may be thus indicated:

$$(1)\ HI + H_2O_2 = H_2O + I + O$$
$$(2)\ 2I + 5H_2O_2 = 2HIO_3 + 4H_2O$$

The prescription should not be dispensed.

"Tasteless" Castor Oil.

(J. G. B.) "Tasteless" or sweetened castor oil is prepared by thoroughly washing the oil with hot water and incorporating sufficient saccharine to impart a sweet taste. It is then flavored by adding small quantities of oil of cinnamon and extract of vanilla. See also Era of Feb. 1, 1894, p. 110.

Sparteine Sulphate with Acetanilide.

(H. B. R.) The therapeutic effects of a combination of sparteine sulphate with acetanilid or similar analgesic compounds is a subject for the physician rather than the pharmacist and we suggest you consult some well-posted physician before attempting to put out a preparation of this character. Some information relative to the physiological effects of the separate substances may be found in almost any work on materia medica and therapeutics. See also the dispensatories.

Administration of Maximum Doses.

(D.) asks: How many times per day may the maximum dose of a poisonous remedy be administered?

There is no hard and fast rule. Every physician has the right to use larger or smaller doses of any remedy, however poisonous, whenever such may, in his judgment, be required. In some pharmacopœias an official list of doses is given for the guidance of the pharmacist in compounding. In the U. S. P., however, no such list obtains and the pharmacist must be guided solely by the dictates of common usage and the directions of the physician.

Radam's Microbe Killer.

(H. G. R.) The following information concerning the preparation of this article was given to the Era by the manufacturers some two or three years ago: "Microbe Killer is composed of pure water charged with the gases generated from the following ingredients: Flowers of sulphur, nitrate of sodium, black oxide of manganese, sandalwood and chlorate of potash." In 1889 Dr. Eccles published an analysis of this preparation, upon which he based the following formula:

Oil of vitrol (impure)	4 drams
Muriatic acid (impure)	1 dram
Red wine, about	1 ounce
Well or spring water	1 gallon

Gelatine Base for Lozenges.

(A. G.) The "Manual of Formulæ" gives the following:

Gelatin	1 ounce
Glycerin	2½ ounces
Orange flower water	2½ ounces
Solution of carmine, with ammonia, a sufficiency.	

Cut the gelatin into shreds, and soak in the orange flower for two hours; then transfer to a water-bath, and heat with the glycerin until the gelatin is dissolved. Then color with the carmine solution, if desired, and pour into an oiled tray to cool. Other waters may be substituted for orange flower, such as rose, cinnamon, etc., or essences may be used in flavoring. All that is necessary in preparing medicated lozenges or pastilles is to melt the glyco-gelatin, incorporate the medicaments, and pour into an oiled mold. The mass is then cut into lozenges of the desired size.

Talcum, French Chalk, Pumex and Asbestos.

(Diethylamine.) Talcum and French chalk are synonyms for a hydrated silicate of magnesium $4MgO, 5SiO_2.H_2O$. This mineral is also known as steatite, or soapstone, though, strictly speaking, the latter differs slightly, having aluminum in its composition. Talc is a very widely diffused substance, being found in various parts of the world.

Pumex, or pumice stone, is a substance of volcanic origin and a porous silicate of aluminum and the alkali or alkaline earth metals. Pumice stone is obtained chiefly in the Lipari, a group of islands situated near Sicily, in the Mediterranean Sea. The only occurrence of this substance utilized in the United States is said to be a deposit near Lake Merced, a few miles from San Francisco, Cal.

Asbestos is a double silicate of calcium and magnesium. For an account of its properties, uses, etc., see almost any work on general chemistry.

Cascara Cordial.

(H. B. R.) The following formula is said to be a satisfactory one:

Rhamnus purshiana, No. 60 powder	100 grams
Calcined magnesia	30 grams
Water	100 c. c.

Mix thoroughly and allow to macerate for 12 hours, then add 100 c. c. of alcohol and percolate, and continue percolation with dilute alcohol until 400 c. c. are received. Then with this percolate:

Berberis aquifoliæ, ground	37 grams
Coriander seed	17 grams
Licorice root	2 grams
Oil anise	1.3 c. c.
Oil orange	1.3 c. c.
Oil cinnamon	1.0 c. c.
Angelica root	2 grams

To the percolate obtained from this add enough dilute alcohol to make 400 c. c.; then add 400 c. c. water and 400 grams sugar, and dissolve by agitation. In this formula the bitterness of the cascara is masked and a pleasant tasting, efficient preparation results.

Alkaline Elixir of Rhubarb with Pancreatin.

(H. B. R.)

Rhubarb	320 grains
Golden seal	160 grains
Cinnamon	160 grains
Potassium bicarbonate	320 grains
Pancreatin	320 grains
Syrup	2 ounces
Dilute alcohol	
Aromatic elixir, of each	q. s.

Moisten the rhubarb, golden seal and cinnamon (first reduced to a suitable powder), with dilute alcohol, and pack moderately in a percolator. Allow to macerate 48 hours and then percolate with dilute alcohol until 6 ounces have been obtained. In the percolate dissolve the potassium bicarbonate and add the pancreatin previously dissolved in the syrup and about 4 ounces of aromatic elixir. Mix thoroughly and add enough aromatic elixir to make the whole measure 1 pint.

A similar preparation may be prepared by the addition of pancreatin to one of the several formulas for "neutralizing cordial," given on pages 48 and 303 of the July 11 and Sept. 5, 1895, issues of the Era, respectively.

London Purple.

(Diethylamine.) London purple is chiefly arsenite of calcium, a residue obtained in the manufacture of aniline dyes. It does not contain quite so much arsenic as Paris green, and, being a by product, it is not constant in its constitution. According to an analysis made some years since by Dr. P. C. Collier, chemist of the United States Department of Agriculture, its composition is:

Rosanilin	12.46 per cent.
Arsenous oxide	43.65 per cent.
Lime	21.82 per cent.
Insoluble residue	14.57 per cent.
Water	2.27 per cent.
Loss	4.47 per cent.

A later analysis of a sample of London purple is the following, reported by the chemist of the Vermont Agricultural Experiment Station:

Moisture at 100° C.	3.37
Arsenic (arsenous oxide)	46.73
Lime	24.35
Iron and alumina	1.31
Sulphuric acid	0.46
Nitrogen	1.65

Interstate Registration.

(G. H. G.) The interchange of certificates is a matter of mutual agreement between the different boards of pharmacy of the different States. As the board of your State (Vermont) has no arrangements of this kind with the boards of pharmacy of the other States, the probabilities are that your certificate from that board would not be recognized by the boards of other States. However, the secretary of the Vermont State board can give you information upon this point. A licentiate of any one of the following boards of pharmacy can be registered without further examination upon paying the required fee and furnishing a certificate that he passed the examination five per cent. higher than was actually required in Florida, Kentucky, Michigan, Minnesota, North Carolina, North Dakota, Oklahoma, South Dakota, Washington (State) and Wisconsin. Of course, this is reciprocal, any one of the boards in the States named recognizing the certificates of each of the others. For further information write to the secretary of the board of pharmacy in the State in which you wish to become registered.

"Marketing" a Pile Cure.

(L. P. H.) says he has a pile cure (not a remedy); his money is all invested in his home and business, and he desires suggestions as to the best way of putting the cure on the market.

A man who has his money invested in a home and a business had better keep it there. His profit over and above his living is all that he can safely gamble in a proprietary medicine game. Such an article must depend upon advertising for its success, but most beginners make the mistake of thinking that advertising

means a sudden purchase of space in all the papers in all parts of the country. The consequence is that the advertising is spread too thin. Proprietary medicines require persistent and thorough advertising. If a beginner has but a small amount to spend in this way he should thoroughly cover one town or one county and await results, as it isn't safe for a beginner to have too much money in a new business. If such territory is thoroughly covered it will decide whether it will pay to do likewise in other territory. Most of the successful remedies have had small beginnings. Experience in handling such a business is best gained gradually and with small amounts of money. Where there is plenty of capital the losses and mistakes do not make the right impression until they accumulate up to the danger point.

Source of Umber and Sienna.

(Diethylamine.) Umber is a naturally occurring mixture of limonite (hydrated ferric oxide) and hydrated manganese ore with clay. According to Klaproth, 100 parts of it contain 13 parts of silica, 5 of alumina, 48 of ferric oxide, 20 of manganese and 14 of water. It is found in beds with brown jasper in the island of Cyprus and also occurs in certain parts of Turkey. It has also been mined in Pennsylvania and Vermont, the production of the former State for 1892 being 475 short tons, valued at $7,100. ("Mineral Resources of the United States," 1892.) It is said that the color and depth of hue of the domestic product does not compare favorably with the imported, the former being cold and gray, while the latter is rich, warm and reddish. Imported umber is shipped principally from Leghorn, Italy.

Sienna is an argillaceous mineral, or clay colored by the peroxides of iron and manganese. It is exported principally from Tuscany, though it has been mined to a slight extent in Virginia, Pennsylvania, New Jersey and Canada, the amounts produced in the States of Pennsylvania and New Jersey for the year 1892 being 100 and 100 short tons, and valued at $6,250 and $3,000 respectively. The total production of sienna in the United States in 1891 was 18,294 short tons. In 1893 all of the umber and sienna produced in this country was from Pennsylvania.

Chemically considered, the different varieties of ochre, umber and sienna are simply clays colored by the oxides of iron and manganese.

Gray vs. Black Antimony.

(Diethylamine.) "Gray" antimony is variously called by mineralogists, antimony glance, antimonite and stibnite, and is the principal ore from which antimony is obtained by simple fusion. The description of this ore is as follows: Gravity, 4.5; hardness, 2; lustre, metallic; clearness, opaque; color, gray; feel, smooth and harsh; elasticity, brittle to sectile; cleavage, perfect; fracture, conchoidal; texture, granular to massive. It consists of about 78 per cent. of antimony and 28 per cent. of sulphur (Sb_2S_3). As indicated in the preparation of metallic antimony, the ore Sb_2S_3 is first roasted, in order to drive off some of the sulphur and arsenic present. The roasted ore, which consists of a mixture of oxide (Sb_2O_3) and sulphide (Sb_2S_3) is then fused with charcoal and sodium bicarbonate (regulus of antimony). The sodium carbonate converts any sulphide present into oxide ($Sb_2S_3 + 3Na_2CO_3 = 3CO_2 + 3Na_2S + Sb_2O_3$), while the carbon reduces the oxide to the metallic state, thus: $Sb_2O_3 + 3C = 3CO + Sb_2$.

Gray antimony tarnishes rapidly, getting black in spots, and sometimes shows a peculiar iridiscence like bituminous coal. It rarely occurs in deposits by itself, but is found with iron carbonates, zinc, lead and other ores, and sometimes with the carbonates of barium. It is also known as black antimony, although among pharmacists the latter appellation is usually restricted to the product obtained from the native sulphide by fusion, as outlined above. For description, tests, etc., see either of the dispensatories.

Roup in Poultry.

(H. A.) The following description of the disease and methods of treatment are abstracted from a work on the diseases of poultry: The first symptoms of roup are those of a cold in the head. Later on the watery discharge from the nostrils and eyes thickens and fills the nasal cavities and throat, the head swells and the eyes close up and bulge out. The odor from affected fowls is very offensive. It is contagious by diffusion in the air and by contact with the exudations from sick fowls. To disinfect houses and coops burn sulphur and carbolic acid in them after turning the fowls out and keep closed for an hour or two. Pour 4 ounces each of turpentine and carbolic acid over a peck of lime and let it become slaked, then scatter freely over the interior of houses and coops and about the yards.

For the first stages, spray the affected flock while on the roost or in the coop with a mixture of two tablespoonfuls of carbolic acid and a piece of fine salt as big as a walnut in a pint of water. Repeat two or three times a week. Or, if a dry powder is preferred, mix equal parts of sulphur, alum and magnesia and dust this in their nostrils, eyes and throat with a small powder gun. The nasal cavities should be kept open by injecting with a glass syringe or sewing machine oil-can a drop or two of crude petroleum. A little should be introduced also through the slit in the roof of the mouth. Give sick birds a dessertspoonful of castor oil two nights in succession, and feed soft food of bran and corn meal seasoned with red pepper and powdered charcoal. The following treatment is also advised: Hydrastin, 10 grains; sulphate of quinine, 10 grains; capsicum, 20 grains. Mix in a mass with balsam copaba and make into 20 pills; give one pill morning and night; keep the bird warm and inject a saturated solution of chlorate potash in nostrils and about 20 drops down the throat.

A "roup powder" may be prepared from the following:

Potassium chlorate	1 ounce
Powdered cubebs	1 ounce
Powdered anise	½ ounce
Powdered licorice	1½ ounces

Mix a teaspoonful with the food for 20 hens.

Syrup White Pine Compound.

(J. S.) Try the following formula:

White pine bark	1 ounce
Wild cherry bark	1 ounce
Balm Gilead buds	1 dram
Sanguinaria	1 dram
Sassafras	1 dram
Chloroform	1 dram
Alcohol	4 ounces
Water	4 ounces
Dextrin syrup	8 ounces

Exhaust the drugs with a menstruum of alcohol and water in equal parts, by percolation, until 8 ounces are obtained. To the percolate add the dextrin syrup and chloroform, and mix thoroughly.

2.)

Fluid extract white pine	6	fl. ounces
Fluid extract wild cherry	6	fl. ounces
Fluid extract cubebs	3	fl. ounces
Fluid extract ipecac	1	fl. ounce
Chloroform	3	fl. drams
Morphine acetate	24	grains
Ammonium chloride	2¼	ounces
Sugar	7½	pounds
Water	4	pints
Syrup tolu		

Acetic acid, of each, enough.

Add the fluid extracts to the water and agitate thoroughly; allow to stand an hour or more, and filter clear, adding to the contents of the filter 2¼ ounces of ammonium chloride. The ammonium chloride will all be dissolved by the liquid in passing through. Then dissolve in the filtrate 7 pounds of sugar by cold percolation, and to this add 3 drams of chloroform; agitate thoroughly until admixture is perfect. To the syrup add 24 grains of morphine acetate previously dissolved in a small amount of water, and enough acetic acid to make clear. Make up to 1 gallon by adding U. S. P. syrup of tolu.

COAL-TAR COLORS have made rapid progress as an article of commerce. It is only thirty-six years ago that Perkin gathered up the fragments in coal-tar and produced the beautiful mauve dye. At the present day from the greasy material which was considered useless is produced madder, which makes coal-tar worth nearly $500 a ton. This coloring matter alone is said to now employ an industry of about $10,000,000 per annum. One ton of good cannel coal, when distilled in gas retorts, leaves twelve gallons of coal-tar, from which are produced a pound of benzine, a pound of toluene, a pound and a half of phenol, six pounds of naphthalene, a small quantity of xylene, and half a pound of anthracene for dyeing purposes. According to an English authority, there are produced sixteen distinct yellow colors, twelve orange, thirty red, fifteen blue, seven green and nine violet, besides a number of browns and an infinite number of blendings of all shades.

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WHAT CHRISTMAS MEANS TO THE DRUGGIST.

Boston, Dec. 21.—What Christmas means to the druggist is an interesting theme for speculation. Here in Boston is seems to mean just whatever the druggist himself pleases; that is to say, if he chooses to make it a time for gathering in some extra dollars by an earnest effort to catch a good share of the holiday trade, he appears to stand in a fair way to succeed. There is, for example, a pharmacy in the most fashionable district where one sees as fine a collection of fancy articles as he is likely to find in stores where such goods are carried the year round. Extra counters have been put in, and several sales girls engaged especially for a brief season. As the prices are reasonable, this store is always well filled. As a drug store, it has almost lost its identity; but as drug stores, like all other stores, are carried on not as a matter of sentiment, but as a means of obtaining a living, this one in particular must certainly be placed in the front rank of profitable ones at Christmastide. Others have their show windows tastefully dressed and their stock of staple goods and holiday gifts arranged in an attractive fashion; but as the attempt to secure a great deal of Christmas patronage is not so carefully studied as in the case first mentioned, the business is correspondingly less.

There is a store in Park square before which thousands pause for a moment daily. This is because of the odd conceit which has been worked out in the show window. There is, as every drugist knows, a remedy for colds, to advertise which little frogs are used. Well, in this window one sees a dozen of these little creatures dancing merrily around a Maypole, each holding a gayly-colored ribbon. Near by some other frogs are performing music, and at one side, in a miniature marquee, refreshments are served. For a background a mass of Christmas greenery is used. It is a pretty scene, and pleases the little folk immensely. They don't realize that there is an advertising tag to it all. As for their elders, when they feel a tickling in their throats it is quite likely that they will remember this window and the remedy associated with it.

Now, enough has been written to demonstrate the truth of the opening sentences. If a Boston druggist takes pains to plan a Christmas campaign, so to speak, he is pretty sure to get his reward. If he lays in a particularly fine array of goods, has plenty of sellers, and is satisfied with fair profits, his business is likely to be lively; and even if he does no more than to decorate his window, and then display there some article which he is especially eager to advertise, he is certain to attract more attention that be would at other times, because people are out for the very purpose, among other things, of staring in windows, in the hope of finding there a happy solution of some of the many troublesome problems of this season of gift-giving.

One druggist who talked with the Era correspondent ran on somewhat in this vein: "Christmas trade nowadays does not mean much to us, as compared with years gone by, and not so very far back, either. We did not have to carry so large a stock and variety of goods, and at the same time there was more profit in them. For example, take perfumery. A great many one-ounce and two-ounce bottles of cologne were sold at Christmas time, and, at 25 cents, paid a profit. To-day the young buyer knows he can get, or, in other words, expects to get, three or four times as much for the same money. For 50 cents to-day as much cologne of a fair quality can be bought as we used to get $2 for in the good old days. And, furthermore, druggists formerly put in a better class of fancy goods than could be found elsewhere. There was little or no call for such stuff as can be found to-day in the department stores, where horse blankets are displayed in close quarters with medicines, groceries with dry goods, boots and shoes with the crockery, toys and millinery. The druggist felt encouraged to go to some expense in arranging a holiday exhibit of the best the market afforded, and he offered it for sale at fair prices. People expected the best in the apothecaries', and always looked for it there. There are many who will not buy elsewhere at this time of the year, and that is the reason why I have put in a stock of such goods as might find sale. Not because there is any great amount of money in it, but because we must oblige the patron, and keep him, if possible. If times were good there might be a chance to make a dollar, but the additional expense of clerk-hire, etc., absorbs a greater part of the profit."

One of the drug stores visited was found to be very attractive in its decorations. Both the show windows were prettily trimmed with evergreen, and a great number of holly wreaths made a handsome interior. At the rear of the store was a large table filled with manicure sets, the finest stationery, cut-glass bottles, gold pens in cases, expensive inkstands, richly-gotten-up perfumery sets, atomizers, etc., all of the best quality. When asked if there had been much extra trade, the proprietor answered that there had been none so far; in fact, the table, so attractively set, had been looked at and admired, but not much patronized. "Of course, we shall dispose of some goods," he said. "It is not much trouble to get them out year after year, and the clerks can be kept busy fixing up the store attractively. Customers appreciate it, even if they do not buy the articles set out for their selection. Some of the goods on that table have been out three Christmastides, and have not yet found a buyer. If they are not sold this year, I propose to give them away Christmas morning for some of the poor children's trees. In the matter of perfumery, we sell more at Christmas than any other time in the year, for the simple reason that we have made a specialty in certain lines. Sachet powders are another of our specialties. People have found out all about it; they tell others, and there you are. We do not have to cut prices to get the trade, but we have the reliable goods, and that is what most of my customers want."

It should be explained that this druggist is in a bad situation to sell fancy goods, being too near the largest two department stores in the city.

Baltimore, Dec. 23.—For drug stores the holiday trade, which practically ends to-morrow, has not been especially good, and more or less elaborate displays have been the exception rather than the rule. The range of articles which druggists find it profitable to put on sale for Christmas and New Year's has contracted to a considerable extent and many druggists consequently make no extended preparations. Time was when pharmacists did a flourishing business in toilet goods, manicure sets and a long list of similar things, but these sales were gradually absorbed by the so-called fancy stores. The idea of cheapness also gained ground to such an extent that quality suffered and the sets arranged in attractive cases became objects of suspicion. As one leading druggist expressed it, "They got to making these things so cheap that besides leaving no profit they were not worth anything." Brushes and their accompaniments are still sold, but they do not generally come in sets. Each piece is sold singly and drug stores keep only the better grades, leaving the poor stuff to other establishments.

Upon the whole, the pharmacists' holiday trade has drifted into more legitimate channels. No longer have the counters the appearance of a cutlery shop. This year has probably eclipsed all previous seasons in the richness, the variety and the artistic appearance of perfumery displays. Violet has, of course, been all the rage. No other scent has approached in popularity the violet extracts. They come in a number of colors and in an endless variety of bottles, from the modest two-ounce phial decorated with highly-colored pictures to the pound flask with no pictures at all to obscure its

pretty proportions or detract from the clearness and richness of the cut glass. In the production of the more pretentious lines Theodore Ricksecker, of New York, has shown great industry. His goods have been exhibited in a number of windows and they were put up so as to meet every taste. Retail prices ranged from 25 cents to several dollars. Alfred Wright has also been largely in evidence, side by side with the home product of the Winkelman & Brown Drug Company and other manufacturers. No such profusion of perfumes has ever been offered. They made up the principal part of displays and yet the latter proved to be unusually attractive.

Never before has the ingenuity of the makers of fancy high grade soaps been so noticeable as this season. The finest perfumes were, of course, used in holiday goods, and those persons who were of the opinion that soap is soap doubtless know better now. The best brands ordinarily sold retail for 25 cents, but some of the importations for the holiday trade cost $1.50 and more. Pin trays, paper knives, paper weights of bronze and many articles of vertu were to be found among the holiday stocks of druggists.

This season has emphasized more strongly than before the superiority of the French in combining colors and in producing artistic effects. None looked quite so attractive as the soaps made by Paris manufacturers, or the perfumery bottles of Roger & Gallet, and others in their harmonious setting of heliotrope silk. It is said of the firm mentioned that one partner is a practical perfumer and the other a designer. Their goods certainly indicate a rare combination of talent. Among the downtown establishments here which made the most elaborate displays may be mentioned Thomas & Thompson, Light and Baltimore streets; Moore & Copper, Lexington street near Park avenue; Habliston, Gay and Baltimore streets; Williamson & Watts, Eutaw and Baltimore streets, Lilly, Rogers & Co., 108 East Baltimore street, and others. The wholesale firms which sold holiday goods report an excess of business over last year.

Detroit, Dec. 21.—"It is at this time of the year we feel the influence of the bazaars and department stores the most keenly," remarked a prominent druggist. "Formerly we could lay in a big stock of fancy articles a few weeks before Christmas and know we would be cleaned out by New Year's. Now we scarcely dare buy anything out of the ordinary, except, perhaps, a big lot of perfumery and cut-glass toilet bottles. People who are particular about their perfumery, and who are good judges of it, always come to us for that article. The crowd go to the bazaars, where they can get a cheaper article than we can afford to handle. Again, when people want a genuine cut-glass toilet bottle they will trust to us, rather than to the average bazaar. Aside from these articles, holiday goods are gone from the druggist. The wholesalers know it, and don't offer us goods exclusively for the holiday trade as they used to. You can't find a plush box in a Detroit drug store—unless it is one that has been carried for some time. And that's another thing. It used to be possible to buy goods that would be salable for years. Now fashions in sundries change so often that we cannot buy any more than we need for our immediate use. Some of the cheaper staples—25-cent hair brushes, for instance—are the same yesterday, to-day and forever, but of the better goods styles change every six months. Brush makers say they don't make a single brush like those made four years ago, and only a few of those made two years ago. In other lines, as atomizers, manicure sets, toilet boxes and so on, this year has failed to bring out very many new ideas. Indeed, since the panic of two years ago manufacturers have been putting out and working off their old goods. You will see them in all the bazaars, church fairs, Masonic fairs, and all other kinds of fairs help spoil the druggist's holiday trade. The big Masonic fair held here for the last three weeks hurt Detroit retail druggists hundred of dollars' worth. No, drug stores don't look as they used to at the Christmas time."

Chicago, Dec. 19.—"Christmas comes but once a year." The holiday dream of the Yuletide shopper is about to be realized, the evident displeasure of Jupiter Pluvius to the contrary notwithstanding. The aspect of the outer air is depressing. Lake Michigan has enveloped the city in a thick, drizzling, uncomfortable fog—a wet blanket of exceeding wetness—which offsets in a measure the cheering lights and brilliant displays of the stores. Skirts and trousers are worn at half-mast. State street is a turbulent sea of umbrellas, and every awning drips babbling rivulets down the back of one's neck. It may freeze by Christmas, and then there will be no safety for anybody except on skates. Where once there was no sound save the tinkle of sleigh bells on the frosty air and the merry toot of the holiday horn now may be heard the dull splash of the Christmas shopper as he puts his number ten in the midst of a puddle. Verily (craving the poet's pardon for the paraphrase) the world is all a floating shoe. But, facetiousness aside, I think the druggists on the whole have much this year for which they may render thanks.

First among these blessings is that every one unites in saying that the panic is over. If, then, under the Mosaic law, the testimony of two to a fact was sufficient proof, what shall we say when almost every one agrees? The second cause for rejoicing is a corollary of the first—the opening year gives good promise of better times. There will be more money in circulation and collections will be easier. Druggists will begin the new year with a do-or-die resolution to attend to the commercial end of their business as never before and to pursue the nimble dollar with an euthusiasm born of determination and the hope of success. The druggist must emulate the apostle—he must be "all things to all men." He must unite in himself the qualities of the merchant and of the professional man, for he is both. The old year which is past has given him twelve months of practice and reflection. The new year will afford him opportunities for the application of plans already made and for the fulfillment of hopes yet unrealized. Let us give thanks, gentlemen, and drink a toast in greeting of the year of grace 1896.

Lord, Owen & Co., of this city, report an increase this year in druggists' sundries of 40 per cent. over any previous year of their business.

"What lines sell the best at this season, Mr. Lyon?"

"Well, so far as we are concerned, our holiday trade in perfumes is easily in the lead. People this year seem to prefer small bottle goods. There is also a large increase in the sale of fancy perfume atomizers. You know, four years ago there were hardly any perfume atomizers sold. The increase is phenomenal. Then, too, we are selling more celluloid goods now than usual even for this season of the year. Next to toilet articles of celluloid comes the toilet article made from aluminum, of which we are selling more than we have heretofore. On the whole, you may say that these things seem to be most popular this year—perfumes, perfume atomizers and celluloid and aluminum sets."

The Auditorium Pharmacy is said to keep the finest stock of sundries in the city. I called in there the other day and needed no further confirmation of the report. The display is rich and elegant. Happening to meet Manager Trienen, I asked him what articles in his stock seemed to be most popular this year. His reply was that fancy and expensive toilet sets were always in demand, and that in all important respects he kept about the same line of sundries all the year round. He left the department stores to handle the medium and cheaper grades of goods, while he was content to handle a line for which people would seek when they wanted the best.

"Do you sell many celluloid or aluminum toilet articles?"

"No, not many in this store. The trade here demands a richer article. In my State street store, however, I sell some of those goods. I find that most of the aluminum articles on the market look cheap. There was a time when this metal was such a novelty that it was eagerly sought for, but the novelty is now wearing off. Yes, trade is good. I cannot complain any on that score."

It would be interesting to discuss the various unique displays made about the city, but all such are in accord with the season and may be seen in any city. Suffice it to say in closing that in Chicago at least there will be no lack of good Christmas cheer among the members of our craft.

St. Louis, Dec. 19.—Christmas will be observed in St. Louis with the usual pomp and ceremony. All of the large drug houses will close for the day, and a royal time is looked forward to. The students at the St. Louis College of Pharmacy will also be permitted to re-

gale themselves during the holidays. The college will close to-morrow, Dec. 20, and will not open again until Jan. 6. In the mean time the boys will go home and keep an eye on Santa Claus. The members of the St. Louis Drug Clerks' Society, however, are probably the happiest of the lot, and many of the boys are looking for the largest stockings in town, preparatory to capturing everything in sight. Secretary Rudolph S. Vitt, who, by the way, is studying medicine, says he expects to find a skeleton in his. Many of the other boys, including Charles Milne, Frank Whelpley, Ambrose Mueller and Samuel Livingston, are already "resoluting" for the new year.

BOX AND CARTAGE.

A SUB-COMMITTEE APPOINTED TO HARMONIZE CONFLICTING INTERESTS.

There was a meeting held last week by the jobbing druggists of this city on the matter of box and cartage charges. If the retail druggists of the East who are opposed to the restoration of these charges could have been present they would probably have come to the conclusion that there will be no change in the way of running things. But one gentleman who was present says he is firmly convinced that some agreement will be reached and that the charges will soon go into effect.

It appears that some men wanted exceptions made on certain lines of goods and the longer the meeting lasted the further away an agreement seemed. The main cause for exceptions was that other trades dealing in lines that are also sold by jobbing druggists do not charge box and cartage, and the query came, "How can we sell these goods if we add these charges?" Finally, after a protracted meeting, in which one prominent jobber stood up for "no exceptions" very strongly, a sub-committee of three was appointed to consider matters. This committee is composed of W. S. Merserau, John McKesson, Jr., and Albert Plaut. They will try to harmonize all interests.

Philadelphia, Dec. 22, 1895.—A number of retail druggists are expressing extreme dissatisfaction with the manner in which the boxing and cartage question is being handled by the jobbers. Although it was announced that a new schedule of charges had been agreed upon, and would be put into effect Jan. 1, not a retailer has as yet received any intimation as to what the promised circular will contain. As one prominent druggist declared: "They were going to force their rates upon us without any opportunity of making a protest."

At the offices of the large jobbing houses it was given out during the week that the circular had already been completed and was ready for distribution, but it was thought best not to mail them until the time approached to put the plan in action.

Those who were instrumental in bringabout the adoption of the new schedule are loud in their praises of the proposed change, and the manifold benefits which will be reaped by both parties.

Several of the retail men are discussing the advisability of taking some united action to resist the introduction of a syndicate schedule, and there may be a meeting called during the coming week to act in the matter.

St. Louis, Dec. 17.—St. Louis jobbers and retailers are highly interested in the restoration of box and cartage charges in the East. The jobbers, as a rule, like it, while the retailers don't. The Western druggists, it will be remembered, have never abandoned the box and cartage charges, and only such retailers are affected who deal with Eastern houses. In discussing the matter, Mr. Gustave J. Meyer, secretary of the Meyer Bros. Drug Co., said:

"Our house is highly elated over the results obtained by the committee who recently went East and waited on the different jobbing druggists of New York City and other places. We have always felt that it would only be a question of time when the jobbers of the East would be forced to the old custom of charging for boxing and cartage. We hold it as one of the cardinal business principles that good service rendered should be paid for, and it has always been a rule in our house to employ only the very best packers and use only first-class, new boxes for packing goods. We are, therefore, as stated above, well pleased to see this old custom re-established in the East, and hope that the question of abandoning it will never be raised again."

That is the wholesaler's view of the matter. The retailers think differently, however. Prof. Francis Hemm, one of the leading retailers in the city, said:

"I think it would be perfectly proper for the jobbers to charge for boxing, cartage and good service rendered, provided they would assist the retailer in getting his just dues. The wholesalers, however, have never done this, and it is safe to say that they never will. It is everybody for himself. We have received many pleasant and favorable resolutions from the wholesalers, but not in a single instance have they given us any material aid. The wholesalers are also better organized than the retailers, and everything they do is to their advantage. The retailers are left to paddle their own canoes. If we had a strong organization we, too, could maintain reasonable prices. But competition of to-day is too close. The business is not what it was twenty years ago, when the retailers got fair prices and did not pay any particular attention to what the goods cost them. To-day he must figure extremely close or he will drop out of existence. He must buy to his best advantage, regardless of friendship or business relations. All I can say about the restoration of box and cartage charges in the East is that the house which offers these things free will get the bulk of the business. The other houses will find in time that while boxes and cartage may cost them something, they will have to throw in these charges in order to hold their trade. It is an unfortunate state of affairs, but, nevertheless, one of these cold facts which we have to stare in the face. Summed up, there will be great difficulty in restoring the box and cartage charges unless the wholesalers assist the retailers in getting their just dues. One of the biggest abuses that I know of, and one which is blamed entirely on the wholesaler, is the cheapness of patent medicines. We are obliged to sell them at cost, but have got to do so in order to keep up with our competitors."

CROSHER, PERRINE ET AL.

EVIDENCE THAT THESE PEOPLE ARE DOING BUSINESS IN SPITE OF ALL THAT HAS BEEN WRITTEN ABOUT THEM.

It will probably surprise many druggists to learn that Henry P. Crosher and the Perrine Drug Company are both doing quite an extensive business. The Era has just paid some attention to the Perrine company and has said enough to warn any druggist about dealing with them except for cash or after references have been given.

The Era is informed that Crosher is doing business with druggists not many miles from New York who ought to know something about his standing in the trade here. Information comes from a nearby Connecticut town to the effect that one firm sent him goods and now regrets it exceedingly and has a lawyer here looking into the matter. It seems that ordinary business sense would suggest that an order from a strange party should not be filled unless cash or references were given, but the west side drug firms that keep an eye on the two concerns mentioned say they appear to receive and send out again considerable stuff.

A Brooklyn firm recently received an order from the Perrine company and sent the goods C. O. D. The goods came back. Other Brooklyn houses have been asked to send articles to the Perrine company's office, on Fulton street, but, thanks to the Era's notice, few parted with their goods.

Crosher's business, which has been conducted from 168 Greenwich street, in this city, has not amounted to much until recently. He is a son of the man who became well known to the trade here a few years ago by reason of certain transactions and who paid the penalty by a sojourn up the river. One of the grand jury which indicted Crosher's father is now in the wholesale drug business on the west side.

Another man who is being inquired about by the trade is Brockman, of Abigail street, Cincinnati. The Era has several letters from him received by a New York firm on which are written memoranda showing that the articles ordered were not sent. Bradstreet's rating of Brockman should be looked up by all who receive orders from him.

Eleven Gallons of Whisky in an Herb Case.

Boston, Dec. 20.—In the neighboring city of Fitchburg, yesterday, the police seized eleven gallons of whisky in the Green street drug store. It was concealed behind the drawers in the herb case. The evidence is expected to prove conclusive.

Meeting of the Drug Trade Section.

At the meeting of the drug trade section of the Board of Trade and Transportation last week a committee was appointed to nominate officers for the coming year. The gentlemen who have this matter in charge are Messrs. A. H. Mason, chairman; Williston and Plant. It is said that James Hartford is the most-talked-of man for chairman.

The reports of various committees in regard to the free alcohol question were turned in, so that the legislative committee can see how the trade stands in the matter. It is said that the keeping of the statute on the books was of so small moment to the manufacturing pharmacists that it was impossible to get enough of them present to hold a committee meeting, in fact, that on one occasion but one gentleman was present. In this line the drawback on alcohol for export would be gladly received if the government's requirements were not so onerous.

The committee on credit bureau reported progress. The first bulletin of the bureau will be issued by the 1st of January and the second on the 1st of February. After that the reports will probably be made bi-monthly. These reports go only to members of the section who have contributed funds and information to the bureau.

The Chicago Liquor Question.

Chicago, Dec. 19.—A meeting of the executive committee of the Hyde Park Protective Association, the executive board of the Chicago Retail Druggists' Association and City Collector Maas was held on Dec. 17 at the Tremont House to discuss ways and means of enforcing the ordinance with regard to the sale of liquors by druggists. A resolution was passed to the effect that the law should be enforced and that a committee be appointed of members from the executive committee of the Hyde Park Protective Association, the executive board of the Chicago Retail Druggists' Association and Collector Maas himself to confer with Mayor Swift and to recommend to him that a man be appointed from the Collector's office to visit every drug store in the city with a copy of the ordinance now in force, inquire whether the druggist was keeping a record of his liquor sales, and present him with a copy of the ordinance. It is thought that if any druggist is not keeping a record of his liquor sales he will do so after having been thus visited, while the admonition will not do any harm to those who are complying with the law. The position taken by Mr. Ebert in the committee meeting was that the Hyde Park Protective Association had been more zealous than just in its prosecution of the druggists; that the prosecutions in that district had been conducted in such a manner that a number of innocent men had been compelled to suffer considerable inconvenience and mortification, and that it was the purpose of the Retail Druggists' Association not to defend the guilty, but to put an end to indiscriminate prosecutions which involved alike the guilty and the innocent. Mr. Wooten said that what the druggists wanted was to be certain that every druggist who sells liquor legitimately, that is, for medicinal or sacramental purposes only, keeping a proper record of such sales, shall be free from prosecution, but that every druggist who sells liquor illegitimately shall be compelled to pay the saloon license of $500 per annum.

Collector Maas, when asked about the committee meeting, replied with a smile that inasmuch as he was only there by invitation he thought it would be better for me to get my information from another source. He would say, however, that all he desired was a due and proper observance of the law; that he entertained none but the most cordial sentiments toward the druggists, and that his purpose in proposing a new ordinance, which, as we have seen, never got any further than the License Committee of the City Council, was only to secure a proper observance of the fact that a drug store is a drug store and not a saloon. And he thought that such an effort could not be construed as in any way inimical to the best interests of pharmacy.

A Plot to Burn a Drug Store.

Boston, Dec. 19.—An astonishing tale is that of Albert J. Wood, who was arrested here Monday and taken to New Hampshire to answer to a complaint for setting fire to the drug store of Prescott C. & G. R. Lamprey at Center Harbor, N. H., in 1894. Wood says, in answer to sharp questioning, that he was employed by two members of the firm to set the fire. The contract was made, he says, with Prescott Lamprey, although G. R. had full knowledge of it. The amount of money which he was to receive for committing the crime, he claims, was $100. The arrest of the Lampreys has been ordered, but Prescott, it is said, cannot be found. Both are well known as prominent business men, Prescott Lamprey owning a drug store in Laconia. Wood is rather well known in Boston, having been employed here the past year. In June, 1894, Prescott Lamprey conceived the idea that a drug store located at Center Harbor would yield a good income. At that time he had the store at Laconia, which was paying well. He conferred with his cousin, G. R. Lamprey, and unfolded a proposition. The result was a small building said to have cost $1,250, but which outsiders allege could be duplicated for $600. Prescott Lamprey contributed, he says, $1,500 worth of stock. Other stock was added to make $2,500 worth and an insurance of $3,000 put on it by two companies. It is from the refusal of these companies to pay claims that the present developments have come. On Oct. 6, 1894, the building was burned. Incendiarism was at once charged and both owners and insurance men appeared anxious to find the cause. Wood had been employed at a restaurant next door to Lamprey's Laconia store. He confessed that he drove to Center Harbor on the night in question and set the fire. He afterward left town. Detectives were employed and he was finally tracked and arrested in this city. Meantime the companies had settled for $650 with G. R. Lamprey, who was thought to be a genuine sufferer by the fire. Now suit will be brought to recover it. Settlement with Prescott Lamprey had been refused until suspicions should be satisfied.

Chicago Phenacetine Cases.

Chicago, Dec. 18.—The phenacetine cases have been settled. The terms are thought to be the best that could be secured under the circumstances. The proposition originally presented by Edward N. Dickerson in behalf of Bayer & Co. and Schieffelin & Co. was that they would drop the prosecution if the druggists defendants in the cases would pay $50 apiece for costs and 50 cents per ounce for the phenacetine purchased.

This proposition was rejected by the defendants, who offered to give 50 cents per ounce for the phenacetine purchased, and consent to a perpetual injunction restraining them from making further purchases, except through authorized sources. There were sixteen defendants, and the latter proposition was at length agreed to by the plaintiffs.

The agreement only includes the retail druggists, but does not include the John Blocki Drug Co., which, however, is not now in existence. It was thought at first that Gale and Blocki would not be included in the agreement, but such is not the case, as they will come in with the rest of the retailers under the compromise agreed upon.

It would have been possible to take one of the cases and make it a test case, carrying it through to the United States Supreme Court, but as the amounts were all small and the litigation of even one of the cases would have been a matter of no little expense, it was thought best to agree upon this compromise.

Wants a Receiver Appointed.

Baltimore, Dec. 18.—Nine or ten months ago Wm. H. Reed, the dealer in patent medicines and articles of his own manufacture, whose place of business is on the southeast corner of Lexington and Howard streets, conceived the idea of making his business a stock concern. Stock was to be sold only to Baltimoreans and distributed among as many holders as possible, the plan being based upon the supposition that each stockholder would feel induced to take a personal interest in the establishment and assist in building up its trade. For reasons best known to himself, Mr. Reed now wants the corporation dissolved in order to conduct the store as a private enterprise, and to that end he has filed in Circuit Court No. 2 an application for a receiver for the Wm. H. Reed Drug and Chemical Co. There are no creditors, and the petitioner is the sole stockholder, besides being also the president and treasurer of the company. The court passed on an order for any person interested to show cause on or before Jan. 18 why the petition should not be granted.

St. Louis Drug Grinding Plant in Operation.

St. Louis, Dec. 17.—The new drug grinding plant at Fourth and Spruce streets, the only one of its kind west of the Mississippi River, is now in full operation, and is doing a good business to start with. The plant is operated by the Aroma Coffee and Spice Co., which was recently incorporated for $50,000. The officers are: Ernst Robyn, president; Fred D. Meade, vice-president; Albert J. Thomas, secretary; W. S. Thomas, treasurer, and George Prothero, superintendent. In addition to its other business, the company has in use a fully-equipped drug plant containing machinery adapted to handle, for laboratory use, powdered or granulated for percolation, the full range of crude drugs, embracing roots, barks, leaves, gums, herbs, etc. The machinery is of the most improved pattern, and in conversation with your correspondent Vice-President Meade said it would grind "anything from a brickbat to rosebuds." The company neither buys nor sells goods, and is in no wise a competitor with the local drug houses. The latter rather take kindly to the new establishment, as it enables them to save the difference in rates between whole and ground goods from Eastern or Chicago mills, and also provides them with fresh material, which is considered an important item.

City of Boston Asked to Furnish More Antitoxine.

Boston, Dec. 20.—The Board of Health has made a formal request for more money with which to produce antitoxine. The board states that "its plant is now producing about 3,000 cc. of antitoxine per month, and is able to meet the demands of the city hospital, the city dispensary, the children's hospital, and has a moderate surplus on hand which might be disposed of otherwise. The board respectfully requests that the city council establish, by ordinance or otherwise, the extent to which it may produce and furnish antitoxine to the departments and citizens of Boston, with such conditions as may seem proper."

Tidings from a Long Lost Man.

Boston, Dec. 20.—In June last a dispatch was sent to the Era concerning the mysterious disappearance of George Nichols, son of John C. Nichols, of Nichols & Harris, wholesale druggists in New London, Conn. Now comes word to his employers, Dean & Foster, dealers in druggists' supplies, this city, that Mr. Nichols is alive. He dropped from sight in a strange way at New Bedford. As his affairs were all right, the cause of his absence was the subject of much speculation. It appears from a letter received from Mr. Nichols, that on the day he was last seen he went on board a tug with some chance acquaintances and visited a vessel lying in the harbor. The tug towed the vessel out of the harbor and then turned back to the city, and it was not noticed that one of the party, several of whom had been on board the vessel as well as the tug, was missing. Mr. Nichols writes that he fell asleep, and that when he awoke he found himself on board a whaler bound for the Pacific on a two-year cruise. He made the best of the situation, taking hold of work like a member of the crew. His letter, sent from Portugal, states that he was put on board another vessel off the Azores, and will eventually get home again. All his friends think that this news is the best Christmas gift they could possibly have had.

Patent Medicine and the Wisconsin Law.

The manufacturers of proprietary medicines in all parts of the country have been considerably interested in an alleged ruling or expression of policy made by Secretary Heimstreet, of the Wisconsin Board of Pharmacy relative to proposed action upon certain sections of the Pharmacy law of that State, as revised in April, 1895.

The trouble arose primarily from Section 9, which contains the usual restrictions regarding those qualified to practice pharmacy and winds up with the following rather ambiguous exception: "Provided that nothing herein shall be construed to in any manner interfere with any physician in regular practice from dispensing his own medicines or preventing him supplying his patients with such articles as may seem to him proper, or interfere with the making and vending of proprietary medicines in sealed packages with the name of the contents, the directions for using and the pharmacist registered in the State or physician by whom prepared and compounded, thereon, nor with the sale of the usual domestic remedies, or with the exclusively wholesale business of any dealer."

The specific cause of the trouble was a letter written by Secretary Heimstreet to a general storekeeper at Darien, Wis., reading as follows:

"Dear Sir: If you will read section 9 you will see that a general dealer cannot sell patent medicines or any medicines unless they have the formulæ on the bottles and are made by registered pharmacists or physicians of Wisconsin. Notice is now being sent all over the State to general dealers and test cases will be commenced in January, time being given to those who wish to dispose of such goods."

At the last meeting of the State Board in Milwaukee the exact policy of the Board was so urgently desired by those interested that a statement was necessary to set matters right, and the following was issued:

"The Board is now paying special attention to general stores throughout the State that are selling drugs and medicines contrary to the pharmacy law, and as notice has now been given it will begin prosecutions in all cases where reported, but anticipate little trouble, for the law has now been in existence fourteen years, has been sustained by the Supreme Court and its requirements are but fair and just to all. And the Board also states that it will in no way interfere with the legitimate sale of patent medicines in Wisconsin, but will prosecute all cases of sales of adulterated drugs and medicines."

The Board apparently considers the patent medicine clause as a dead letter and explains that its insertion was due to an error on the part of the Legislation Committee having the bill in charge.

Philadelphia Trade and the Strike.

Philadelphia, Dec. 22.—During the last week little of interest has occurred in the drug trade in this city. The great railway strike has been the all-absorbing topic of conversation, and has succeeded in reversing the ordinary channels of trade. Customers living in the outlying districts have been unable to reach the center of the city, where most of their shopping is done, and, as a natural consequence, the smaller stores in the different suburbs have reaped a rich harvest at the expense of the pharmacists on the busier streets. The call for liniments and bandages has predominated, as the number of broken heads and bruised limbs has been enormous. It was believed on Saturday that the strike has been satisfactorily settled, but later it was ascertained that this report was erroneous, and at the present writing it is hard to say when the trolley trouble will be at an end. Some of the prominent drug houses announce that their regular business is in a paralyzed condition, owing to the inability of their patrons to reach them.

Stores which placed thousands of dollars' worth of extra holiday stock upon their shelves are left comparatively with no buyers. That this condition of affairs will prove a great hardship to many there is not the slightest doubt, but it seems unfortunate that the trouble should have been precipitated at the busiest season of the year. Great crowds of strikers and their sympathizing friends block the streets, rioting and fighting, and as a result many fine show windows have been smashed and the contents of the windows demolished.

Said one of the largest druggists this morning: "I am losing $1,000 a day by this strike, and I cannot stand it long. I stocked my store, as you see, with the most expensive novelties I could find in the markets, and practically none of this expensive ware was received on consignment. Of course, the jobber wants his money the first of the year, and I won't have it for him. What can I do? Unless something arises to terminate this struggle between capital and labor I am afraid I shall have to apply for a position as conductor myself."

Such is the feeling expressed on every side, with the exception of the smaller stores in the residential wards, which are correspondingly happy.

A Cincinnati Druggist Dead.

Cincinnati, O., Dec. 19.—Dr. John C. Krieger, the druggist, father of Dr. Chris. Krieger, died at his home yesterday morning, aged sixty-three. He held many public offices. For thirteen years he was assistant tax collector, and for an equal length of time served as a Republican member of the Board of Education. He was a member of several secret societies, and at the time of his death managed a pharmacy at the corner of Vine and Court streets.

Mr. Ebert Held Up.

Chicago, Dec. 18.—Mr. A. E. Ebert had a narrow escape from a footpad and turned the tables so that the footpad had a much narrower escape from Mr. Ebert. At 12:15 A. M. Sunday Mr. Ebert put a large Maltese cat into a basket for the purpose of taking her from his store on State street to his home. While passing down Peck court, which was, owing to a hitch in the electric plant, as dark as Egypt during the seven plagues, a man stepped out from the end of the alley near the Kimball Glass Works, and, presenting a revolver, commanded Mr. Ebert to hold up his hands. Mr. Ebert had had two similar attempts made upon him and it is his custom to be prepared for them. On this occasion he held the basket containing Tabby in his left hand, while his right hand reposed in his overcoat pocket upon the handle of a 38-caliber pocket cannon. When it becomes necessary to move quickly Mr. Ebert, notwithstanding his gray hairs, is well up with a man thirty years younger. When the command was given to hold up his hands he dodged back, set down the cat with his left hand, at the same time drawing his revolver with his right. The footpad fired, the ball passing by in rather uncomfortable proximity to Mr. Ebert's right ear. At this time Mr. Ebert began to shoot also and the footpad turned and ran down Peck court toward Wabash avenue with Mr. Ebert in full pursuit, pumping an occasional bullet after the fugitive. Unfortunately, it was too dark for Mr. Ebert to aim with much accuracy and the man escaped in the wilderness of miscellaneous objects politely termed Lake Front Park. Returning to Tabby and the basket, Mr. Ebert proceeded homeward without further adventure. His friends are congratulating him on his escape. We are not ready to lose Mr. Ebert, and I for one am fervently thankful that the footpad was not a better shot. Perhaps when again this footpad essays to rob some one he will avoid fatherly appearing gentlemen with long gray beards.

Sentenced to Imprisonment for Six Months.

Boston, Dec. 20.—Albert E. Lynch, the Cambridge druggist, was before Judge Forsaith in the second session of the Municipal Criminal Court Dec. 16, on a complaint which alleged the filing of nomination papers with the Secretary of State, which papers he, at the time, knew to be in part fraudulently made out. He pleaded "not guilty." Judge Forsaith, after hearing the evidence, sentenced Lynch to jail for six months. He appealed, and was held in $1,000 for the upper court. The court admitted that there was no evidence against Lynch, other than that supplied by the experts in penmanship, but at the same his Honor maintained that in the absence of contradictory evidence from the other side, he must judge the defendant guilty. In giving sentence the court said that it was a case which called for severe punishment.

Cleveland Poisoning.

Cleveland, O., Dec. 16.—George H. Woods, a lawyer aged forty, residing at the Livingston, went into Lederer's drug store at Prospect and Brownell streets Saturday afternoon and purchased a quantity of morphine. Standing before the counter, he emptied the powder down his throat while the druggist was not watching him and then sat down in a chair in the store. He soon became unconscious. Mr. Lederer, noticing him asleep, tried to rouse him but failed, and, becoming convinced that the man had taken the morphine, rang for an ambulance. Woods was conveyed to the hospital and is on the road to recovery, thanks to prompt treatment. He came here from Pittsburg and is a somewhat mysterious person.

Another Case.

Fostoria, O., Dec. 18.—John Jeffrey, aged twenty-four, committed suicide at Prairie Depot last night by taking chloral. His father is a druggist. The young man went straight home from the drug store and early in the evening took the poison. When his father arrived his son greeted him with, "If you have anything to say to me, say it now, for I am going to leave this world." Medical aid was called, but the suicide died two hours later. Ill health and dissipation are given as the causes for the deed.

Druggist Wilbor Dead.

Albert G. Wilbor, a veteran druggist of Boston, died on Dec. 18, at his home in Brookline. He was in the habit of visiting his old store, at the corner of Washington and Eliot streets, in that city daily, and while there last Monday morning he was stricken with apoplexy. He regained consciousness in a few moments, and was carried to his home, but failed to rally. Mr. Wilbor was born in Little Compton, R. I., May 13, 1820. He entered the drug business in Boston when fourteen years of age, going into the employ of Joseph T. Brown. About four years later he engaged in business for himself, continuing therein during more than fifty years, and acquiring a fortune. About five years ago he retired from active business, although he was still interested in the management of estates. Mr. Wilbor was the oldest druggist in Boston at the time of his death. He had a wife, two sons and two daughters.

Pure Food Laws.

Cincinnati, O., Dec. 20.—One of the big fights that will come up soon after the organization of the Ohio Legislature will be to secure a modification of the pure food laws. The movement comes mainly from retailers and manufacturers in lines outside of the drug trade, but if the fight is successful, the druggists, also, will get their share of changes, it is thought. In the country the sentiment in favor of the law is very strong, and the country members will take their seats prepared to resist any movement to amend the law, except on lines suggested by Food and Dairy Commissioner McNeal, who is expected to ask for several modifications. Senator Clark, who drew up the law and pressed its passage, is quoted as saying that no alterations can be made at the instance of the grocers. Druggists complain that for one thing, salicylic acid is forbidden to be used as a preserving agent in "unfermented grape juice," and the like. If the juice contains any of the acid it must not be sold for pure juice, but must be labeled so many parts of grape juice and so many parts of salicylic acid. The brewers are said to have formed a combination yesterday to fight the law.

Minnesota Mentions.

St. Paul, Minn., Dec. 20.—Dr. J. C. Farmer, a young physician of the village of White Bear, near this city, is in serious trouble, and incidentally Druggist King, of the same place, comes in for censure. Albert M. Hull, a youth of nineteen, died some days ago and was buried, it being given out that his death was due to a shock and burns resulting from a kerosene lamp explosion. It afterward transpired that he was killed by overdoses of morphia administered to allay pain, under Dr. Farmer's instructions. A clerk in King's store put up the prescription and it is claimed that he should have known that too large a quantity of the deadly drug was called for in the prescription and should not have filled it without satisfying himself that no harm would result. The burden of testimony, however, seems to fix the sole responsibility upon the doctor, who may be arrested.

St. Paul, Dec. 20—(Telegram.)—Inquest and autopsy resulted in complete exoneration of Dr. Farmer. It was found Hull died of burns.

——There is some talk of putting in a drug stock at Kinbrae, Minn.

——Charles L. Chapple, formerly of Minneapolis and lately of Ellsworth, Wis., has abandoned pharmacy temporarily and has entered the State University Medical College.

——Noyes Bros. & Cutler, who buy large amounts of animal oils every season for use in their manufacturing business, etc., receive many inquiries as to the price on skunk oil. One recent letter asked the price they could get for the grease and the "sent." They quoted price on the oil, but said they had no use for skunk "sent."

——The Royalton Banner, a weekly paper published in the interior of the State, evidently believes that your humble druggist should have fair play. Speaking of the case of Arthur L. Woolsey, of Merriam Park, that portion of St. Paul located in what is called the Midway district, where liquor selling is illegal, the Banner says: "The temperance enthusiasts of the Midway district have made a mistake in pouncing upon Druggist Woolsey. The same mistake has been made in other localities to our personal knowledge. Druggists are sometimes forced to violate the strict letter of the law in accommodating the people of a community, but they are in no sense blind piggers, and it is manifestly unreasonable and unjust to so consider them."

Cincinnati Notes.

——The Standard Drug Company last week sued A. O. Zwick, the druggist at 76 Broadway, for goods sold and delivered valued at $119.

——Joseph Jeidel pleaded guilty to the forgery of a check for $15.60 in the name of the Andrews Soap Company, of Cincinnati. He was given two years in the penitentiary.

——William Tilly, one of the oldest druggists in Cincinnati, will remove his store from its present location at Hunt and Spring streets to a new place on Hunt near McGregor avenue, Mt. Auburn.

——The American Chemical Society held its meeting here last week. Suitable resolutions on the death of the late Prof. C. F. Stuntz were passed and officers were elected. Prof. J. U. Lloyd delivered a lecture on percolation at the same time.

——Dr. J. A. Culver, the gold-medal graduate of the Ohio Medical College, class of '74, died last week at his home on Price Hill, Cincinnati, from the excessive use of morphine. Dr. Culver began his fatal habit soon after his wife died two years ago.

——G. B. Brooks, formerly a clerk at Adams' pharmacy, in Covington, called at the police station last week and made it plain to the authorities that he is not the Brooks for whom a warrant charging grand larceny has been issued. He objected to taking any chances on being arrested by mistake.

——The will of the late Gustave Holzhauer, the druggist, of Newport, Ky., was admitted to probate last week. His widow, Amelia, is given the benefit of all of his estate during life. If she remarries her share will be only the income from one-third of the estate, the rest to be equally divided among the children. Mrs. Holzhauer is named as executrix. The story which got abroad that the druggist had died intestate is unfounded. The estate is worth $150,000.

Good Enough Advertising.

Advertising is a thing in which no one can imagine perfection. Results may gauge its worth, but there is always an impression that no matter how large, there is a possibility that they might be larger. No advertising is absolutely worthless, and none is so good that it couldn't be better. These observations preface some remarks which a subscriber has invited upon some specimens of advertising which he has sent us. One is a picture of a gentleman of quite evident Hibernian extraction endeavoring with some difficulty to open the door of a drug store. The reading matter, which is a soliloquy, implies that he is determined to force an entrance for the purpose of buying medicine. Unfortunately, the language is couched in the negro dialect and the effect is rather disappointing. This matter of using dialect is a rather delicate one and requires careful handling. When well done the author receives that distinction which is heaped upon Ian Maclaren, Barrie, Craddock and Cable; when it isn't well done the critics usually skin the unfortunate and deftly hang his literary hide upon the fence to dry. In an advertisement, which is a matter of dollars and cents, it is best to be on the safe side and stick to dictionary words. The other advertisement is a representation of Santa Claus and the reading matter is a straightforward talk about Christmas goods. Of the two styles the straight reading matter without any frills is preferable.

This recalls a claim sometimes made that certain advertising is "good enough" for certain classes of people, the contention being that niceties of style and language are wasted upon those who are not supposed to be judges of such matters. We do not believe this. No one knows who is to read the advertisements which he writes. One that is carefully written will stand the best chance of pleasing the critical, and will certainly not displease those whose taste in literary construction has come to them as did the learning of Dogberry. Above all it is necessary to remember that the critical are most kindly disposed toward simple, plain language.

The Silver Question.

A very amusing incident happened in this city (New York) at friend Max L. Walter's store during the silver excitement last spring, produced by the lengthy silver debates in Congress. A lady entered the store and bought a bottle of magnesia from Max, tendering in payment a $2 bill. Max wrapped up the bottle, handed it to the lady, and, taking her $2 bill, tendered her one silver dollar and eighty cents in change. The lady laid the silver dollar down, declaring she could not take it, as it was worth only sixty cents, at least she claimed the papers said so. Max thought at first she was joking, but further conversation showed that she was really in earnest. To test the matter, however, Max asked: "Well, madam, since you will not accept my silver dollar for more than sixty cents, I presume you would not expect me to take one from you for more than sixty cents?" The lady assented, whereupon friend Max remarked: "Permit me to give you the proper change accordingly," and, saying this, he swept the one dollar and eighty cents in silver into his cash drawer and tendered in lieu thereof a $1 U. S. Treasury note to his admonished customer. "But what do you charge for the magnesia?" she inquired. "Twenty cents," was the prompt rejoinder. "Well, then, I get eighty cents more," she remarked. "I beg your pardon, madam," he answered, "you gave me only two silver dollars. If you will have the goodness to look at the bill you gave me you will find that it is a certificate for two silver dollars, and as you declare the value of the silver dollar to be only sixty cents, consequently the value of your bill is only $1.20; the magnesia costs twenty cents, thus you get $1 change. If, however, you will accept my silver dollar from me at one hundred cents on the dollar, I will also accept your silver dollar at the same valuation." She took the proferred change and departed, enlightened by this little object lesson.

NEW YORK AND VICINITY.

——Rudolph Pay has sold his store at 39 Avenue D.

——Mr. Emerson, of bromo-seltzer fame, was here last week.

——William H. Mills, of West Winsted, Conn., was here on Dec. 20.

——Druggist Boswell, of Portchester, is having an addition put onto his store.

——W. Jahr, who was with Henry Klein & Co., 44 Cortlandt street, died recently.

——Gelle Freres, the perfumers, are to open an office on Fifth avenue near Twenty-first street.

——L. Schultze, N. Y. C. P., '94, has left his place at H. Rheinboldt's pharmacy, 2081 Madison avenue.

——John H. Schmidt has resigned the position he has held for a year at the Eagle Pharmacy, Avenue D.

——Among Southern drug trade men in town recently was J. A. Solomons, of Solomons & Co., Savannah, Ga.

——R. G. Kellner, N. Y. C. P., '90, has sold his drug store in Utica, N. Y., and will shortly return to New York City.

——Mr. Sears, of Billings, Clapp & Co., was in town last week for a day or two visiting the New York office of the firm.

——Henry Schaffer, with John Duryea, at 913 De Kalb avenue, Brooklyn, for nearly five years, has resigned his position.

——George Von Kromer has resigned his position at Anton Applemann's pharmacy at Sixtieth street and Amsterdam avenue.

——Cyrus Schlabach, one of the firm of Cyrus Lawall's Sons, of Easton, Pa., was in town last Friday on a business trip.

——Emil J. Maring, N. Y. C. P., '91, has resigned the position he held at Gustav Pfingsten's pharmacy, 14 Whitehall street.

——"Doc" Archie Wilson, of Perry's Sun pharmacy, has been ill at home for several days, but expects to return to work shortly.

——N. V. Cody's store at 1000 Park avenue is doing an excellent business. The present proprietor has been located there for three years.

——W. A. E. Smith has accepted a position with Van Horn & Ellison at their Fifth avenue and Fifty-eighth street pharmacy in this city.

——P. R. Lance, of W. R. Warner & Co.'s staff, stayed in town a few days last week, then went home for the holidays via Philadelphia.

——A. H. Gieschen, N. Y. C. P., '95, has resigned his position at William Kahr's pharmacy, corner of Eighty-fifth street and the Boulevard.

——Druggist Looney, of Looney & Tuska, Morristown, N. J., and J. D. Blauvelt, of Nyack, were among the callers on the trade last week.

——Brodie Bros.' pharmacy at Ninety-fourth street and Third avenue is a finely furnished one and is a credit to that part of the busy thoroughfare.

——Among recent visitors in this city was B. A. Herrick, druggist at Broadway and Main street, Norwich, Conn., who was seeking holiday goods.

——Arthur Jackson, who was for some

time at V. Kopald's drug store, 385 Jackson avenue, Long Island City, is now with James Davren at 123 on the same avenue.

——Dr. Fr. Hoffman, formerly editor of the Rundschau and still deeply interested in its welfare, sails for Europe on Jan. 4. He will contribute to the Rundschau while abroad.

——Herman M. Brasz is now the proprietor of the drug store at 2027 Third avenue. The sale to Mr. Brasz was a recent one, but the store has been established some years.

——Henry I. Cappus has left H. C. Wurm's pharmacy at 1437 Second avenue, New York City, in order to devote his time to studying at the New York College of Pharmacy.

——L. G. Sharnikow, N. Y. C. P., '95, has left his position in Brooklyn and is now with Frederick Kleinschmidt, corner of Columbus avenue and Eighty-eighth street, New York City.

——I. Freid, N. Y. C. P., '94, who has been with A. S. Friedlander at 189 East Broadway for a short time, has joined the force of J. Dorn's pharmacy, Columbus avenue and Ninety-third street.

——J. J. Cohn, who formerly owned the pharmacy at 951 Park avenue, is still the manager there, although the store is now the property of S. Clevan. The name "Diamond Pharmacy" is retained.

——"War news" has brought out a great deal of latent patriotism in the trade. The Era is informed that one man carries his patriotism so far that he is limiting his use of Canadian rye considerably.

——Dr. Robert C. Kenner, formerly prescription clerk with several leading drug houses in Louisville, Ky., has been added to the staff of C. F. Boehringer & Soehne, and will represent that firm in Louisville.

——George Male, who came from Carbondale, Pa., to attend the lectures at the New York College of Pharmacy, is now located at L. M. Royce's pharmacy, Seventh avenue and Seventh street, Brooklyn.

——L. E. Oxee, recently at Balluff's uptown store, corner of Columbus avenue and Eighty-fourth street, is now managing H. Bohmfalk's pharmacy at the corner of Fifty-second street and Lexington avenue.

——James Carter, N. Y. C. P., '95, who was with Caswell, Massey & Co. at their Newport store, during the past summer, has accepted a position with Charles H. White, corner of Madison avenue and Fifty-third street.

——James P. Colonel, a graduate of the New York College of Pharmacy, class of '93, has bought out the pharmacy at 1987 Third avenue, formerly owned by Charles Loeber. Mr. Loeber is looking for another store.

——D. L. Cameron, president of the Kings County Board of Pharmacy, has sold his store at 231 Reid avenue, Brooklyn, to Chas. F. Schleussner, proprietor of the store at Penn and Bedford avenues, that city. Mr. Schleussner will operate both stores.

——A prominent drug trade man remarked this week that it was strange so few visiting druggists had been seen here during the last few weeks. He was of the opinion that the proper time to visit New York was when the market was on the up grade.

——Word reaches here of the suspension of the drug firm of Lobe & Torralbas, one of the oldest in Havana. The revolution made collections very bad, hence the failure. The firm had a number of friends here, who express their sympathy.

——Robert Minrath, formerly in the drug business on the west side, and a graduate of the New York College of Pharmacy, class of '87, now owns the drug store at 1453 Third avenue. The former owner was H. Heller, who dropped dead in the store a few months ago.

——M. P. Ward, who has been with Schieffelin & Co. for a number of years, will be connected after Jan. 1 with Rothschild Bros. & Co., agents for Pizzala's Elixir Peptonate of Iron in this country. He will represent the firm in New England, where he is well known in the trade.

——George M. Eberle, a graduate of the Albany College of Pharmacy, class of '90, and formerly with John B. Winter at 307 Manhattan avenue, Brooklyn, is now with Van Horn & Ellison, at Forty-first street and Park avenue, New York City. He takes the place of George Meyers, who resigned.

——A New York morning paper credits the owner of a certain Fifth avenue drug store with an income of $25,000 a year on prescriptions and analyses alone. It describes his store so well that anybody in the profession can tell who is meant by saying that there are no patent medicines or proprietary articles of any kind kept in the store.

——Dr. Attillie Trippitelli, a physician who owned a drug store at 34 Mulberry street, in this city, was killed last week by being hit on the head by a piece of iron that had dropped from the new Brooklyn Bridge structure. Dr. Trippitelli was well known to downtown and Brooklyn druggists. He had a branch office in the latter city.

——C. G. Bacon, Jr., of this city, has received notice of his appointment on the committee on membership of the N. W. D. A. The other members are F. L. Carter, of Boston, chairman; F. L. Henry, New York; E. M. Neal, Nashville, Tenn.; Edward H. Hance, Jr., Philadelphia; H. Behrens, Waco, Tex., and James H. Rhodes, Chicago.

——Jacob Hasslacher, of the Roessler-Hasslacher Chemical Co., and general manager of the new Niagara Electric Chemical Co., has decided to take a half-acre of land at Niagara Falls for the factory. The building to be erected there will be 100 by 130 feet. The company expects to use about 1,600 horse-power, supplied by the falls.

——The Niederwald, of which society V. Koskta, the Eighth avenue druggist and ex-President of the local branch of the Druggists' League, is President, will have one of its "gemuthliche" balls tonight (Dec. 26), with a Christmas tree for the children. Teutonia Hall, on Third avenue, will be well filled by German druggists and their families.

——The Monatsblatt is not dead, but is to be published hereafter by Messrs. R. A. Matter and A. Wortmann. It has ceased to officially represent the "New Yorker Deutsche Apotheke-Verein," however. Mr. Wortmann is the distributing agent of the German Druggists' Association. It is understood that E. C. Goetting will contribute frequently to the paper, although he will have no official connection with it..

——The meeting of the Society of Chemical Industry next month will be held on the 20th. The change in the date of this organization's meetings from the first to the third Monday in each month is a welcome one to many members who also belong to the American Chemical Society. The latter's meetings come the first week in the month, and it was considered a little too much to expect such busy men to attend two dinners and meetings that week.

——The drug store of Theodore Rennenberg at 696 Third avenue was sold out last Thursday to satisfy a mortgage. Rennenberg is now connected with a Ninth avenue drug store. Among other recent sales of drug stores at auction were those of Druggist Holt at 119th street and Pleasant avenue, George Courat's at 1419 Third avenue, and John B. Kunz's at 606 Third avenue. The latter store had been in existence for nearly forty years and had always done a good business.

——Recent incorporations are the Thurmeline Company, of Brooklyn, to deal in chemical and vegetable compositions, and the Baltimore Glass Manufacturing Company, of Buffalo. The capital stock of the Brooklyn concern is $16,000 and the directors are Hermann Ost, Frederick Schmidt and F. C. Wildocreter, all of Brooklyn. The Buffalo company has a capital of $100,000 and its directors are J. A. Oakes and George Oakes, Buffalo; S. B. Whittock, Philadelphia, and Jacob Pease, Brooklyn.

——Frank Dullam, of Dullam Bros., of Flint, Mich., has gone on the road for a cutlery firm of Chicago.

——Ward Bros., wholesale druggists at Indianapolis, suffered a loss of $35,000 by a fire which destroyed an entire block in that city Dec. 3. They were fully insured.

——Herman Frost, a Buffalo druggist, has been fined $10 and costs of trial in the Municipal Court of that city for opening a street without a permit. He had been warned but paid no heed.

——The city of Macomb, Ill., has sued three druggists of that place. A local paper commenting upon the fact says the legal term used is assumpsit or debt, but the plain, unvarnished statement of the case is, that the three defendants are charged with having sold intoxicating liquor in direct violation of the city ordinance, and said city asks damages to the extent of $1,000 from each defendant.

Chas. F. Brown, Cortland, N. Y.—Your advertising column is a good addition to your already unexcelled paper.

HERE AND THERE.

——There are twenty-five drug stores in Owen County, Ky.

——D. W. Johnson, a Clearfield, Ia., druggist, has been arrested, charged with seduction.

——Waynesboro, Ala., boasts of a new turpentine distillery owned by J. W. McKay.

——The Rob Roy Chemical Co., of Churchville, N. Y., will remove its plant to Buffalo.

——A Waverly, O., paper is the first on record to appear without a patent medicine advertisement.

——The factory owned by Farr, Ward & Co., chemists, in Saratoga, N. Y., was recently damaged by fire.

——The Folsom Drug Co., of Youngstown, O., is trying to sell Ensign's west side drug store in that city.

——Dr. J. A. Sterritt, Ohio State Drug Inspector, spent last week in prosecuting cases at Wapakoneta and Spencerville, O.

——Mayor-elect Bessom, of Lynn, Mass., a druggist, was given a splendid reception by the Republicans of that city Dec. 13.

——The soap factory of James S. Kirk & Co., Chicago, was damaged by fire Dec. 12. The total loss is estimated at $65,000.

——Geo. F. Peterson, an East Grand Forks, N. Dak., druggist, was married to Miss Hattie Walther, of Minto, that State, Dec. 11.

——James Hart, a dealer in dentists' materials at 111 North Charles street, Baltimore, Md., has made a deed of trust for the benefit of creditors.

——Judge Pugh last week granted a divorce to W. C. Brown, the Columbus, O., wholesale druggist. This ends a case which promised to be sensational.

——Agents from Georgia, it is reported, have secured hundreds of negro families from Raleigh and vicinity to work in the turpentine orchards of that State.

——Druggist L. A. Pennywitt, of Macomb, Ill., was arrested some time ago for selling liquor illegally. The case recently came to trial and was finally dismissed.

——Morris and Robert Tayman, engaged in the drug business under the style of Morris Tayman, at Wichita Falls, Tex., have filed a chattel mortgage to secure their creditors.

——At a "Karnival of Kommerce," in Portsmouth, O., Miss Dora Casey represented a drug store. She was gotten up in appropriate costume and carried a panful of red fire.

——B. A. Northrup, formerly with Lord, Owen & Co., of Chicago, but for the past six years with Strong, Cobb & Co., Cleveland, O., will return on Jan. 1 to Lord, Owen & Co.

——Attorney General Richards, of Ohio, has decided that prosecuting attorneys are not entitled to a commission of fines and costs collected in prosecutions under the pure food laws.

——James H. Voller, druggist, of Evart, Mich., who was arrested some time ago for violation of the liquor law, was recently acquitted by the jury which listened to the evidence.

——The hurricane which swept over Cincinnati played havoc with druggists' signs. J. C. Otis, the druggist, had three big advertisements torn from their fastenings and smashed.

——E. J. Hart & Co., New Orleans, are making preparations to engage extensively in the manufacture of "non-secret" remedies as an addition to their wholesale drug business.

——President Hynson of the Maryland Pharmaceutical Association has appointed John H. Hancock chairman of the Committee on Pharmacy in place of J. Fuller Frames, resigned.

——Kelley & Co. is the name of a new firm recently incorporated at Marshalltown, Ia. It will engage in the business of wholesaling and retailing drugs, books, stationery and notions.

——F. G. Beckman, who has been covering Indiana Territory for the past four years for Kiefer & Co., of Indianapolis, has accepted a position with Lord, Owen & Co. as general house salesman.

——M. Goldsmith, a Riverside, N. J., druggist, is removing his stock to a store a few doors above his old location. His increasing business makes a larger and more convenient store a necessity.

——Niagara Falls with its new power seems to be a sort of Mecca for manufacturers. One of the latest projects is a plant for the manufacture of chlorate of potash by Gibbs & Fanchot, of Ottawa, Ont.

——The drug store of J. F. Hite, Owensboro, Ky., was damaged by fire the night of Dec. 11 to the extent of $10,000. The building was fully insured, but there was only $5,000 insurance on the stock, which was valued at $10,000.

——The drug store at Twelfth and Olive streets, St. Louis, formerly operated by U. S. Boone, who assigned recently, was to be sold at auction last Saturday. The Moffitt-West Drug Company is reported to be the largest creditor.

——At Kansas City, Mo., recently, a thief entered the drug store of O. W. Krueger and carried out a cash register worth $200 and some $60 in cash. The cash register was afterward found broken open in an adjacent alley.

——One of the most attractive features of a bazaar in progress at the Western Female High School in Baltimore, in aid of, the pension fund for public school teachers, is the booth of the Winkelmann & Brown Drug Company.

——G. Thornhill succeeds C. E. Mathews at 201 Halsted street, corner Van Buren street, Chicago. Mr. Mathews still retains his store on Madison street. Messrs. Mathews and Thornhill have been in business together for some years.

——The Lynn (Mass.) drug clerks are taking great interest in bowling this winter. A local league has been formed among the different clubs of the city in which the drug clerks hope to be declared winners at the close of the season.

——G. F. Phillips, druggist at New Hampton, Ia., shot and killed himself at that city Dec. 2. It is said he was embarrassed financially and the worry attendant upon the effort to adjust his affairs caused mental disturbance. He was insured for $6,000.

——Anthony M. Binau, a druggist in business at the corner of York road and Huntington avenue, Baltimore, Md., has made an assignment to Roger T. Gill, who gave bond in the sum of $2,000, indicating assets of half that amount. Mr. Binau will retire from business.

——It is predicted by Assistant State Geologist Alfred C. Lane, Michigan, that the Detroit River district will soon be headquarters for large chemical manufacturing industries. Investigations of the geological formations of the district form the basis of his prediction.

——Druggist Edward S. Reed, of Atlantic City, died recently at the age of sixty-three years. His drug store was the oldest in Atlantic City, and of late had been conducted by his sons. Mr. Reed served the city in various offices and was held in great respect by all who knew him.

——Chas. H. Bayard has left the I. Calvin Shafer Co., Chicago, and will hereafter act as the manager of Johnson & Johnson's Eastern sales department, with headquarters in New York. Mr. Bayard was with I. Calvin Shafer Co. for ten years, of which six were spent as its Western representative.

——The farmers of Kosciusko County, Ind., are to try the experiment of raising peppermint. The soil in that county is low and marshy and similar in its nature to that of the peppermint districts of Michigan, and it is believed the culture of peppermint will soon become a leading industry of the county.

——Thomas Lloyd, a young Shamokin (Pa.) drug clerk, was recently held up by a robber, who in turn was surprised by the clerk aiming a revolver at the robber's heart. Just as things were approaching a crisis the clerk's feet slipped and the robber got away before the young druggist could stand up again.

——The Board of Pharmacy for the city and county of New York at its last examination passed William S. Eisenberg, Joseph Schenk and R. W. Bennett. During last month forty-five pharmacists were registered and four pharmacists were convicted and fined for violation of the pharmacy law. Next examination Jan. 13, 1896.

——J. H. Orme, a well-known druggist of Marion, Ky., has been sued by the police judge of that city for $10,000 damages. The plaintiff alleges that the defendant made statements in reference to him by which he has been greatly humiliated, and his official acts as police judge have been brought into public scandal and disgrace.

——A short time ago a bottle of malt extract was bought in Lowell, Mass., and sent to a chemist for analysis. His report has just been made, showing an excess of alcohol above the amount allowed by law. Now all unlicensed druggists have been warned against selling it, the registered pharmacists being cautioned to keep a careful record of all sales.

——If newspaper reports are to be believed, Fred. T. McDonald, druggist at Kenneth, Pa., is a lucky man. In his cash receipts he took in a copper coin of the date of 1783, on one side of which is the bust of Washington and the words "Washington and Liberty," and on the other "one cent." The coin was taken in for its face value and has just been sold for $200.

——Fred Marquardt, of Detroit, started out to peddle medicines for Druggist Vurtel and failed to keep his wife informed of his whereabouts. The distracted woman appealed to the police for help and just about the time that the whole machinery of the law was set going to locate him she received a nice little letter from him telling of his success in disposing of the drugs.

——Druggist George Zirker, of Cleveland, O., does not believe in encouraging suicides. A suspicious stranger recently asked for laudanum and after much persistent entreaty was given a harmless mixture much similar in appearance, which he immediately swallowed and stretched himself upon the floor to die. His only suffering resulted from the energetic manner in which Mr. Zirker removed him from the store.

——Dr. M. W. Lockwood, of Columbus, O., aged sixty-six years, died suddenly last Tuesday at his rooms in the Mithoff Block, on North High street, of paralysis. He had already had two paralytic strokes, rendering his left side helpless. He survived the third attack only twenty-four hours. Dr. Lockwood came to this city twenty-five years ago from New York, and was engaged in the manufacture of a catarrh cure. He leaves a wife but no children.

——Old Baltimore druggists will be sorry to learn of the death at Sandy Springs, Montgomery County, Md., of Robert R. Moore, at the age of 83 years. Mr. Moore had lived in that county since 1841, farming and looking after the interests of the Montgomery Mutual Fire Insurance Company, of which he was until one year ago the secretary and treasurer. Prior to his removal he was in the drug business on Baltimore street, in Baltimore, being a member of the firm of Moore & Stabler.

——A well-dressed female shoplifter stole about $40 worth of toilet articles from Ogram's new pharmacy, Thirteenth street and Pennsylvania avenue, Washington, D. C., on the evening of the 17th inst. She entered the store with a man, and while the latter engaged the only clerk on duty in conversation she walked over to a case covered with expensive brushes, combs, manicure sets and other things. After the couple had gone the clerk discovered that nearly the whole display had disappeared. The celerity and deftness of the work shows the hand of an adept.

——A horrible accident occurred on Dec. 1, at 3 A. M., in the Monumental Chemical Works, in Anne Arundel County, a few miles from Baltimore, Md. Robert Janssen, a German, who has been in this country only a short time, fell into a tank of nitric acid and was so badly injured that he died shortly after being taken to a hospital. He had climbed to the top of the vat to run off some acid, when he slipped and fell. His head and body were submerged, but he managed to drag himself out, shrieking with pain. The flesh was burned black and came off in patches. Janssen leaves a widow and three children in Germany.

——Dr. Zebulon Lowe, a well-known physician of Belair, Md., and member of the drug firm of Thomas G. Forwood & Co., met with a serious gunning accident about four miles from the town on Thanksgiving Day. He had been out hunting with a friend, and, becoming tired, stopped to rest. He was lying on the ground; his companion sat on a fence, when a rabbit jumped up twelve feet away. The friend fired and part of the load struck Dr. Lowe on the right side of the head, tearing away a piece of the skull. Physicians were summoned from Belair and later the patient was removed to his home, where he lies in a critical condition.

——Some time ago one Mrs. Michaels, of Alamo, Ind., sued Druggist S. S. Heath, of that place, for $10,000 damages, alleging that Heath had sold her husband liquor, which caused his death. The case came to trial last week, and the local branch of the W. C. T. U. met and resolved to have representatives of the order in constant attendance during the trial to "sympathize with Mrs. Heath and evidence the hostility of the W. C. T. U. toward the rum power." For the first three days of the trial a number of the W. C. T. U. ladies occupied prominent seats at the trial and looked as sympathetic as possible. Their ardor was considerably dampened, however, when the defense brought out in the evidence that Mrs. Heath frequently purchased liquor for her husband and had been seen drinking beer with him. Since this evidence came in none of the W. C. T. U. have attended the trial.

——Writers of the Mayne-Reid, Marryat class will undoubtedly be eager some time in the future to interview George Nichols, son of John Nichols, of the wholesale drug firm Nichols & Harris, of New London, Conn. Young Nichols was traveling salesman for Dean, Foster & Co., Boston, and mysteriously disappeared last June while on a trip to New Bedford. His affairs were in splendid shape, his accounts were all right, and no reason was known why he should disappear. The only theory was that he had in some way met his death. It now transpires that Nichols accompanied a party on a trip down the harbor on a whaler just starting for a two-year cruise in the Southern Pacific, intending to return on the tug which towed the vessel outside. Unfortunately, he fell asleep, and upon awakening found himself a stowaway several miles out at sea. A recent letter received from him has quieted the fears of his friends, and it is presumed that he will make the voyage and add the accomplishment of blubber cutting to that of selling drugs.

ASSOCIATIONS,
CLUBS, SOCIETIES.

Torrey Botanical Club.

The meeting of the Torrey Botanical Club was held on the evening of the 10th inst. and there were about fifty members present. The paper of the evening was given by Dr. Smith Ely Jelliffe on the "Common Poisonous and Edible Fungi About New York." After an introduction, in which a brief outline of the classes of the fungi was given, the bacteria receiving a certain amount of attention, the main portion of the lecture was given. The common edible and poisonous mushrooms were described and a number were illustrated by colored lantern slides. Many of the slides were taken, by special permission, from Mr. Hamilton Gibson's new work upon the "Common Edible Mushrooms." Among the edible species figured were lycoperdon giganteum and other species of the puff balls, which the lecturer said were all edible when quite fresh from the ground and when the skin was not too thick or warty; Morchella esculenta, the Morel; Cantharellus cibarius, the golden cup mushroom; the common field mushroom and its near relative, the horse mushroom; Boletus edulis, chrysenteron and luteus, and other edible Boleti; Fistulina, the beefsteak fungus; the sulphur-colored polyporus, Amanita Caeseri, and a number of edible Lepiotas, Psalliotas and others. Among the poisonous species were mentioned Amanita vernus and Amanita muscarius, the fly fungus; Boletus Satanus, luridus, alveolatus and felleus. In addition a number were shown which, though not directly poisonous, were indigestible.

Will Investigate the Quality of Drugs.

Baltimore, Dec. 20.—The committee which Prof. Alfred Dohme, as the president last year of the scientific section of the American Pharmaceutical Association, was authorized to appoint, and which will arrange for a thorough analysis and investigation of drugs, has now been completed. In consists of Prof. A. B. Prescott, of Ann Arbor, president; Prof. Edward Kremers, of the University of Wisconsin; Prof. L. E. Sayre, of the University of Kansas; Prof. John U. Lloyd, president of the Cincinnati College of Pharmacy; Prof. Samuel P. Sadtler, of the Philadelphia College of Pharmacy, and Dr. Charles Rice, chairman of the national committee of revision of the United States Pharmacopœia. It required considerable correspondence to secure the assent of the various members, and as an appropriation to cover clerks' hire and other expenses was needed, additional time was consumed in completing the details.

The committee or its president will now communicate with and obtain the assent of twenty-five to thirty scientific pharmacists in various parts of the country to co-operate in the researches to be undertaken. The plan of work, as at present outlined, is to put into convenient form all the information available

about a drug. The established facts are then to be separated from statements open to doubt, and after a division of the work and the assignment of the various parts to the men best qualified to pursue the investigations, practical labors will commence. The analysis is to be so thorough that nothing will be left for solution in the future.

——F. W. Thieman, President of the Wisconsin Pharmaceutical Association, says that the druggists of Wisconsin are fully in accord with the movement for the semi-centennial soon to be celebrated in that State. E. B. Heimstreet, the secretary of the association, has been appointed a representative to confer with the committee who have the matter in charge.

——The Illinois Registered Drug Clerks' Association gave a ball in the Masonic Temple, Chicago, on Dec. 10. Besides members of the State Board of Pharmacy, and the Chicago Retail Druggists' Association, there were 150 couples in attendance. The proceeds will go into a fund to be used in prosecuting violators of the pharmacy law in that State.

——C. W. Tritschler, the genial acting president of the St. Louis Drug Clerks' Society, surprised his friends last week by discarding the mantle of bachelorhood. Mr. Tritschler married an accomplished young lady of the West End.

——The Raleigh, N. C., Druggists' Association has elected the following officers: President, H. T. Hicks; Vice-President, W. H. King; Secretary and Treasurer, B. W. Hunter.

Pamphlets, Price Lists, etc., Received.

Proceedings: Association Manufacturers and Wholesale Dealers in Proprietary Medicines in U. S. for 1895.

College Catalogues: New York Preparatory School, New York.

Price Lists: Larkin & Scheffer, St. Louis.

The Clough Corkscrew Co., Alton, N. H., make all sizes of corkscrews, and their prices cover such a wide range that the druggist can afford to give away some kinds, and can make money selling others. They will send samples, all sizes, free, upon application.

James A. Webb & Son, 165 Pearl street, New York, deliver alcohol in barrel lots f. o. b., New York or Chicago. They are thus able to supply users of original packages at the lowest prices in all parts of the United States. Write to them for quotations.

——Mason P. Gray, a Mystic (Conn.) druggist, pleaded guilty in court to illegally selling liquor and was fined $200 and costs, amounting to $302.80. The money was paid and Gray promised Judge Noyes he would quit selling liquor illegally.

——At the meeting of the South Carolina Board of Pharmacy held at Charleston Nov. 20 and 21 three candidates presented themselves for examination. H. L. De Pass of Camden passed. A. A. Kroeg, for many years a member of the board, resigned.

BOARDS OF PHARMACY.

MEETINGS OF BOARDS OF PHARMACY.

Following name of each state is given in parenthesea the name and address of the secretary to whom all inquiries for information should be addressed. Secretaries of bards are requested to send in their announcements of meetinga for publication in this list.

Alabama (E. P. Galt, Selma)—.
Arkansas (W. W. Kerr, Russellville)—
California (John H. Dawson, Valencia street, corner 23d, San Francisco)—San Francisco, Jan. 8, 1896.
Colorado (C. H. Wells, Pueblo)—Denver,
Connecticut (H. M. Bishop, 890 State street, New Haven)—Hartford, Mar. 3, 1896.
Delaware (C. D. Sypherd, Dover)—At any time.
D. C. (R. L. Lynch, 1345 14th street, Washington)—Washington, Jan. 13, 1896.
Florida Thomas Clarke, Jacksonville)—.
Georgia (H. R. Slack, La Grange)—.
Illinois (Frank Fleury, Springfield)—Springfield, Jan. 7.
Iowa (S. I. Spaulding, Capitol building, Des Moines)—Des Moines, Oskaloosa, Hawarden and Sheldon
Kansas (W. W. Johnston, Manhatton)—.
Kentucky (Wiley Rogers, Louisville)—.
Louisiana (W. T. Taylor, New Orleans)—.
Maine (F. R. Partridge, Augusta)—Portland, Feb. 12, 1896.
Maryland (J. F. Hancock, Baltimore)—Baltimore, Jan. 9, 1896.
Massachusetts (Freeman H. Butler, Lowell)—Boston, Jan. 7.
Michigan (F. W. R. Perry, Detroit)—Detroit, Jan. 7, 1896.
Minnesota (H. G. Webster, Minneapolis)—Minneapolis, Jan. 21, 1896.
Mississippi (J. C. Means, Natchez)—Jackson, April 7, 1896.
Missouri (F. W. Sennewald, St. Louis St. Louis, Jan. 13, 1896.
Montana (G. W. Shoemaker, Billings)—Butte, April 7, 1896.
Nebraska (M. E. Shultz, Beatrice)—Lincoln, Feb. 12, 1896.
New Hampshire (George F. Underhill, Concord)—Manchester, Jan. 28, 1896.
New Jersey (Albert S. Elwell, Bridgeton)—Trenton, Jan. 16, 1896.
New Mexico (W. C. Porterfield, Silver City)—Las Vegas, Jan. —, 1896.
New York (E. S. Dawson, Jr., Syracuse)—Albany, Plattsburg, Rochester, Syracuse and Yonkers, Feb. 28, 1896.
North Carolina (Wm. Simpson, Raleigh)—.
North Dakota (W. S. Parker, Lisbon)—.
Ohio (W. R. Ogler, Columbus)—Cincinnati, Jan. 14. 1896.
Oklahoma (C. P. Wickmiller, Kingfisher)—.
Oklahoma City, Jan. 7, 1896.
Oregon (Jan J. Fry, Salem)—.
Pennsylvania (Charles T. George, Harrisburg)—Philadelphia, Jan. 18, 1896.
Rhode Island (William E. Cates, Providence)—Providence, Jan. 6, 1896.
South Carolina (H. W. Hummel, Charleston)—Newberry, March —, 1896.
South Dakota (I. A. Keith, Lake Preston)—Sioux Falls, Jan. 8, 1896.
Tennessee (J. O. Burge, Nashville)—Memphis, Jan. 15, 1896.
Vermont (J. G. Bellrose, Burlington)—Montpelier, Jan. 7, 1896.
Virginia (E. R. Beckwith, Petersburg)—Richmond, March 16, 1896.
Washington (W. H. T. Barnes, Seattle)—. Tacoma, Feb. —, 1896.
West Virginia (H. Floyd Pfost, Jackson)—.
Wisconsin (E. B. Heimstreet, Janesville)—Milwaukee, Feb. 12, 1896.
Erie County, N. Y. (C. O. Rano, Buffalo)—Buffalo, Jan. 4, 1896.
Kings County, N. Y. (L. T. Perkins, 19 Greene avenue, Brooklyn)—Brooklyn, Jan. 21.
New York City (William Balser, M. D., 218 East 13th street)—College of Pharmacy building, Jan. 13, 1896.

——The Michigan Board of Pharmacy will hold a meeting for the examination of applicants in Detroit Jan. 7 and 8. Candidates must file their applications with Secretary F. W. R. Perry, of that city, and must furnish affidavits at least one week before the examination, showing that they have had the practical or college experience required.

The Governor of Massachusetts Asked to Interest Himself.

Boston, Dec. 20.—Chairman Whitney, of the State Pharmacy Board, together with several fellow-members, called on Gov. Greenhalge to-day to ask him to interest himself in securing changes in the laws governing the drug trade. In the first place Mr. Whitney thinks that every applicant for a certificate should pay the department a fee of $1. At present he pays it only if a certificate is issued. The chairman argues that the State's time and trouble in the matter are worth a dollar whether or not the candidate is successful in passing an examination. One other point to which attention was drawn is this: That although the board may reverse its decision after once refusing to grant a license to a druggist, provided it concludes after all that the applicant is a worthy person, it has, on the other hand, no power to revoke a liquor license if the holder proves undeserving; that authority having conferred on others. This is a part of the law which the board wishes to have amended.

Violations of the Illinois Law.

Chicago, Dec. 21.—The prosecution of violators of the Illinois pharmacy law is coming to a head. The evidence against them will be presented to the grand jury probably on Monday, Dec. 23. The investigation of the State Board of Pharmacy was finished this noon, the evidence is collected, and the State's attorney has put it in shape for presentation to the grand jury at the earliest possible moment. There are between 60 and 100 firms implicated. Three months have been taken to collect the evidence, and it is the opinion of the board and of the State's attorney that nothing is lacking to secure a more thorough shaking up of drug store abuses than has ever before occurred in Chicago. It is too early at this time to know the names of those whose cases will be presented to the grand jury, nor would their publication at this date be proper. Many of the cases are for the improper sale of poisons, while evidence is not lacking in several matters against the larger stores whose methods are inimical to the best interests of pharmacy.

The publication in the Daily News of this evening of a column article concerning the coming prosecutions has created much comment in drug circles. Much in the article concerning the sale of poisons in a careless manner by druggists was touched upon in the Era of Dec. 19.

Mr. Frederick Schmidt, resident member of the State Board of Pharmacy, when seen this evening, said that he was not in a position to give out any detailed information in regard to the evidence which will be presented. He said that it was the desire of the board to obtain indictments from the grand jury of these violators of the law. Inasmuch as a third conviction under indictment imposes a penalty of two years' imprisonment in the penitentiary, it is

thought that the moral effect of indictments will be far greater than if the cases were taken before justices of the peace and simple fines imposed. If, however, the grand jury should fail to find indictments on the evidence presented, the State's attorney will take the cases before the justices and endeavor to have fines imposed. Some way, assuredly, will be found for making it so interesting for violators of the pharmacy law that they will be glad in future to comply with its requirements.

——The Kansas Board of Pharmacy granted certificates of registration to the following named applicants who passed a satisfactory examination at Junction City, Dec. 11, 1895: Pharmacists—W. J. Bowen, Atchison; John Crafts, Alma; C. O. Cranston, Cottonwood Falls; W. T. Doherty, Belleville; L. Dreibelbis, Eureka; L. G. Graves, Agra; J. B. Hazlett, Whitewater; W. C. Hereford, Parkerville; Charles Johnston, Leonardville; C. L. Lease, Wichita; W. G. LeRew, Marvin; C. E. Lynn, Mankato; J. B. Manley, Quenemo; Douglas Miller, Newton; O. A. Noel, Summerfield; Paul Orlopp, Atchison; P. M. Richardson, H. O. Seitz, Ellsworth; A. Sharpe, Axtell; W. R. Shumate, Frankfort; C. S. Stokes, Geuda; W. H. Somermier, Winfield. Assistants—S. T. Heberly, Minneapolis; W. G. Littell, Kirwin; W. L. Pattison, Salina; J. S. Rowe, LeRoy; A. M. Seyster, Concordia; R. I. Woods, Abilene. Diploma — Fred LePorte Diggs, Perry. Next meeting, Topeka, Wednesday, March 11, 1896.

——The North Carolina Board of Pharmacy examined fourteen applicants at its recent meeting. Of this number the following were successful: Carroll M. Shuford, Hickory; William A. Hughes, Durham; Hugh P. Hackney, Durham; David M. Field, Halifax; David A. Huston, Mt. Airy; Nathan B. Hood, Dunn; Daniel McN. McKey, Smithfield; W. S. Allen, Reidsville; William A. Ring, Charlotte; Clarence A. Crabtree, Raleigh; Tolly C. White, Charlotte; Jesse A. Dodson, Durham. The two last named are colored.

——Maine druggists are agitating the enforcement of the pharmacy law in that State. The commissioners of pharmacy have taken the subject under advisement.

——The Wisconsin Board of Pharmacy at its recent meeting in Milwaukee examined thirty-seven candidates; twelve failed to pass, nine were given first grade certificates and sixteen second grade.

——The drug store of C. P. Hannon, Hartford, Conn., was raided by the police of that city Dec. 1, upon a seizure warrant issued by the prosecuting agent who had been informed that liquor was sold there in spite of the fact that the place was not licensed. Several bottles of intoxicating liquors were found. This is the second time this drug store has been raided for selling liquor by the glass without a license. The first time Hannon was fined $50 and costs.

COLLEGES
AND SCHOOLS OF PHARMACY.

Distilled Water: Kola.

Philadelphia, Dec. 17.—The meeting of the Philadelphia College of Pharmacy was called to-day at 3:45. The secretary acknowledged receipt of eighty-five volumes from the Secretary of the Interior. Fairchild Bros. & Foster, of New York, sent a little vial of anti-diphtheritic serum which was manufactured by Burroughs, Wellcome & Co., of London. A paper on distilled water, by Prof. J. U. Lloyd, was then read by Professor Trimble, who stated that the pure food law in Ohio made it doubly interesting. This paper did not dwell on the way to make distilled water, but merely on the question of preserving it. Professor Lloyd has made experiments with the same water in different bottles, which he opened on succeeding days and noticed the differences in quality as each was opened. Professor Lloyd said that distilled water in a closely sealed bottle will remain free from organic matter for a long time, still in bottles from which water has to be drawn frequently a flaky sediment is sure to settle at the bottom of the container. He stated that distilled water would deteriorate in three or four months if no method was used to introduce pure atmosphere as the water is withdrawn. Professor Trimble then summed up the paper, which was a very short one, as follows: (1) It is impracticable to make distilled water in glass or stone. (2) The permanganate test for distilled water is not too rigid. (3) The permanganate test is of no use in an impure atmosphere.

The next paper was on kola, by Mr. Dohme, of Baltimore. He stated that kola was from Jamaica and Abysinnia in Africa. The Jamaica nut is larger and handsomer in appearance than the African, although it is not the most valuable. The virtue of the kola nut depends upon the one or more active principles contained therein. The most important of these is caffeine. The general constituents of the nut are said to be as follows: Starch, 35 per cent.; sugar, 25 per cent.; caffeine, 2 per cent.; theobromine, .023 per cent.; tannin, .05 per cent., and other important matter. Using water as an extracting agent, he got 2.04 per cent. of caffeine from the African nut and 1.75 per cent. from the Jamaica nut. By using alcohol he obtained 2.24 per cent. of caffeine from the former and 1.93 per cent. of caffeine from the latter, which shows the African nut to be about 25 per cent. superior to the Jamaica. Professor Trimble then asked if any one had anything to say in regard to this matter, and Mr. F. B. Kilmer stated that the paper was interesting, but the most important part had been omitted, that of kolaine. He stated that this was no doubt due to the fact that Mr. Dohme had used the dry nut for his experiment, whereas kolaine is only present in the fresh nut. He stated that kolaine is a most powerful stimulant and was used recently by the Yale Athletic Club for the nerves, they being somewhat shattered on account of overtraining. He said it was superior to any heart stimulant known.

He stated that he supposed it was taken for both, as there were other ingredients which, added to the caffeine, made it a very valuable preparation. Professor Trimble stated that, of course, some caution should be observed in taking for granted all that is said regarding kola, as there were many manufacturers interested in kola preparations, and he had no doubt that during the competition which is sure to follow much valuable information will be obtained.

Cincinnati College of Pharmacy.

——A very small number of students will go home for the holidays. Only five of the seniors, who live close by, will eat their turkey and hang up their stockings at home. Most of the others, whose families do not live in the city, have found work here, and must fill their positions, even on Christmas day.

——Most of the seniors will take the examination of the State Board of Pharmacy, which will be held over Weatherhead's drug store here, Jan. 16. All of the twenty-eight seniors but one passed the assistant's examination last year, and a majority of those who will go up expect to be made registered pharmacists before their term of study expires.

——The examinations which were conducted at the college last week are merely tests, and the results will not be given out. The boys, however, thought the work comparatively easy.

——The seniors have a complaint. They say that this is the only pharmaceutical college in the United States where the juniors have more privileges than the seniors. The especial grievance is that the juniors are given their Christmas examinations and are set free full three days before the seniors are liberated.

Philadelphia College of Pharmacy.

Philadelphia, Dec. 22.—Little work of importance has been accomplished during the past week, as the majority of students were preparing to visit their homes in distant cities.

Frank S. Stroup, of the senior class, left for his home in Oil City, Pa., at the close of the term Friday night to spend the holidays. Upon his return it is said he will be accompanied by his bride.

Five fine turkeys were presented on Saturday to the popular janitor, John A. Pemberton, by the different classes.

Miss Cora Willard, a handsome young pharmacist from Grinnell, Iowa, is a guest of Miss Pemberton at the college building. She expects to remain East for some months.

The Alumni Association is preparing for another social entertainment to be given in the college museum during the first days in January.

Prof. E. S. Bastin, accompanied by his wife and niece, will spend the vacation among old friends at Vineland, N. J.

The Y. M. C. A. on Thursday night established a branch at the college for the benefit of the junior class. Director Ely, who has charge of this work among the students, has already organized a quartette and orchestra in the institution, and it is proposed to give weekly concerts at the college, on Thursday nights.

BUSINESS RECORD.

We desire to make this a complete record of all *new firms, all changes* in firms, *deaths, fires* and *assignments* which occur among houses connected with the drug trade in the United States.

Our readers will confer a favor by reporting promptly such items from their respective localities.

We exercise due care to insure the authenticity of items here recorded, but they are obtained from such a variety of sources that their absolute correctness cannot be guaranteed.

Address, THE PHARMACEUTICAL ERA. Box 1483, New York.

ALABAMA.

Talladega.—New Drug Store, succeeded by R. H. Sisson.

ARKANSAS.

Helena.—C. M. Davis, deceased.

COLORADO.

Denver.—Fleming & Meehlin, moved to 401 16th st.

Sheldon & Co., succeeded by Glenam's pharmacy.

Elkton.—A. C. Hoag, new store.

Grand Junction.—Charles H. Arthur, sbould be Artbur & Brann.

Summitville.—Weiss-Chapman Drug Co., new store.

DELAWARE.

Wilmington.—N. B. Danforth, removed to 120 Market.

GEORGIA.

Norcross.—L. H. Jones, moved to Flowery Branch.

IDAHO.

Ketchum.—W. Young, new store.

ILLINOIS.

Chicago.—Buck & Lohman, will open new store at 47th st. and Lawrence ave.

R. G. Dorrance, Oak and Wells, sold to W. C. Shedler.

F. H. Powers, removed to 47th and Kenwood ave.

Galba.—Leonard & Co., sold to A. W. Anderson & Co.

Prophetstown.—C. J. Warner, sold to E. P. Brown.

Quincy.—North End Pharmacy, sold to S. K. Holt.

Stillman Valley.—Sovereign & Stroh, new store.

INDIANA.

Elkhart.—C. H. Leonard, sold his South Main st. store to Allen & Redding.

W. H. Berkey & Co., sold to Isbell & Cogswell.

Kennard.—D. T. Faulkner, sold to P. E. Vickers.

Moorland.—William H. Jones, succeeded by Rufus Jones.

New Paris.—F. I. Estlick, sold out.

Wadena.—W. H. Gray, deceased.

IOWA.

Bloomfield.—Owens Drug Co., succeeded by R. L. Hardy.

Cedar Rapids.—George C. Haman, removed to 105 S. 1st st.

J. L. Dostal, moved to 1103 S. 3d st.

G. B. Holmes, removed to 222 2d ave.

Chapin.—Weaver & Gessler, now F. J. Gessler.

Charlton.—W. H. Gibbon, deceased.

Des Moines.—C. E. Thalenhorst & Co., 607 Allen st., burned out; partially insured.

E. F. Whitney & Co., now E. F. Whitney.

Griswold.—H. W. Shank, sold to Schlichting & Wilwerding.

Grundy Center.—Ladage & Co., new store.

Hunneston.—W. A. Alexander, new store.

Knoxville.—W. W. Craddick & Co., now W. W. Craddick.

Larrabee.—Beisser Bros., discontinued.

Leon.—L. Van Werden & Co., now L. Van Werden.

Lime Springs.—J. W. Reed & Co., now Reed & Hall.

Murray.—West Side Pharmacy, new store.

Pringhar.—T. F. Ward & Co., new store.

Sanborn.—R. A. Cushman, succeeded by Cushman & Walters.

Sigourney.—Edwin Frankin, new store.

Sioux City.—C. S. Peters & Co., failed.

Thurman.—Cole & Frater, now Cole Bros.

KANSAS.

Carbondale.—A. T. Stearn, discontinued.

Edna.—H. H. Clark, now E. W. Fair & Son.

Kanopolis.—O. E. Holloway, now C. V. Holloway.

Mt. Hope.—Dwight & Co., now T. H. Conwall.

Mulvane.—J. W. Stiger, discontinued.

West Moreland.—Frederick Moore, now M. F. Moore.

KENTUCKY.

Harrodsburg.—J. T. Cooke, now Blanton & Cooke.

MAINE.

Auburn.—Auburn Drug and Chemical Co., sold to Burrell & Jordan.

Hallowell.—M. O'Hellm, sold to Hutchinson & Norcross.

MARYLAND.

Baltimore.—C. H. Beetem, 2331 Barclay, new store.

G. W. Cunningham, succeeded by James S. Webb.

Philip C. Horn, 1916 Harlem ave., new store

Shipley Bros., discontinued.

MASSACHUSETTS.

Boston.—Keppler & Co., 1525 Washington, discontinued.

A. Osborn, 3720 Washington, discontinued.

Thomas D. Tate, 4 Bowdin, discontinued.

Dorchester.—R. E. Bellows, damaged by fire.

Fall River.—A. Robinson, moved to 222 Bedford.

Holyoke.—T. F. Coady, now T. F. Coady & Co., moved to 237 Main.

Lawrence.—M. E. Cotter & Co., now M. E. Cotter, and removed to 183 Broadway.

Southbridge.—J. R. Jannery, discontinued.

Weymouth.—A. M. Bachelder, sold to Mr. Connell.

MICHIGAN.

Bay City.—C. D. Rahl, succeeded by T. W. Davidson.

Grand Rapids.—Thum & Richel, sold to H. Thum.

Kalamazoo.—Hall Bros. & Co., incorporated.

Lester.—G. F. Bennett, new store.

MINNESOTA.

Aitkin.—William Spencer, discontinued.

Minneapolis.—A. R. Mobers, sold out.

South St. Paul.—C. W. Fellows, new store.

Wheatland.—J. A. Regner, discontinued.

MISSISSIPPI.

Columbus.—E. C. Chapman, new store.

MISSOURI.

Newark.—A. M. Linwett, address is now Blythedale.—W. L. Kirkpatrick, succeeded by Glaze & Kirkpatrick.

Farmington.—A. Rucker, now G. A. Rucker & Son.

Grangeville.—Poor & Frank, new store.

Holliday.—J. C. Dysard, new store.

Kahoka.—Martin Bros., now M. W. Martin.

Licking.—Dr. Frank Maier, new store.

Montevallo.—Thomas Hammond, now Ira T. Hammond.

Ridgeway.—C. W. Robertson, sold to F. Case & Co.

St. Louis.—U. S. Boone, 12th and Olive, assigned.

Shelbina.—J. M. White & Co., sold to Smock Bro. & Co.

South Greenfield.—Moorley Drug Co., new store.

NEBRASKA.

Verdigre.—R. H. Harris, sold to Joseph F. Green.

NEW HAMPSHIRE.

Meredith.—Sanborn's drug store, sold to C. W. Cummings.

NEW JERSEY.

Atlantic City.—E. S. Reed, deceased. 77 Lincoln Park.

NEW YORK.

Buffalo.—McCue & Cleary, dissolved.

Holland.—A. D. Allen, assigned.

Lawrenceville.—Smith Drug Store, sold to Dr. L. Darling.

Long Island City.—L. Weinstein, 152 Fulton, discontinued.

N. Y. City.—O. Alexander, sold out.

Ogdensburg.—Stock of Williams & Stillwell has been sold by W. Rose to D. C. Griffith.

Rochester.—J. Rann, Plymouth ave., failed.

Utica.—R. G. Kollner, sold to Thomas F. Nugent.

York.—North American Alkali Co., incorporated to manufacture acids, etc.

NORTH CAROLINA.

Pollocksville.—E. B. Elliott, new store.

Wilmington.—W. F. Stokes & Co., new store.

OHIO.

Cincinnati.—H. G. Daniels, removed to Central and Laurel.

F. McCoy, sold to William Moss.

Cleveland.—E. Bejock, removed to 145 Clark.

Columbus.—W. R. Ogler, succeeded by Geo. H. Matson, Jr.

Dayton.—George Schmoll, now R. S. Schmoll

Lima.—Melville Bros., now W. M. Melville.

Lorain.—L. M. Boise, succeeded by Folken's pharmacy.

Martin's Ferry.—J. T. McConnaughy, of Dent & Co., deceased.

Mt. Vernon.—J. D. Loper, sold to Taylor & Co.

New London.—W. L. Rhoades, has bought out H. McClelland.

Norwalk.—C. A. Uthe, sold to O. E. Harter.

Richwood.—Copper & Rust, new store.

Toledo.—D. Harpster & Co., 138 Bridge, now D. Harpster, and removed to 138 Maio.

Youngstown.—G. F. Lynn, sold to Karl Rudolph.

OREGON.

Athena.—P. M. Kirkland, sold out.

Halsey.—Michener & Cain, new store.

Portland.—D. J. McGill (Central Pharmacy), sold to Love & Bushong.

Prairie City.—J. H. Fell, moved to Pendleton.

Roseburg.—W. S. Hamilton, succeeded by Hamilton Drug Co.

PENNSYLVANIA.

Bernville.—L. D. Kalbach & Son, now Chas. P. Kalbach.

Erie.—W. H. Blair, 18 W. 17th st., new store.

Philadelphia.—Fritz's drug store, 19th and Race, damaged by fire.

Sunbury.—Eyster's drug store, closed; stock is to be sold.

SOUTH CAROLINA.

Charleston.—M. G. Wilbur, moved to King and Line sts.

Summerville.—P. Wineman, succeeded by Pine Forest Pharmacy, W. H. Ronmillat, manager.

SOUTH DAKOTA.

Flandreau.—Walton & Osborn, now A. H. Osborn.

Vienna.—H. Sasse, removed to Henry, S. D.

TENNESSEE.

Bellwood.—McDonald & Ferry, burned out; loss, $1,200; insurance, $600.

Jonesboro.—Mathis & Patton, now F. E. Patton.

Lewisburg.—Braley & Patterson, now G. E. Braley.

Memphis.—D. E. Goodyear & Co., moved to 118 N. 2d st.

Newbern.—W. W. White, new store.

TEXAS.

Alexander.—E. H. Hale, new store.

Denton.—Lipscomb Bros., succeeded by Hooker & Lipscomb.

Giddings.—Williams & Johnson, new store.

LaGrange.—Thomas C. Gregory, new store.

Millsap.—W. T. Baxter and R. W. Hines consolidated; now Baxter & Hines.

Pine Hill.—J. A. Duran, new store.

Poolville.—W. L. Bullington, new store.

Southmayd.—R. B. Elrod, new store.

UTAH.

Spanish Fork.—Argyle & Robison, new store.

VERMONT.

Hardwick.—Dana Cowles, new store.

Lyndonville.—Cheney Bros., new store.

VIRGINIA.

Blacksburg.—Boykin Pharmacy, succeeded by Boykin & Lancaster.

Richmond.—P. M. Smithers, now W. G. Smithers.

Woodstock.—F. R. Irwin, deceased.

WASHINGTON.

Endicott.—E. W. Logsdon, now Logsdon & Co.

Tacoma.—Novelty Drug Store, 26th and C and E. new store.

WEST VIRGINIA.

Ravenswood.—B. S. Anderson, new store.

WISCONSIN.

Elkhorn.—J. D. Flack & Co., now J. D. Flack & Son

Milwaukee.—H. F. W. Roemheld, 934 Teutonia, now Henry Roemheld.

Mt. Horeb.—Evans & Gill, now N. C. Evans.

Oshkosh.—C. A. Wakeman, Church and Main, new store.

Racine.—Robinson Drug Co. 1315 Washington, new store.

Waukesha.—Blair & Estberg, succeeded by A. C. Estberg.

West Superior.—Redding & Carey, succeeded Dr. Jos. Gerb.

PATENTS
TRADE MARKS, DESIGNS, ETC.

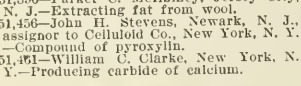
PATENTS
Issued Dec. 17, 1895.

551,361—Arthur B. Browne, Cambridge, and E. D. Chaplin, Natick, Mass., assignors to American Lead Co., Kittery, Me.—Apparatus for manufacturing white lead by electrolysis.

551,396—Parker C. McIlhiney, Jersey City, N. J.—Extracting fat from wool.

551,456—John H. Stevens, Newark, N. J., assignor to Celluloid Co., New York, N. Y.—Compound of pyroxylin.

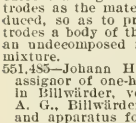
551,461—William C. Clarke, New York, N. Y.—Producing carbide of calcium.



Claim.—The hereinbefore described process of making carbide of calcium, which consists in causing current to pass between horizontally disposed electrodes, embedded in a mass of pulverized and intimately commingled-lime and carbon, of such extent that a material proportion thereof will remain undecomposed by the passage of the current and gradually separating the electrodes as the material between them is reduced, so as to produce between the electrodes a body of the carbide surrounded by an undecomposed mass of the pulverulent mixture.

551,485—Johann H. C. Behnke, Hamburg, assignor of one-half to Chemische Fabrik in Billwärder, vormals Heil & Sthamer, A. G., Billwärder, Germany. Process of and apparatus for making carbon dioxid.

551,547—James M. Howard, Newherne, N. C.—Drip cup for bottles.



Claim.—As a new article of manufacture, a drip cup for bottles, comprising a cup having its upper edge curved inwardly and provided with spring fingers projecting upwardly from the said curved edge, said fingers being formed of strips curved transversely, whereby the said fingers will contact with the bottle at their edges only, thereby permitting the drip running down the sides of the bottle opposite the fingers to pass between the said fingers and bottle into the cup, as set forth.

551,591—Frank E. Lake, Boston, Mass.—Micrometer calipers.

TRADE-MARKS
Registered Dec. 17, 1895.

27,481.—Preparations for Blemishes and Diseases of the Skin and Scalp, and Nasal Throat and Lung Troubles. Minne Tolquet, Cincinnati, O. The word "Deverard."

27,482.—Antiseptic for Internal and External Use. Dr. F. von Heyden Nachfolger, Radebeul, Germany. The word "Orphol."

27,483.—Medicines for Gout, Sciatica, Rheumatism and Kindred Diseases. The Rheumatox Co., St. Paul, Minn. The word "Rheumatox."

27,484—Certain Named Medical Remedies. Levi Woodbury Pigott, Norfolk, Va. The hyphenated word "Di-lu-lu-te."

In the advertisement of the Pompadour Toilet Co., Middletown, N. Y., page 4, issue of Dec. 19, an error was made in referring to Johnson's Skin Ointment as a "Liniment." The offer referred to one dozen of the Ointment.

If it is time to order pill boxes again, the old question, who to buy from, is at the front. There is no use of paying more than 45 cents per gross for sizes 20, 24 and 28 bronze boxes. E. N. Rowell Co., Batavia, N. Y., will sell you all you want at that price.

When a druggist buys a gross of corks he expects a full gross of good corks, not a mixture of good and bad. The Lancaster Cork Works, of Lancaster, Pa., are particular to see that every cork in the bag is a good one. They will send samples of what they call a "good cork."

TRADE NOTES.
From information furnished by manufacturers and dealers in regard to their products.)

For pharmaceutical operations glycerin should be chemically pure. Gordon's glycerin is made to stand all tests for purity, and it will give perfect satisfaction to the pharmacist in his laboratory and be the best article which he can sell to his customers. Its quality is guaranteed, and the price is no higher than the general market.

Colds and rheumatism are now bothering both physician and patient, and remedies are receiving some earnest attention. Some suggestions are, Antikamnia with codeine, with quinine, or with salol, in tablet form. Literature issued by the Antikamnia Chemical Co., St. Louis, is especially interesting just now. Send for it.

Braunschweiger Mumme contains just what the careful physician desires in a pure malt extract, viz., highest percentage of extract and lowest percentage of alcohol. It is an effective tonic, mild stimulant and agreeable beverage, in fact, a perfect substitute for solid food. It is bottled for sale and delivered anywhere by the Long Island Bottling Co., 280 Bergen street, Brooklyn, N. Y.

Hot water bottles ought to be booming now, and there may be some thinking done about replenishing stock. The catalogue of the Davol Rubber Co. is a good publication to consult, especially the pages devoted to "Household," "Empire" and "Family" water bottles. These goods are standard and perfectly reliable, and are made to give the best of satisfaction to the buyer.

The toilet preparations made by Mrs. Gervaise Graham, 1424 Michigan avenue, Chicago, involve less trouble in their introduction than any similar preparations upon the market. She pays transportation on the smallest order, so that no sales need be missed, and furnishes plenty of samples and advertising matter. Her preparations are also advertised in the leading fashion periodicals.

If you want a syringe that people won't bring back for you to explain why it broke, and want another in the place of it, try the "Eureka," made by the Butler Hard Rubber Co., 33 Mercer street, New York. It has a steel piston covered with hard rubber, and it is practically unbreakable. It is the kind people would rather buy, and you would rather sell. Write to the manufacturers for a full description of its good points.

Every one who reads the leading newspapers sees something about Dr. Hobb's Sparagus Kidney Pills. This advertising is a sort of trade thermometer which the druggist can watch with profit. It now indicates a demand for these particular pills. If you already have them remember the promise of the Hobb's Medicine Co., Chicago, to keep you well supplied with advertising matter.

If you are making the usual cold weather toilet preparations, such as ointments, cold creams, etc., don't make a mistake in putting them up wrong. The collapsible tube is the proper thing. A. H. Wirz, 913 Cherry street, Philadelphia, makes them, any length and diameter, and you should have his prices.

C. G. Bacon & Co. have put upon the market a new compound called "Ba-Quinol," composed of salicylic acid, alkaloids of cinchona bark, phenol and caffeine. In their circular the firm say that Ba-Quinol is an absolutely harmless rheumatic specific with, as a secondary recommendation, its antipyretic qualities.

Vaccine virus is not an article which the user desires to test for effectiveness by trying it. The assurance that it is pure and reliable must come before the trial. This is something which the New England Vaccine Co., Chelsea Station, Boston, Mass., give in a most unqualified manner. Their product is sent out fresh, daily, and orders by mail or telegraph receive the promptest attention. Have their price list at hand, convenient for emergencies.

If you sell candy, sell candy tongs; if you sell sponges, sell sponge baskets; if you sell brushes, sell brush holders; if you sell toilet articles, sell toilet stands; if you sell soap, sell soap racks. All these are listed in the catalogue of Woods, Sherwood & Co., Lowell, Mass. They are made of Sherwood's white lustral wire, and are both handsome and profitable. Other good sellers made of the same material are mentioned in this catalogue.

If you want new store fixtures, but think you cannot afford special designs, write to Chas. P. Whittle, Boston, Mass., for prices and illustrations of his "knocked-down" fixtures. He has selected several attractive designs, makes them up in large quantities, and ships all over the country. His prices are much lower than those usually charged by local carpenters, and any one can put up without skilled assistance, Whittle's "K. D." fixtures.

When Holland gin is specified either by the druggist or his customers, both should be careful to get what they want. There can be no complaint from the customer if the druggist has specified and received Swan Gin, actually imported and bearing the Meder & Zoon trademark. Ferd. Ruttmann & Son, New York, are sole agents for the United States, and they will be pleased to furnish information regarding size of original packages and prices.

Jacrose is the name applied to a complete line of toilet specialties, manufactured by Charles Gordon Buck, of Chicago. The name and the appearance of the goods are both attractive. The list includes perfumes, sachet powders, toilet cream and powder, smelling salts, shaving cream, paste dentifrice, eau de quinine and benzoin paste. The use of one article creates a demand for the others. Write to Schieffelin & Co., New York, for prices and information.

Licorice lozenges are now in demand, and customers want all licorice—not part paste or gum. The "M. & R." brand made by Mellor & Rittenhouse, Philadelphia, is the standard of quality. The public has bought it for years, and expects it this season.

If you have Fir Balsam Chewing Gum, it will strike the public just right, now that they are looking for cough and cold remedies, and know that fir balsam has medicinal qualities. It is made by Curtis & Son, Portland, Me., and your jobber will send it, if you mention it on your order.

The man who paints his house, and finds that it is ugly after he gets through, is mad about it. He doesn't like to blame himself, so he expends part of his wrath upon the dealer who sold him the paint. In selling Lucas's paints this doesn't happen. The sample cards which advertise these paints show harmony of analogous and complementary colors, and by following their suggestions an ugly house is impossible. It is easy to sell paint advertised in this way.

Disputes with transportation companies are of frequent occurrence, and the fault is not all on one side. The shipper is sometimes weak with receipts for goods delivered. Very often he loses them, because he has no means for filing them. Barlow's Manifold Shipping Blanks, made by Barlow Bros., Grand Rapids, Mich., prevent these difficulties. They are also indorsed by the prominent transportation lines. Send for sample sheets.

Calisaya La Rilla is a good thing—good for colds and good to "keep in the house," but the public has to be told about it. This telling about it is the vital point which interests the druggist. His selling depends upon how well it is done. This is just the point which the manufacturer, Chas. Allen Reed, 9 Cliff street, New York, desires to make plain. Send for his "Book of Sense." It will show at a glance the selling prospects of Calisaya La Rilla.

All rooms that have been occupied by persons suffering from contagious diseases should be thoroughly disinfected. A good way to fix the walls is to apply "Gypsine," which possesses strong disinfecting qualities, and makes a handsome wall finish. There is, therefore, a good demand for Gypsine now, and more of it will be sold if this point is brought to public notice. Write to the Diamond Wall Finish Co., Grand Rapids, Mich., for samples of their advertising material.

McKey & Co., 36 Hamilton street, Boston, are a comparatively new firm in the soda water flavor business, and they find that all the adjectives used in describing such goods are already in use. They use them, however, and say that their Blue Seal Coffee and Chocolate extracts are of superlative flavor, and that their Blue Seal Fluid Beef is delicious, but in addition they send samples free, so that the druggist can decide these things for himself. This plan beats talking.

A great many druggists when they consider the tooth brush question forget their customers who are struggling with the difficulties which belong to "store" teeth. It is a good idea to pay some attention to this matter, and let artificial teeth people know that one-half the terrors of their misfortune can be removed by using the Florence Dental Plate Brush. From a purely business standpoint this is a most profitable thing to do. Write to the Florence Mfg. Co., Florence, Mass., for prices.

If dry goods stores sell medicines, the druggist can with equal or more propriety sell shoulder braces. They should form part of the stock which he classifies as surgical appliances. If he hasn't such a stock, he is missing a profitable opportunity, and in starting such a side line, shoulder braces are good items to include at the top of the list. This will require some previous knowledge of such articles, and Wm. H. Horn & Bro., Philadelphia, can supply some interesting information upon the "Diamond" Brace. Send for their catalogue.

It is always easy to predict what will happen when users of fine perfumes keep on reading about a new one. Their interest is stimulated, and when the maker is Pinaud, they have no hesitancy about buying it. Pinaud's Roman Perfumes, the latest production of this famous Parisian house, are now receiving an amount and quality of advertising that commands attention. Good quality has been put into the new line, so that the demand is going to be permanent. To decide this question of quality, send to Ed. Pinaud's Importation Office, 46 B East Fourteenth street, New York, for a sample of Roman Violet.

New York, Dec. 12, 1895.

The Pharmaceutical Era:

Since commencing our special line of advertising with you some two months ago, we have been particularly surprised, but equally pleased, at the large returns which we have received, and have noted the fact that your circulation, as evidenced by the replies which we have received, is decidedly widespread. But things have gone a little too far now, and we must file a decided objection, as you are getting us into trouble, as evidenced by the following incident:

We this morning received a postal card from a druggist in Berlin, Germany. We have sufficient talent in our office to decipher French, Spanish, Italian, Latin or Greek hieroglyphics, but when it comes to German, we find our education has been neglected, and are compelled to seek the services of an interpreter. We find that our German correspondent wants our Special Weekly Price List sent to him regularly, having seen the advertisement in your paper; but, as we have already said, please do not get us into this trouble, or anything like it, in future, for we desire to confine our general drug business to the United States. With kind regards, we remain, yours truly,

C. G. BACON & CO.

Market Report.

A COMPLETE PRICES CURRENT, covering all staples, drugs, chemicals, etc., usually purchased by retail druggists, will be found on page 19 of this issue, in the back part of the journal.

Advanced: Carbolic Acid, Colocynth Apples, Cinchonidia, Powdered Opium, Oils; Sweet Orange, Spearmint and Wormwood.

Declined: Balsam Peru, Balsam Canada Fir, Bergamot, Codeine, Caraway Seed, Gum Chicle, Mustard Seed.

New York, Dec. 24, 1895.

Business affairs during the week under review have been overshadowed to a considerable extent by social features incident to the holiday season, and so far as important transactions are concerned the market has presented a rather tame appearance. Commercial matters, however, are not being neglected, and necessary attention is given to the preparation of annual inventories and the formulation of plans for the new campaign, which is expected to open soon after the turn of the year. When the usual balance sheets are prepared and settlements made, it is believed the results will give general satisfaction, inasmuch as the season now closing has been particularly free from disasters of a financial character. The latter fact is largely due to the conservative policy of buyers, but the disinclination to operate in a speculative way has also had considerable to do with keeping monetary affairs upon a sound and healthy basis. The steady upward trend of prices has added a favorable influence over the tendency to improvement, as buyers have been enabled to realize an expected and legitimate profit on their purchases, and altogether the situation has been productive of gratifying results, as the few miscalculations which have brought disappointment are of such minor consequence that they make no figure in the grand total. It is generally conceded that the drug market is in a healthier condition, and prices upon a more substantial basis than at any time for several years.

OPIUM.—The influences which caused the improvement noted in our last issue have brought about an additional advance, and the market has continued to harden in sympathy with similar conditions at primary sources of supply. Consumers have been buying rather more freely, but not in excess of visible requirements, and the aggregate sales are not unusually large. In fact, large lots do not seem to be available, and it is claimed by some that the spot stock has been gradually depleted during the past few months and that replenishing will soon be necessary. The advance abroad is attributed to speculative manipulation, and some are of the opinion that the manipulators are particularly strong financially, while others believe that the bulk of the large crop is hypothecated and that holders may be obliged to unload to protect their interests. In the latter event lower prices would result, but the future course of the market is very uncertain, and none in the trade seems to be able to satisfactorily explain the present peculiar situation.

POWDERED OPIUM—Is firmer in sympathy with the gum, and inside quotations have been advanced about 5 cents per lb.

MORPHINE.—The market continues to harden under the same influence, and, while manufacturers' prices are yet unchanged, an early advance is expected.

CODEINE.—Pure in bulk has been reduced to the basis of $2.85 in eighths, but the reduction is mainly to bring the value nearer to the relative difference between the cost of the alkaloid and sulphate, the latter remaining unchanged.

QUININE.—Since the advance in manufacturers' prices referred to last week the market has ruled comparatively quiet, most of the larger consumers having been previously provided with sufficient stock to carry them along for some time to come. The tone, however, is strong and most of the outside holders, while quoting about ½c. per ounce less than first hands, are not offering freely, and seem to be confident that another early advance is contemplated by manufacturers.

CINCHONIDIA.—The demand has been less active, but the available stock is closely concentrated in few hands and values show a further advance of ½c. per ounce, which places the quotation on the full parity of the figure named by agents of foreign manufactnrers.

ACID, CARBOLIC.—Cables from London report that market higher and values here are tending upward.

ALCOHOL.—There is no change in the condition of the market, which remains quiet, with purchases limited to small parcels to meet immediate and nearby wants of consumers.

BALSAMS.—There is nothing new in copaiba; tolu is unchanged but firm; Peru is easier, with a further decline of about 5 cents per lb, and Canada fir is weak under pressure to sell on the part of holders in the primary market. Offers of round lots at a reduction of fully 15 cents per lb from previous quotations have failed to attract the attention of buyers.

CACAO BUTTER—Is slow of sale and fractionally lower, but any improvement in demand would undoubtedly cause a reaction in values.

COLOCYNTH APPLES.—A decidedly firm market is noted for all desirable grades and some holders of prime Trieste have further advanced their quotations 2@3 cents per lb.

COD LIVER OIL.—The demand is only moderate and the market seasonably quiet, but the undertone is firm, and regular dealers are anticipating an advance in the near futnre.

GLYCERIN—Is decidedly strong at the advance noted in our last issue, and the position of crude abroad would warrant still higher fignres for refined.

ESSENTIAL OILS.—The principal changes in this department are a higher range of quotations for sweet orange, spearmint and wormwood, and a reduction in bergamot. The jobbing demand has continued fair, with citronella, anise and cassia receiving considerable attention, with prices for all showing steadiness.

GUM CHICLE.—The large spot stock has been further increased by additional arrivals during the past week, and in the absence of important demand the tone of the market is easy, with small sales reported at a decline of 1 cent per lb.

GUM TRAGACANTH.—The primary markets are very strong and a large business has been done here within the past few days at hardening prices.

CARAWAY SEED.—Large arrivals of Dutch have had a depressing influence and quotations are fractionally lower.

MUSTARD SEED.—All grades of yellow are about ⅛c. per lb lower, owing to increased stocks and freer offerings.

CAMPHOR.—The market is somewhat unsettled, but there is no change in prices. Recent reports from both Europe and Japan indicate that the syndicate is in complete control of the crude article. The stock of refiners is very light, and they will soon be obliged to make purchases, as the coming season for making contracts is only about two months off. If they are compelled to pay the present high prices demanded by the syndicate extreme figures are likely to be reached for refined.

London Market Report.

London, Dec. 14, 1895.

Business coutinues fairly active, considering the time of year, and our last public auction for 1895 passed off with more spirit than might have been expected. The very critical position of iodine has been the principal topic of conversation this week.

ACID CARBOLIC.—A large order from Japan for crystals, 35° C., has hardened this market considerably, and it would now be difficult to buy under 6d. per lb.

ACID CITRIC.—Makers ask 1s. 3d., but second-hand holders are ready to sell at 1s. 2d. per lb.

ALOES.—Cape were in small supply, and fine, hard bright are held for higher prices. Curacao steady—bulk of offerings consisted of black capey quality.

ARECA NUTS—Sold at 12s. per cwt.

ASAFETIDA.—A demand from the United States, but limits seem to be too low. Lots offered in same all bought in.

BALSAM PERU.—Holders suggest offers of 8s. 10½d. per lb, but buyers hold off.

BUCHU LEAVES.—Fine, green rounds are cheaper at 5½d.; fair green sold at 5d. per lb, and yellowish at 3¾d.

CAMPHOR.—The syndicate have bought very largely tnis week, but have sold nothing. It is said that the English refiners are well stocked and will not be in the market for many months, but it is thought that the Germans are not so well placed. Present prices for crude (187s. 6d. per cwt., c. i. f. terms,) are above rates ruling for refined.

CARDAMOMS—Were well competed for and prices were steady. Good pale Mangalores sold 2s. 8d. per lb, decorticated 2s. 2d. per lb.

CINCHONA.—At our London auctions holders, as a rule, wanted more money than buyers, with the large Dutch sales to follow two days later, cared to give. At Amsterdam on Thursday over 5,000 packages sold at full rates.

COCAINE.—It is said makers will raise prices at the beginning of the new year.

COLOCYNTH.—Fairly large arrivals have taken place lately, and fair Turkey apple sold at 2s. per lb; Spanish of ordinary quality sold at 1s. per lb.

CUBEBS—Are lower. Bombay berries sold at 23s. per cwt.

DRAGON'S BLOOD.—The balance of a parcel of inferior reeds were knocked down to a man whose choreic nods were understood by the auctioneer as bids. Hence it was discovered after the sale that the lot was *not* sold at £6! Fine lump was bought in at £10.

ERGOT.—New Spanish held for 9@10d. per lb. Weevily old sold at 7½@8½d. per lb.

IODINE.—Several parcels of crude have for some time past been arriving on this market outside the control of the syndicate; each lot being small, it was not considered necessary to take any active steps to stop the leakage, but when iodide of potassium was also offered at tangibly lower that the fixed prices, the position became critical. It is said that instructions have been received from the west coast of South America to reduce the price of iodine, if found necessary, to 3d. per oz. While the west coast iodine can, it is said, be sold at 2d. per oz. with a profit, it is probably a fact that the Scotch cannot be sold at less than 6d. per oz. without loss of money, and it may be to the interest of the former to reduce the price to such a figure as will drive the Scotch out of the market and the combination, and thus enable them to find a market for a portion of the over-production. Meanwhile the trade is holding off as far as it can.

IPECACUANHA.—Demand slack with firm holders. Only a few bales sold at 4s. 8d. to 4s. 10d. per lb for fair root.

KOLA NUTS.—A fair business done at 12½d. per lb for good.

QUININE—Has been very dull this week, there being sellers on Thursday at 12½d. per oz., but when the result of the Amsterdam bark sales became known the position hardened, and market closes firmer at buyers at 12½d., but no sellers.

RHUBARB—Improving in value, good bright Canton pinky fracture selling at 1s. 2d. per lb.

SENNA.—Alexandrian leaf of good color selling at 10d. per lb. Tinnevelly dearer, medium quality leaves being scarce.

VANILLA BEANS—Sold at easier rates: fine crystallized, 7½ to 8 inches, 28s. 6d. to 31s.

Office of Wm. B. Riker & Son Co.,
Druggists,
353-355 Sixth Ave., Cor. 22d. St.,
New York City.

T. B. McRobert & Co., 15 Jay St., New York City:

Gentlemen—For the past year or more we have been handling your Groote's Dutch Cocoa for soda fountain purposes, and believe we have been serving an article which has given perfect satisfaction to our customers, as it has to us. Very truly yours,

WM. B. RIKER & SON CO.
E. D. Cahoon, Secy.

HAVING largely increased our facilities for the manufacture of **Pharmaceuticals,** we are prepared to promptly and satisfactorily execute all orders for

Private ℞ Preparations

with which we may be favored. In these special preparations we exercise the same careful supervision over every detail of their manufacture that we invariably observe in the preparation of the products bearing our own label, using only the

PUREST DRUGS.

As all correspondence relative to these special preparations is considered confidential, and all formulæ submitted either for quotation or manufacture are maintained strictly the property of the person thus addressing us, our patrons can implicitly rely upon the *absolute protection* of their private formulæ when intrusted to us.

Our quotations will always be found to be as low as is consistent with first class material and workmanship, but they should not be unjustly compared to prices based upon inferior preparations.

We strictly guarantee the quality of all products prepared in our Laboratories, and on this basis solicit the patronage of our customers.

SHARP & DOHME,

ESTABLISHED 1860.

Western Branch, CHICAGO—Laboratories, BALTIMORE—General Offices, NEW YORK, (U. S. A.)

Boys, this is the Food you want to recommend.

SPECIAL

Make up your orders for **One Gross any size**; send check at rates below, less *20 per cent*, and we will *deliver, all charges prepaid.*

No. 1 size..per doz. list..	$2.80	Retails,	.35
" 2 " .. " " " ..	5.20	"	.65
" 3 " .. " " " ..	10.00	"	1.25
" 4 " .. " " " ..	14.00	"	1.75

An assortment of printed matter delivered free to any druggist on application.

MARGARET, ANNA, MELLIE KELLOGG.

Triplets, of Watkins, New York, taken at 2 mos. The mother of these sprightly little ones knew the value of Ridge's Food—so she has them with her to-day.

WOOLRICH & CO.,

MANUFACTURERS,

Palmer, - - - - Mass.

S. P. 1.]

WE MAKE CLOSE ESTIMATES

On Preparing Private

℞

preparations, and cordially invite correspondence on the subject.

ALL FORMULÆ SUBMITTED TO US ARE CONSIDERED STRICTLY CONFIDENTIAL, THE PRIVATE PROPERTY OF OUR CORRESPONDENTS, AND ARE GUARDED SO WITH SCRUPULOUS CARE.

Our facilities for manufacturing and finishing special preparations are unequalled, for, in addition to our well equipped manufacturing and finishing departments, we possess complete and extensive printing, binding and paper box-making establishments, and are thus able to turn out first-class work at the lowest cost. We are in a position to prepare any private formulæ put up in the form of a Fluid Extract, Solid Extract, Elixir, Wine, Syrup, Glycerole Capsule, Cachet, Perle, Pill (sugar, gelatine pearl or silver coated) Lozenge (hand cut or compressed) Tablet Triturate, Compressed Tablet, Effervescing Granular Salt, etc., as well as preparations in the form of Sarsaparillas, Cough Syrups, Liniments, Veterinary Remedies, Toilet Preparations, etc. We charge nothing for making an estimate on any preparation, but are pleased to do so, and trust we may be favored with formulæ for the purpose.

ADDRESS

Frederick Stearns & Co.,

MANUF'G PHARMACISTS, **DETROIT**, MICH.

PRIVATE FORMULA DEPARTMENT.

BELLADONNA.

We publish a book (72 pages) on Belladonna. In it we have presented everything of importance from all the recognized authorities regarding the drug. It also contains all the available information upon belladonna plasters. There is nothing secret about our manufacture of these. We explain our processes so that anyone can judge of their excellence, and know that they are just what they should be.

This book is distributed to pharmacists and physicians, and we know that it is appreciated. The therapeutical index and reports of the physiological action of the drug are especially valuable to physicians, and when they prescribe a Belladonna Plaster they are most likely to think of Johnson's.

When a popular article of this kind is prescribed by physicians, the public places a higher value upon it, and is willing to pay a higher price. The pharmacist is consequently able to get a better price for Johnson's. He does not have to cut off his profit to sell it.

Our Belladonna Plaster, 5x7½, 2 dozen in a box, costs the retailer $10 per gross—about 7 cents apiece. Our price list also describes the same plaster in rolls, and gives quantity discounts. The retailer has a liberal margin of profit on these goods.

Druggists not handling these plasters are invited to send for our Belladonna book, which we will be pleased to furnish upon request.

Johnson & Johnson

NEW YORK, U. S. A.

HUMPHREYS' SPECIFICS.

Many druggists who are not handling these goods have old customers whose patronage they value, and whose goodwill they make every effort to retain. This effort is sometimes a severe tax, involving the selling of proprietary medicines which cost them 66 cents for 67, 68 or 69 cents. They do this to retain their customers, for there is no purely financial reason for doing a thing which yields profit only by indirection.

Isn't it about time to change this; to try to get these customers interested in something which pays a better profit? Retail prices on Humphreys' Specifics are better maintained than upon most of the proprietary medicines now on the market. There is not so much of a merchandise character about them. They are advertised principally by means of Dr. Humphreys' Manual, which is written in a dignified and convincing style, describing the specifics and their application, and which is in reality a general medical adviser for the entire family. This places the remedies upon much the same basis as the physician's prescription, with a corresponding belief in the reasonableness of the charge.

Where a change in directing public attention to more profitable goods is desirable, Humphreys' Specifics will be found easiest to bring to notice. They are most effectively advertised, and in such a manner that they command attention from the minute they reach the drug store.

We are offering special inducements upon an assortment of these specifics, and there is a good deal to say about this offer. If you are interested, write to us, and we will send list, photographs of an elegant counter case, Humphreys' Manual, and samples of advertising material.

HUMPHREYS' MEDICINE CO.,
111 William Street
NEW YORK.

JUST THINK OF IT!

Sulphate of Quinine made a big jump in price last week, and one, and five thousand ounce lots were sold in New York at 26 to 27 cents per ounce.

Our customers under the "Special Weekly Price List" system could buy from us at the rate of 25 cents per ounce, in single ounce lots!

Such a tremendous difference is, of course, exceptional, but this accidental advantage possessed by our customers is only a slight exaggeration of the benefits and saving which our system regularly affords.

The latest method adopted by those who seek to oppose our plan is to say that our advertisements are insincere because they are written by a professional, and merely "ground out" from week to week for publication purposes only. To them we would say: "Thanks for your unintended compliment, but our articles are all written by Mr. Bacon."

We are so sincere and so full of our subject that our advertisements are but the reproduction on paper of our thoughts and actions.

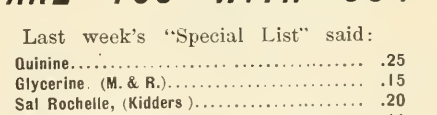
Realizing that the only way to make regular friends and customers, (which is our desire), among Retail Pharmacists, is to be reliable, straightforward, and accommodating,—we act accordingly, and our rapidly increasing army of followers testifies to our success.

ARE YOU WITH US?

Last week's "Special List" said:

Quinine	.25
Glycerine (M. & R.)	.15
Sal Rochelle, (Kidders)	.20
Castor Oil, (Baker's A. A.)	.11
Sal Epsom	.01
Iodide Potash	2.72
Carbolic Acid, (white crystals)	.20
Borax, (powdered or lump)	.06¼
Cream Tartar	.25
Witch Hazel, (Dickinson's Double Distillate)	.57½

and this week's is, and next week's will be, just as good.



Wholesale Druggists and Manufacturing Chemists.
218 Greenwich St. NEW YORK.

℞-℞-℞-℞-℞-℞-℞-℞

Prescription Blanks A Specialty

Blanks of all sizes made from BOND or LINEN Paper, on short notice, Padded by the Johnson Patent Process. LOW PRICES, including FREE DELIVERY.

LEATHER COVERS for Physicians Use, of all sizes, from 20 to 50 cents each.

DUPLICATING -:- PRESCRIPTION -:- BLANKS, with Carbon Paper, for Pocket or Office Use.

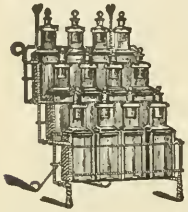
Any size made to order.

Estimates furnished for DRUGGIST PRINTING.

Address, ☞Send for SAMPLES and PRICE LIST.

J. B. BURR & CO., Hartford, Conn.

PUBLISHERS. [ESTABLISHED 1856.] PRINTERS.



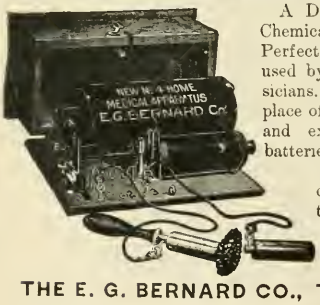
OUR CATALOGUE

DESCRIBES WIRE EASELS, CANDY TONGS, WASTE BASKETS, SPONGE BASKETS, TOILET STANDS, DISPLAY STANDS, LAMP CHIMNEY HEATERS, BRUSH and BOOK HOLDERS, BRUSH BROOM HOLDERS.

All of these are drug-store goods with a good profit in them; they help sell other drug sundries, and other sundries help sell them. They are made of Sherwood's White Lustral Wire, and are the handsomest on the market. This catalogue is sent free upon request. Address,

WOODS, SHERWOOD & CO., LOWELL, MASS.

THE STANDARD MEDICAL BATTERY.



A Dry Battery. No Chemicals. Simple and Perfect in action. Is now used by over 5000 physicians. It is taking the place of the cumbersome and expensive chemical batteries formerly in use. We want every druggist to have them on sale.

WRITE FOR TRADE PRICES.

THE E. G. BERNARD CO., TROY, N. Y.

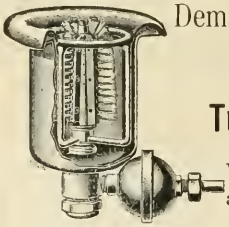
BEEMANS,

The Original

Pepsin Gum.

A most delicious remedy for indigestion, and *guaranteed* to contain the quantity of Pepsin claimed. We are also well known as the manufacturers of Beemans' Pepsin.

THE BEEMAN CHEMICAL CO., CLEVELAND, O.



Demand

ROWE

Tumbler Washers

with your new fountain and accept no imitation.

"They Have no Equal."

Address, L. L. ROWE, 18 Howard St., Boston, Mass.

Fischer Chemical Importing Company,

(Formerly, RICH. F. FISCHER & CO.) **14 Platt Street, N. Y.**

Sole Agents for the BERLINER CAPSULES-FABRIK, BERLIN, GERMANY.

Gelatine-Capsules & Pearls OF EVERY DESCRIPTION.

SPECIALTIES:—**SANTAL** and similar preparations in Capsules and Pearls. **SANTAL OSTIND**, 5 min. pearls, 40 in flask, per doz. $4.75.
Prof. Dr. Sommerbrodt's Original CREOSOTE-CAPSULES. The preparations of this factory have been used by the aforesaid scientist in his own practice.
BLAUD'S PILLS plain and silvercoated.

High Grade Goods at Reasonable Prices. Only the Purest Drugs Used.

QUICK SOLUBLE CAPSULES That Never Leak or Collapse.

When Ordering, Specify "**FISCHER CO'S.**"

PATENT PANELED METAL **CEILINGS**

Stamped Raised Panels.

ARTISTIC AND PERMANENT

Easily applied in new buildings, and laid over old broken plaster or wood ceilings. If interested in building or repairing send stamp for new Illustrated Catalogue and state if **Church, Hall, Store, Office or School Ceiling** is wanted.

ADDRESS

A. NORTHROP & CO

Pittsburg, Pa.

PLANTEN'S CAPSULES AND PERLOIDS TRADE MARK OF SANDAL OIL AND ITS VARIOUS COMBINATIONS.

Send for samples, Formula Lists and Price Lists

H. PLANTEN & SON, Established 1836. **NEW YORK.**

FRITZSCHE BROTHERS'

OIL LEMON,

HAND PRESSED F. B.,

IS STILL OF THE HIGHEST GRADE, AS IT HAS BEEN FOR THE PAST 25 YEARS.

ASK YOUR DEALER FOR IT

OR ADDRESS

34 BARCLAY ST., NEW YORK.

LEIPSIC—SCHIMMEL & CO.—PRAGUE.

1 lb., 2 lb., 5 lb. bottles or 25 lb. coppers.

Diphtheria Antitoxin Solution,

Schering (Aronson's).

Purity, Strength and Innocuousness guaranteed by the German Government.

Supplied in 5 ccm. vials, equivalent to 500 antitoxic normal units, at eighty cents per vial.

DOSE: For mild and medium cases, one vial of 5 ccm. In malignant and septic cases, the contents of two 5 ccm. vials (1,000 units) should be injected at once.

Dr. F. von HEYDEN'S Apolysin, Creosote Carbonate (Creosotal), Guaiacol Carbonate, Guaiacol-Salol, Oleo-Creosote, Oleo-Guaiacol, Betanaphtol-Bismuth, Phenol-Bismuth, Pyrogallol-Bismuth, Tribromphenol-Bismuth.

SCHERING'S Argentamine, Benzonaphtol, Diabetin, Formalin, Glycero-Phosphates, Iodic Acid, Iodate of Soda, Rubidium Bromide, Rubidium Iodide, Salol, Strontium Salts, Theobromine, Trikresol, Urotropin.

SCHERING & GLATZ,

SOLE AGENTS FOR THE UNITED STATES,

55 Maiden Lane, NEW YORK.

Literature furnished on application.

DRUGGISTS SPECIALTIES.

SCIENTIFICALLY PREPARED PEPSIN—Small Jars containing 40 packages.

YANKEE BRAND PURE SPRUCE GUM—Of the same unexcelled quality as when first introduced.

MANUFACTURED BY

CURTIS & SON

PORTLAND, Maine, U. S. A.

SELL YOUR OWN PATENT MEDICINES.

A full line of

"NON SECRET" REMEDIES

with your own card on

LABEL AND WRAPPER.

EXTRACT SARSAPARILLA

with IODIDE POTASSIUM,

EMULSION COD LIVER OIL,

SYRUP TAR, TOLU

and WILD CHERRY.

Over One Hundred preparations at prices which will afford the pharmacist a wholesome profit.

Send for Price List at once.

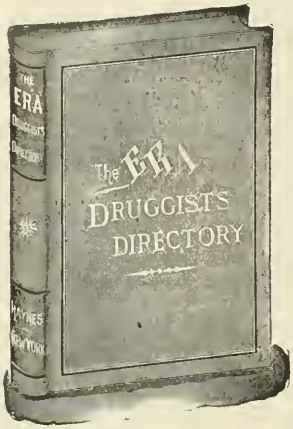
C. B. SMITH & COMPANY,

WHOLESALE DRUGGISTS

86 & 865 Broad St., NEWARK, N. J.

FOURTH EDITION. 1895. NOW READY.

ERA DRUGGISTS' DIRECTORY.



CONTENTS, divided as follows:

PART I—WHOLESALE DRUGGISTS. A carefully revised list, excluding names of firms who are not recognized as legitimate jobbing druggists.

PART II—RETAIL DRUGGISTS. A complete list of the 40,000 or more retailers in the United States and Canada, arranged alphabetically by States and Post-offices, with street addresses in cities. This list is fully revised by direct canvass.

PART III—MANUFACTURERS. A list of firms who *supply* the drug trade, with their addresses.

The ONLY DIRECTORY OF THE DRUG TRADE in the United States and Canada.

THE FOLLOWING TABLE, SHOWING THE NUMBER OF DRUG DEALERS, IS MADE FROM THIS NEW EDITION:—

STATES.	Part I. Whol. Drug'sts.		Part II. Retail Drug'sts.		Part III. Manufacturers.	
	Post-Offices.	No of Firms.	Post-Offices.	No. of Firms.	Post Offices.	No. of Firms.
Alabama	4	4	351	560	5	5
Alaska			5	6		
Arizona			35	55	1	1
Arkansas	3	4	396	656	5	7
California	4	8	375	931	25	145
Colorado	2	3	162	381	4	15
Connecticut	5	9	216	550	45	125
Delaware	1	2	45	124	3	9
District of Columbia	1	1	6	212	1	25
Florida			179	320	7	11
Georgia	6	10	364	699	10	33
Idaho			67	102		
Illinois	6	14	1058	2998	46	545
Indiana	6	11	773	1915	37	119
Indian Territory			108	191		
Iowa	13	15	764	1597	21	47
Kansas	3	3	577	1139	8	12
Kentucky	4	9	486	1016	20	139
Louisiana	1	4	165	425	2	37
Maine	2	5	287	511	25	60
Maryland	1	11	184	612	5	121
Massachusetts	3	11	348	1651	71	460
Michigan	5	8	700	1697	43	173
Minnesota	4	6	393	823	7	41
Mississippi	3	3	297	484	3	3
Missouri	4	11	889	2283	20	234
Montana	2	3	80	136	2	3
Nebraska	2	3	455	861	6	18
Nevada			31	41		
New Hampshire	1	2	160	297	21	31
New Jersey	1	1	264	893	42	128
New Mexico			56	78		
New York	11	34	1062	3588	118	1765
North Carolina	1	2	340	505	11	14
North Dakota			141	205		
Ohio	11	20	909	2285	67	466
Oklahoma			61	126		
Oregon	1	2	152	292	2	11
Pennsylvania	12	28	1078	3143	81	627
Rhode Island	1	4	57	233	7	45
South Carolina	2	3	194	345	4	8
South Dakota			176	305	2	2
Tennessee	4	7	319	632	8	37
Texas	6	7	767	1530	15	30
Utah	3	7	86	160	3	11
Vermont	1	1	157	267	15	25
Virginia	4	10	233	518	11	41
Washington	2	2	147	308	3	8
West Virginia	2	5	157	286	7	15
Wisconsin	3	7	398	877	23	83
Wyoming			25	42	1	1
Totals	151	300	16,745	39,885	863	5,736

CANADA.

	Part I. Wholesale Druggists.		Part II. Retail Druggists.	
	Post-Offices.	No. of Firms.	Post-Offices.	No. of Firms.
British Columbia	2	3	23	63
Manitoba and N. W. T	1	1	79	121
New Brunswick	1	1	86	149
Newfoundland			14	24
Nova Scotia	1	3	148	202
Ontario	4	9	621	1141
Prince Edward Island			21	32
Quebec	2	5	380	501
Totals	11	22	1,372	2,233

Every firm who sells the drug trade has use for this book. Those who require copies should send in their orders promptly. The price is as usual, $5.00 per copy, delivered. D. O. HAYNES & CO., Publishers,
106 Fulton St., NEW YORK.

A New Form for a Well Known Preparation.

Somatose, the food product manufactured by the Farbenfabriken Vorm. Friedr. Bayer & Co., Elberfeld, Germany, is superior to meat as a nourishment. It is easily digested and assimilated, and it rapidly promotes a gain in flesh and strength.

SOMATOSE-BISCUIT

furnish an agreeable, appetizing and nourishing food for invalids, nursing mothers and delicate children. Especially valuable in bicycle riding, on hunting and fishing trips, journeys, etc. So convenient are Somatose Biscuit, that a consumer recently styled them "Emergency Rations."

SOMATOSE BISCUIT contain 10 per cent Somatose, and are put up in tin packages, retailing at 60 cents per package. The price to the trade is $3.60 per dozen net.

SOMATOSE BISCUIT can be obtained through the jobbing trade generally. Orders mailed to Schieffelin & Co., wholesale agents, New York, or the exclusive manufacturers, will be promptly executed.

AMERICAN BISCUIT & MANUFACTURING CO.,

West St., from Bethune to 12th St., NEW YORK.

HUNT'S ENGLISH

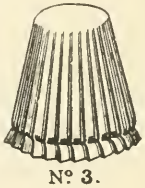
BOTTLE CAPS.

For both the manufacturing and retail pharmacist.

Nº 1.

PLEATED PAPER.

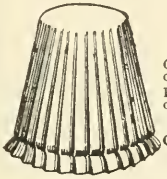
MADE IN 17 SIZES FOR *MEDIUM, HIGH and LOW CORKS.*



Nº 3.

COLORS.

BLUE
GREEN
PINK
PURPLE
ORANGE
YELLOW
WHITE



Nº 4.

Customer's address embossed on Import Orders of 25 gross or more.

Hunt's Bottle Caps are cheap and easily and quickly adjusted.

Send for Samples and Illustrated Price List.

Order from your jobber or

McKesson & Robbins
(American Agents),
NEW YORK.

Teutonic

A CONCENTRATED LIQUID EXTRACT OF

MALT AND HOPS

IT CONTAINS A GREATER AMOUNT OF NUTRITIOUS MATTER THAN ANY OTHER

LIQUID MALT EXTRACT

NOW IN THE MARKET

Its purity, quality and medicinal effects are matters for the physician to consider. Thousands of physicians have decided in its favor.

Its selling is a matter for the druggist. People will buy what the physician recommends. They will buy the malt extract of which they hear most and read most: That extract is **TEUTONIC.**

For proof, watch the advertising that is being done in the best journals and address us for booklets, price lists, etc,

S. LIEBMANN'S SONS BREWING CO.

36 FOREST ST. BROOKLYN, N. Y.

AS DIGESTIBLE AS MOTHERS' MILK.

Cows' milk, modified by the Peptogenic Powder, is just as digestible as mothers' milk —no more so; the baby has to do the rest.

Fairchild's Peptogenic Milk Powder affords the only known method of modifying cows' milk to the standard of human milk.

FAIRCHILD BROS. & FOSTER,
NEW YORK.

Do You Know

we are giving 40 per cent. discount to the Drug Trade.

On Fluid Extracts, Pills, Tablet Triturates, Hypodermic Tablets, Compressed Tablets, Lozenges, Tinctures, Elixirs, Syrups, Wines, Powdered Extracts, Solid Extracts, Concentrations, Capsules, Cordials, Glyceroles and Granulated Drugs.

WE HAVE BUT ONE PRICE, AND TREAT ALL ALIKE.

Our principal competitors have made a **desperate effort** to interest the **trade direct at 40 per cent.** discount, while jobbers are compelled to invoice **same lines at 25 per cent.** We are giving **all druggists** the benefit of our **40 per cent. discount,** and have placed **Wholesale Druggists** in position to **supply our products** at a fair profit and give the **same discount.** It is, therefore, to your interest to **specify "Lilly's."** Any jobber will supply and thank you for your order.

ELI LILLY & COMPANY,

Indianapolis. Prices Current mailed on request. Kansas City.

S. P. 2]

OFFICE OF

J. C. AYER CO.,

LOWELL, MASS.

OUR CREED.

FIRST: We believe that Retail Druggists are the legitimate, natural and proper distributers of Proprietary Medicines.

SECOND: We believe that the prices fixed by the manufacturers are, as a rule, reasonable, and that they should be maintained by all Retailers.

THIRD: We believe that Department Stores, and all other establishments where medicines are sold at excessively low prices merely as a bait, are a serious detriment to the business of regular druggists.

FOURTH: We decline, as we have done for years, all orders from dealers who voluntarily adopt the cut-rate system, and such will be our policy in the future.

FIFTH: We prohibit the sale of our goods by Jobbers to dealers who attempt to draw trade by advertising or selling Proprietary Articles without a fair profit, to the injury of legitimate Druggists.

J. C. AYER COMPANY.

[S. P. 3.]

NO MORE BROKEN PISTONS.

"EUREKA"

SYRINGES are all made with the patented STEEL CORE PISTONS.

The above illustration shows a sectional view of the piston. The steel core being entirely covered with hard rubber, makes a piston which is UNBREAKABLE, and at the same time impervious to the action of the strongest medicines.

FOR SALE BY ALL LEADING DRUGGISTS.

Also makers of the well-known ROYAL and ROYAL EXCELSIOR brands of Syringes.

Manufactured by

THE BUTLER HARD RUBBER CO.,

33 Mercer St., NEW YORK.

EMILE HEYDENREICH. ED. S. WOODWARD.

E. FOUGERA & CO.,

26 to 30 North William St. NEW YORK.

IMPORTERS OF FRENCH AND ENGLISH

Pharmaceutical Specialties

New Remedies, Filtering Paper, Etc., Etc.

AMONG THE LEADING ARE THE FOLLOWING:

Anti-Stiff,
Boudault's Pepsin,
Blancard's Pills,
Brou's Injection,
Ducro's Elixir.
Grillon's Tamar,
Laville's Liquid and Pills.
Rigauds & Chapoteaut's Preparations;
Savory & Moore's Preparations,
Rigollot's Mustard Plasters,
Mathey Caylus's Capsules,
Rabuteau's Pills,
Tanret's Pelletierine,
Roche's Embrocation,

QUINA LA ROCHE,

THE GREAT FRENCH TONIC.

BRAUNSCHWEIGER MUMME

A Pure Malt Extract.
A Substitute for Solid Food.

Highest percentage Extract. Lowest percentage alcohol. A Mild Stimulant, An Agreeable Beverage. An Effective Tonic. Just what physicians will prescribe for Nursing Mothers, Convalescents and victims of Insomnia or nervous disorders resulting from impaired digestion and over-work.

BOTTLED FOR SALE AND DELIVERED EVERYWHERE.

LONG ISLAND BOTTLING CO.,

280-284 Bergen St., Brooklyn.

HAMBURGER & CO

20 W. 3rd St., NEW YORK.

SELLING AGENTS FOR

FREDRICK'S SANITARY TOOTH BRUSH.

WITH IVORY TONGUE CLEANER ATTACHMENT.

Ask your jobber for them.

We will send a Sample to any reliable druggist for the cost of mailing—

15 CENTS.

(S. P. 4.)

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COLLEGE OF PHARMACY OF THE CITY OF NEW YORK.

FACULTY: CHARLES F. CHANDLER, A.M., Ph.D., M.D., LL D., F.C.S. ARTHUR H ELLIOTT, Ph.D., F.C.S. HENRY H RUSBY, M D VIRGIL COBLENTZ, A M. Ph G, Ph D, F.C.S. GEO. A. FERGUSON, Ph B. SMITH ELY JELLIFFE, M.D. Term began MONDAY, SEPTEMBER 30, 1895.

All GRADUATES in PHARMACY should send for the special prospectus of the **POST GRADUATE COURSE.**

Course for the degree of Graduate in Pharmacy is of two year's duration as formerly.
For information and prospectus address

ALFRED H. MASON, Secretary. 115-119 West 68th Street, NEW YORK CITY.

DON'T be an average druggist. Don't be average in anything. When you substitute something of your own make or something made just for substitution for a standard article, you see the penny or two more profit, but do you see the loss? And of all losses the largest is for a merchant to lose the confidence of his good customers, and not to know that he has lost it. You think of the profit on

Scott's Emulsion

The profit on what you sell to the customers we send you for **Scott's Emulsion** is your best profit. **Scott's Emulsion** is not only the most satisfactory thing of its kind in the world, but it is a first-class advertisement.

Two sizes, 50 cents and $1.00.

Scott & Bowne,
Manufacturing Chemists,
NEW YORK.

PRICE LIST.

COLUMBIA CHEMICAL CO.,

WASHINGTON, D. C.

GOODS EXCHANGEABLE AND RETURNABLE. FREIGHT ALLOWED ON GROSS ORDERS.

Adv. "THE DOCTOR'S COLUMN."

USUAL JOBBING DISCOUNTS. SEND FOR ADVERTISING PROPOSITION

AUGUST 10th, 1895.

ANIMAL EXTRACTS: Cerebrine, Cardine, Testine, Ovarine, Medulline, Thyroidine, per case of 1 doz. 2 drachm vials.....$10
GASTRINE (New): Per case, 1 doz. 6-oz. bottles 10
PULMOLINE: Per case, 1 doz. 6-oz. bottles..... 10
TESTINE No. 2 (Powerful aphrodisiac): Per case, 1 doz. 2-dr. vials. 10
PETROLEINE: Per case, 1 doz. 6-oz. bottles..... 10
CATARRHINE: Box containing Powder, Ointment and Insufflator (one month's treatment), per case, 1 doz. boxes..... 21
ECZEMICURE: Per case, 1 doz. 2-oz. jars..... 8
RESTORATIVE WINE OF COCA: Per case, 1 doz. pint bottles..... 7
COCANIZED BEEF, WINE AND IRON: Per case, 1 doz. bottles..... 10
NATROLITHIC WATER: Cases of 1 and 2 doz. (full pints), per doz... 2
NATROLITHIC SALTS: Per case, 1 doz. bottles (each 8 dose)... 4
PIL FEBRICIDE: Per doz boxes, 20 pills..... 4
Per doz. bottles, 100 each..... 18
COMPOUND EMULSION COD LIVER OIL (Special): Per case, 1 doz. 16-oz. bottles..... 8

COLUMBIA CHEMICAL COMPANY,

WASHINGTON, D. C.

REASONS WHY

PHYSICIANS Should Prescribe

LARKIN & SCHEFFER'S

PEROXIDE OF HYDROGEN.

1. BECAUSE: It is the Purest.
2. BECAUSE: It is the Most stable.
3. BECAUSE: It is not too Acid.
4. BECAUSE: It is a Finished Product.
5. BECAUSE: It is Harmless.
6. BECAUSE: It is Always same strength.
7. BECAUSE: It is Reasonable in price.
8. BECAUSE: It produces Best results.
9. BECAUSE: In medicine only the best is good enough.
10. BECAUSE: "It is an ideally perfect product, and there is no need of wasting either time, money or patience or of jeopardizing success in practice by using an inferior preparation.'

LARKIN & SCHEFFER,

CHEMICAL MANUFACTURERS,

ST. LOUIS, MO.

REMEMBER THE NAME.

The Wonder of the World.

FOR COMPLEXION, SKIN AND FLESH

"Leaurelle Oil Balm" possesses peculiar properties, preventing tendency to

WRINKLES, OR AGEING OF THE SKIN,

Withering or Drying up of the Flesh and Skin.

THE MOST ELEGANT TOILET ARTICLE.

Handsome Features are of no avail if the nose is red, complexi cloudy, skin coarse grained or dotted with Pimples, Black Heads Blotches, or Freckles. LEAURELLE OIL BALM, the great beauti fier, will smooth and clear the most annoying skin or complexion. gives a rosy tinge, a healthful glow and freshness, banishes Tan. Sunburn. 50c. and $1.00 size. Send for Price List.

E. S. WELLS Manufacturer and Proprietor,
710 and 712 Grand st., Jersey City, N. J.

WELLS' HAIR BALSAM.

Restores Gray Hair to its Natural Color.

A Color Restorer,
A Hair Grower,
A Hair Beautifier,
A Hair Dresser,
A Hair Strengthener,
A Hair Cleanser

All in one. No grease or oil. Stops the hair coming out, removes dandruff. 50c. size, $4.20 per dozen; $1.00 size, $7.20 per dozen. Ask your jobber for it.

E. S. WELLS, Chemist,

JERSEY CITY, N. J., U. S. A.

"Rough on Rats"

The greatest Rats, Mice, Insect and Bug destroyer on earth.

Is sold all around the world, is the most extensively advertised and has the largest sale of any article of its kind on the face of the globe. Beware of imitations. Have a suspicion of any dealer offering substitutes said to be as good. 15c. and 25c. sizes in wooden boxes only. $1.00 size in card board boxes. $1.20, $2.00 and $9.00 per dozen.

E. S. WELLS, Originator "Rough on" Preparations.

710-712 Grand St., • Jersey City, N. J., U. S. A.

Goldbeck's Malt Extract.

EFFECTIVENESS.

The best liquid malt extract should contain the highest possible percentage of Diastase to promote the digestion of amylaceous food by hastening its conversion into dextrin and gluten. It should contain a low percentage of alcohol, just about the amount which the judicious physician would prescribe as a slight stimulant and aid to digestion. The Goldbeck Extract supplies these requirements.

FOR DRUGGISTS ONLY.

Prices and Discounts mailed upon application.

PRICE.

This usually depends upon quality, but the relation between the two depends upon the manufacturer. The manufacturers of Goldbeck's Extract use the best Canada malt, manufacture in large quantities, and by employing the best of skill—chemical and mechanical, turn out a product that cannot be excelled, regardless of price. It is simply the best that can be made by the best men from the best material.

JOHN F. BETZ & SON, Limited, 415-427 Callowhill St., Philadelphia.

ANHYDROUS FATS.

The Only Dehydrated Lard Made.

ANHYDROUS LEAF LARD.
Plain and Benzoinated, U. S. P.

ANHYDROUS BEEF SUET.
ANHYDROUS MUTTON SUET.
(Free from Hercin).

In containers of 5, 10, 25, 50 and 400 lbs. net.

These Fats as now made are ABSOLUTELY PURE and PERFECT in every respect WHITE, SMOOTH, ODORLESS, CREAMY and of FIRM CONSISTENCY, summer and winter. Not requiring any white wax and NOT LIABLE TO OXIDIZE.

SNYDER PHARMACAL COMPANY,
89 World Building, NEW YORK.

Holiday Excursions!

Christmas, 1895.
New Year, 1896.

BIG FOUR ROUTE.

ONE AND ONE-THIRD FARE

ROUND TRIP.

Tickets will be sold between all points on the Big Four Route, good going December 24, 25 and 31, 1895, and January 1, 1896, good returning until January 2, 1896, inclusive.

E. O. McCORMICK, Pass. Traffic Mgr. D. B. MARTIN, Gen. Pass. & Ticket Agt.

RAYMOND'S PECTORAL PLASTER.

We offer Advertising Matter to all Druggists selling our goods.

RAYMOND & CO.,
62 Carroll St., BROOKLYN, N.Y.

Ask your Wholesale Dealer for Same.
(B. P. 7.)

For COUGHS and COLDS

These nice Pastilles, by nothing are excelled.
By frequent use these dreadful ills,
Are readily expelled.

Sore Throat and Hoarseness

Can't last long, when these Pastilles are taken.
Just let them melt upon your tongue,
And off your cold is shaken.

HENRY HEIDE,

Sole Manufacturer "DIAMOND BRAND CONFECTIONERY,"

OFFICE: 183 Franklin Street,
NEW YORK CITY.

VOLUME OF PROFITS

Is what counts with the enterprising druggist, and usually is in proportion to the amount of advertising done on a meritorious article. There must be a

FAIR PERCENTAGE OF PROFITS

In order that the volume of profits may be large, and our best efforts to advertise largely and to maintain legitimate prices shall be freely given in the future, as in the past, in the mutual interests of the drug trade and ourselves. We believe that as large a volume of profits will accrue to the drug trade from our efforts during the present year as on any other one article sold.

ADVERTISING

Is an important factor of success in business, and success means not only profit for ourselves, but a large volume of profit to every druggist selling our specialty, Syrup of Figs, as it sells rapidly and gives general satisfaction. Many cheap imitations of our preparation have been offered to the trade with an apparently larger percentage of profit than the genuine article affords, but as the imitations really have no

COMMERCIAL VALUE,

And are intended to sell on the reputation of our goods and the advertising which we pay for, and as they usually cause customers great dissatisfaction to the injury of the dealer selling same, and not being advertised, they do not afford as large a

VOLUME OF PROFITS

As the genuine advertised article, and we are therefore pleased to note that druggists generally are refusing to handle the imitations.

Appreciating the cordial interest which druggists have everywhere taken in the sale of Syrup of Figs, and believing that same will be largely increased during 1895, to our mutual advantage, we remain,

Very truly,

CALIFORNIA FIG SYRUP CO.,

LOUISVILLE, KY.
NEW YORK, N. Y.

SAN FRANCISCO, CAL.

For Christmas Presents

Pozzoni's Celebrated Complexion Powder

"Scovill's IN Gold"

Puff Boxes

is being thoroughly advertised as "just the thing" for Christmas presents. Order a good supply from your jobber before it is too late for the holiday trade. The proper display of these handsome boxes will largely increase your sales.

Watch the papers and periodicals for our advertisements. Your Friends,

J. A. POZZONI PHARMACAL CO., St. Louis, Mo.

(S. P. 8.)

WANT ADVERTISEMENTS

"HOW TO BECOME REGISTERED"—A guide teaching you plainly how, when and what to study to pass the State Board Examination successfully. Sent, postpaid, 50 cent money order, HARRY B. MASON, Ph. G., North Granville, N. Y. [1952

FOR SALE—Well located, all cash trade, paying, drug store; stock, $1,200 to $1,400; furniture, &c., $400. W. F. McBRIDE, Lawrence, Kansas. [2001

POSITION—As traveling salesman; six years' experience selling druggists and calling on physicians through Texas, Ohio, Indiana, Michigan, Illinois; Ph. G. of 1871; 40 years of age; speaks German; reference furnished. Address T. S., care of Era. [2009

WANTED—January 1st, a position as traveling salesman in Indiana or adjacent territory to sell a salable line of goods to druggists. Address DRUGGIST, care of Era. [2010

THE ONE CHANCE OF YOUR LIFE TIME—Drug stock and fixtures in best town in Arizona; will sell for 75 cents on the dollar of invoice price; a fresh, well selected stock of drugs that has paid all expenses and for itself in 6 years; last invoice, Jan., 1895, $8,842 87; only cash buyers need apply; owner wishes to retire. Address CHANCE, care of Era. [2014

AGENT WANTED—We want a local representative in every principal city to introduce the Pri-mo Ladies' Syringe to physicians and druggists; extensively advertised and acknowledged by all to be the best thing of its kind ever manufactured; nothing like it on the market; someone who has had experience in this line of business preferred; write at once and get full particulars. E. J. HUSSEY & CO., 82 B John St., N. Y. [2011

FOR SALE—Drug store; doing a good business in the best manufacturing town of 40,000 inhabitants in Eastern Ohio; reasons for selling, continued ill health; must change climate. Address C. F. McBRIDE, M.D., Youngstown, O. [2012

WANTED—A good practicing physician; good opening; plenty work; good pay; also a nice drug store for sale; will sell half interest to active partner; stock $2,000; good reasons. A. V. LANSING, West Palm Beach, Florida. [2017

SALESMEN WANTED—30 salesmen to sell "Valhalla" Wild Cherry Phosphate; also Valhalla Beef, Iron and Wine; side-line; elegant goods; low prices; good commission. VALHALLA MFG. CO., Chicago. [2018

FOR SALE—Drug store; complete stock; will invoice $6,000; will sell for $3,000 cash; good stand; death of owner. Alb. G. Berentz, cause of sale. BERENTZ & CO., No. 193 Poplar Street, Memphis, Tenn. [2021

DRUGGIST PUBLISH YOUR OWN PAPER. A neat publication can be had by one druggist in a town only, for a small sum of money. Write for particulars and samples at once to F. H. SMITH & CO., 16 Washington Place, East Orange, N. J.

FOR SALE—Fine soda fountain, generator, other fixtures, polar ice, milk shake, machines, drug mill, prescription scales and desk, counter balances, shelf bottles, 34 gallon (18 salt), 53 quarts (25 salt), 44 pint (26 salt), 40 half-pint (19 salt) and 105 shelf drawers, three nests, all glass labeled, 4 window show bottles; cheap. Address J. B. HOFF, Union Spring, N. Y. [2025

I AM A DRUGGIST of 20 years' experience and watchmaker; I want a situation; will work for low wages if I can work at watches part time. G. F. PEACOCK, Adairville, Ky. [2026

A YOUNG MAN of experience wishes to introduce new formulæ of reliable firms among the medical profession. Address AMERICA, care of Era. [2027

WANTED—A situation for an Eastern druggist sundry house to sell their goods in Cincinnati and suburbs on commission. J. J. UNTERSINGER, Riverside, Ohio. [2028

FOR SALE—A drug store in a thriving agricultural and mining section of Idaho; can be had at invoice; will invoice between $1,400 and $1,600; six months' time on $500, balance cash; a rare opening for an enterprising druggist; sales under proper management aggregated $4,500 per annum; reason for selling, present proprietors have other business requiring all their attention; don't answer unless you mean business and have the necessary cash, as this is a genuine bargain and no inquiries from irresponsible parties are wanted. Address B. L., care of Era. [2029

GRAY'S PHARMACEUTICAL QUIZ COMPEND. Twelfth Edition. A complete book of questions and answers on pharmacy, botany and chemistry asked by all state boards. Also doses, incompatibilities, new remedies and much other valuable information for daily reference. Price, postpaid, $1.50.

GRAY'S PRESCRIPTIONIST, A TREATISE on the reading and compounding of physicians' prescriptions, with fac-similes of obscure ones, illustrating the difficulties experienced in reading and compounding them. Price, $1.50. Order of GRAY & CO., Box 593, Chicago, Ill.

"ADVICE TO DYSPEPTICS" is the title of a circular which I issue, and it is written so that dyspeptics read it with interest. (Send for a copy.) By means of it I have sold over half a million of McAlvin's Dyspepsia Pills during the last 6 years. The demand is established and growing, and the druggist might as well profit from it. Write to me for some figures on this profit to the druggist.
JOHN H. McALVIN, Lowell, MASS.

SUSPENSORY BANDAGES.
TRADE LIST FREE
Flavell's, 1005 Spring Garden St, Philadelphia, Pa.

Money Saver
$5. Printing Press
Print your own cards &c. $18. Press for circulars or small newspaper. Catalogue free, presses, type paper, cards, &c. from maker KELSEY & CO. Meriden, Conn

Young or old have fun and make money printing for others. Typesetting easy by full printed instructions.

Quartz and Flint
Especially adapted for Chemists' and Extract Manufacturers use.
The F. E. Belden Mica Mining Co.,
12 Broad St., Boston, Mass.
NEW YORK OFFICE: 182 Franklin St.

TRADE MARK REGISTERED.
DIABETES FLOUR
Also Gluten Dyspepsia Flour, Barley Crystals, and Patent Biscuit, Cake and Pastry Flour.
Unrivaled in America or Europe.
Pamphlets and Baking Samples Free.
Write Farwell & Rhines, Watertown, N. Y., U. S. A.

MAJOR'S CEMENT
Costs $1.00 per doz. Retails $1.80.
80 Per Cent Profit.
THERMOMETERS, FOLDING CHAIR, FREE.
We furnish free
With 3 doz. a 20-inch Thermometer.
" 4 " " Folding Chair.
" 8 " " Display Stand with 50-lb. weight.
" 10 " " 4 foot Thermometer.
Orders may be for one kind of cement or assorted. Send order to us and goods and premium will be shipped by your jobber and payment made to him.
A. MAJOR CEMENT CO.,
463 Pearl St., New York.

GIBBS' HOLLOW SUPPOSITORIES.
W. E GIBBS, Proprietor,
111 Liberty St., NEW YORK.
Schieffelin & Co.,
Sole Agents, NEW YORK.

The Reliable
CONESTOGA CORKS
Are still being made by
CONESTOGA • CORK • WORKS,
LANCASTER, PA.

ARE YOU WITH US?
If so, send your orders direct for
DEANE'S POROUS PLASTERS.
Get our goods and have quick sales.
Get our prices and save money.
The DEANE PLASTER CO.,
(SEND FOR SPECIAL OFFER.) YONKERS, N. Y.

An Ideal SHOW CASE.
Silent Salesman
TRADE MARK
Send for Prices. JOHN PHILLIPS & CO., Detroit

PRESCRIPTION CORKS R4 TRADE MARK
This Brand of Corks
has all the requirements of a first class
PRESCRIPTION CORK
Manufactured by
Truslow & Co.,
4 & 6 Platt St., - NEW YORK.

DR. HARTER'S
CELEBRATED FAMILY MEDICINES

CASH LIST.

Prices at which DR. HARTER'S PREPARATIONS are sold to the retail drug trade:

WE SEND FREE to any druggist handling DR. HARTER'S REMEDIES, upon application, a full line of bright, attractive advertising bearing his business card.

We are now advertising DR. HARTER'S FAMILY MEDICINES very extensively throughout the U. S., and want every retail druggist to carry a full line.

	Per Dozen.
Fever & Ague Specific,	$3.00
Fever and Ague Pills (sugar-coated),	1.50
Little Liver Pills (sugar-coated)....	1.35
Vermifuge Candy.....	1.35
Lung Balm (large).....	3.00
" " (small).....	1.00
Iron Tonic.....	7.50
Soothing Drops.....	1 35
Liniment.....	1.60
Wild Cherry Bitters.....	6 00
Wild Cherry Bitters (small).....	1.75
Dr. DuCholne's Nerve Pills.....	15.00
" " Female Regulating Pills.....	7.50

We issue new advertising continually and if you handle DR. HARTER'S REMEDIES and do not receive our advertising at regular intervals, advise us so we can place your name on our list.

All live druggists handle a full line of DR. HARTER'S FAMILY MEDICINES.

FOR SALE BY ALL WHOLESALE DEALERS.

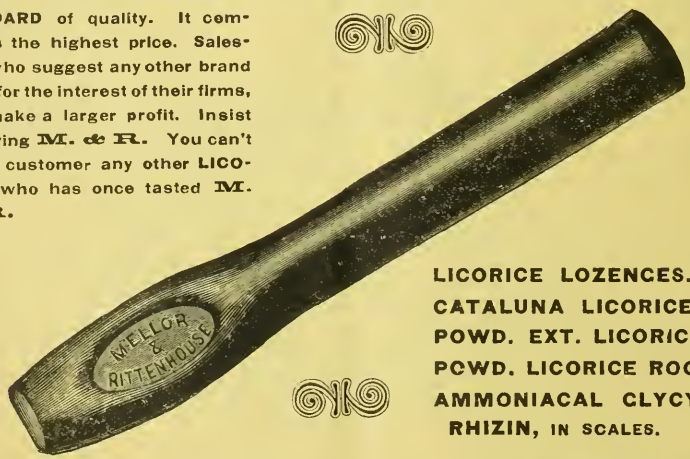
SPECIAL NOTICE.—Any druggist sending us a list of his customers will receive the direct benefits of personal advertising, as we will mail to each a personal letter calling their attention to our remedies, including a sample dose of DR. HARTER'S LITTLE LIVER PILLS and one of our new books of Valuable Information bearing his advertisement.

We have just issued a very fine Hanger which we will cheerfully furnish upon application.

THE DR. HARTER MEDICINE CO.,
DAYTON, OHIO.

A WORD TO LICORICE BUYERS.

M. & R. Licorice is the STANDARD of quality. It commands the highest price. Salesmen who suggest any other brand do so for the interest of their firms, who make a larger profit. Insist on having M. & R. You can't sell a customer any other LICORICE who has once tasted M. & R.



LICORICE LOZENCES.
CATALUNA LICORICE.
POWD. EXT. LICORICE.
POWD. LICORICE ROOT.
AMMONIACAL CLYCYRRHIZIN, IN SCALES.

THE MELLOR & RITTENHOUSE CO., - PHILADELPHIA, PA.

(S. P. 10.)

SUGAR AND GELATIN COATED PILLS.

GELATIN COATED PILLS — NO "PIN-HOLES" — SUGAR COATED PILLS — BEAUTIFULLY POLISHED.

SPECIALTIES FOR DRUGGISTS.

	PER DOZ. NET.
Bromo Soda	$ 7.50
Ingluvin (3 doz. lots, $9.50 per doz.)	10.00
Elixir Salicylic Comp	8.50
Liq. Pancreopepsin	8.50
Syr. Phytolacca Comp	8 50

	PER 100. NET.
Pil Chalybeate	$0.30
" Iodoform et Ferri	.53
" Peristaltic	.30
" Sumbul Comp	.75
" Arthrosia	.45

Lithia Water Tablets, quarter gross, buyer's name and address, $6.75.

LITTLE CATHARTIC GRANULES.

30 granules in each vial, with buyer's name and address, ready for sale. These granules have become very popular with the trade. Per gross, $6.50.

BRONCHIAL THROAT TABLETS.

Packed in neat slide boxes, 32 in each, with dozen packers; buyer's name and address. Per gross, $7.00. Special quotations for large lots. These Tablets are also furnished under our own name.

VEGETABLE

MANDRAKE LIVER PILLS.

25 pills in each oval box, with oblong carton; any name and address; ready for sale. Per gross, $6.50. Special quotations on large lots.

WM. R. WARNER & CO.,

1228 MARKET ST., PHILADELPHIA. | 52 MAIDEN LANE, NEW YORK. | 197 RANDOLPH ST., CHICAGO.

Read a Prominent Pittsburg Concern's Opinion of KONSEALS.

EGGERS' PHARMACIES.

F. H. EGGERS & SON.
172 Ohio, cor. Middle St., 299 Ohio, cor. Chestnut St., Allegheny, Pa.
11 Smithfield St. (Monongahela House), Pittsburg, Pa.

PITTSBURG, Dec. 16th, 1895.

On the question of Konseals, let us say on behalf of the patient, nice to look at, easy to take, and quick to act on account of their solubility. On behalf of the pharmacist, easy to fill, profitable, and a source of pleasure to be able to dispense powders and nauseous drugs in a manner that is attractive, elegant and efficient.

Very truly yours,
(Signed) F. H. EGGERS & Son.

This letter, like Konseals, is up to date; let us tell you more about Konseals. You can make a hit with them just like other folks. Here's another, also up to date, from an old customer.

JOHN COLEMAN, Wheeling, W. Va., Dec. 9th, 1895, writes:

We were the first to purchase and dispense your Konseals in our city, and since then we have had daily use for them at our prescription counter, and have reordered Konseals frequently since. An outfit should be in the hands of every progressive pharmacist who admires elegant pharmacy.

Yours truly,
(Signed) JOHN COLEMAN.

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FACULTY:—Joseph P. Remington, Ph. M., F. C. S.; Samuel P. Sadtler, Ph. D., F. C. S.; Henry Trimble, Ph. M.; Edson S. Bastin, A. M., F. R. M. S.

Two degrees are conferred on graduates, viz.:—(1) Doctor in Pharmacy for a three years' course with four years' store experience; (2) Pharmaceutical Chemist for a three years' course without store experience.

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Course occupying two terms of 20 weeks each for the degree of Graduate in Pharmacy. Students desiring to earn part of their expenses by employment in stores may divide their work and finish the course in either three or four terms. Course for the degree of Pharmaceutical Chemist occupying two full school years, aggregating about 76 weeks. Extensive laboratory courses in Chemistry, Pharmacy, Dispensing, Pharmacognosy, Pharmaceutical Assaying, etc.

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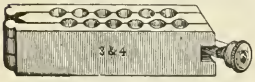

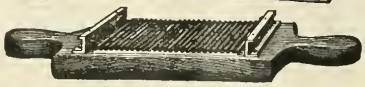

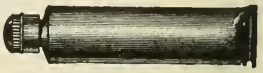

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(In neat, screw-cap vials.)

Well Advertised.

Two remedies that are selling well because well advertised.

Advertising matter furnished free on application to druggists who handle Dr. Hobb's Sparagus Kidney Pills and Little Liver Pills.

Jobber's Price to Retailers:

Dr. Hobb's Sparagus Kidney Pills.....per doz., $4.00
Dr. Hobb's Little Liver Pills..... " 1.50

HOBB'S MEDICINE CO., CHICAGO.

PRICES CURRENT.

See Market Report on Another Page.

Prices quoted here are average New York prices to Retail Druggists, for such quantities as they usually purchase. Larger parcels will secure lower quotations.

REVISED EVERY TUESDAY.

New Remedies.

Ammonol	oz.	1 00	
Antifebrine	oz.	12	15
Antikamnia.....(10 ozs. 90)	oz.	1 00	
Antinonnin	lb.	95	
Antipyrin	oz.	1 40	
Apolysin	oz.	1 00	
Argentamine	oz.	75	
Asstol	oz.	1 80	
Benzonaphthol	oz.	33	35
Betanaphthol Bismuth	oz.	1 00	
Bromal Hydrate	oz.	2 50	2 75
Chloralamid.....25 gram pkg.		80	
Creosotal.....(lb. $9.00)	oz.		65
Cresalol	oz.	1 75	1 85
Dermatol.....(25 ozs. 35)	oz.		40
Diabetin	lb.	2 00	2 25
Diphtheria Antitoxine Solution, Aronson's—vials 5 C. C. M...each.			80
Behring's— " 10 " No. 1.ea.		1 10	
" " " " No. 2.ea.		2 00	
" " " " No. 3.ea.		3 00	
Roux's, 10 C. C.		1 50	
Diuretin.....(25 ozs. 1 65)	oz.	1 75	
Europhen	oz.	1 80	
Euphorin	oz.		1 25
Exalgine	oz.	1 40	
Ferratin, powdered, or ½-g'me. tablets	oz.	1 15	
Formalin	lb.	1 00	
Gallacetophenone	oz.	1 40	
Gualacol	oz.	40	45
Guaiacol Carbonate	oz.	1 50	
Hemicranine	oz.	90	
Homatropine	grain.	30	35
Hydrochinon	oz.	27	29
Hypnal	oz.	1 50	
Hypnone	oz.	1 15	
Iatrol	oz.	1 00	
Iodol	oz.	1 15	1 25
Lactophenin, powdered, ½ g'me., or 1-g'me. tablets	oz.	1 00	
Losophan	oz.	1 80	
Lycetol	oz.		4 25
Lysol	lb.	60	
Oleocreosote	oz.	65	75
Orexin	oz.	4 00	4 25
Phenacetine, Bayer's	oz.	1 00	
Phenocoll, Hydroch....10-gm. vials.		1 50	1 60
Pyoktanin, Blue	oz.	1 50	1 80
Yellow	oz.	1 50	1 80
Pyrogallol Bismuth	oz.	1 25	
Salacetol	oz.		75
Salophen	oz.	1 00	
Somatose	lb.	5 00	5 50
Somnal	oz.	85	
Sulfonal	oz.	1 35	
Tannigen	oz.		75
Terpinol	oz.	40	47
Tribromphenol Bismuth	oz.	1 00	
Trikresol	lb.		80
Trional	oz.	1 50	
Tumenol	oz.	65	70
Urethan	oz.	50	
Urotropin	oz.	1 75	
Xylol	lb.	65	

Drugs and Chemicals.

Acetanilid	lb.	38	45
ACID, Acetic, No. 8	lb.	8	10
Benzoic, German	lb.	65	70
Boracic, crystals	lb.	15	18
Boracic, powdered	lb.	16	20
Carbolic, crude	gall.	30	60
Carbolic, crystal	lb.	20	30
Chrysophanic	oz.	40	42
Citric	lb.	37½	45
Gallic	lb.	70	72
Hydrocyanic	oz.	7	14
Lactic, concentrated	oz.	10	15
Lactic, diluted	oz.	5	8
Muriatic, C. P.	lb.	13	18
Muriatic, com'l	lb.	1¼	4
Nitric, C. P.	lb.	17	20
Nitric, com'l	lb.	5½	9
Oxalic	lb.	10	13
Phosphoric, diluted	lb.	14	18
Phosphoric, glacial	lb.	68	73
Phosphoric, U. S. P., 50%	lb.	34	38
Picric	lb.	45	50
Pyrogallic	lb.	3 75	4 00
Salicylic	lb.	55	60
Sulphuric, arom	lb.	48	50
Sulphuric, com'l	lb.	1½	4
Sulphuric, C. P.	lb.	12	18
Sulphurous	lb.	12	15
Tannic	lb.	1 15	1 20
Tartaric, powd	lb.	35	40

PRICES CURRENT—Continued.

Aconitia, Pure Amorph	oz.	7 20	
Adeps Lanae, N. W. K	lb.	75	
Almond, Meal	lb.	30	35
Almond, Bitter	lb.	35	40
Alcohol..... bbl.		2 40 gall.	
Alcohol..... ½ bbl.		2 45 "	
Alcohol..... 10 galls.		2 50 "	
Alcohol..... 5 galls.		2 55 "	
Absolute	gall.	4 00	4 50
Wood	gall.	1 00	1 10
Aloin	oz.	12	15
Alum, Chrome	lb.	12	15
Lump	by bbl.	2	3
Powdered	" "	7	10
Ambergris	oz.	20 00	35 00
Ammonia, spirits, aromatic	lb.	50	55
Water, 3 f.... Carboy,	2½	4	5
Water, 4 f.... "	4½	5	7
Water, stronger "	7½	8	10
Ammonium, Bromide	lb.	60	65
Carbonate	lb.	10	14
Hypophos	oz.	20	22
Iodide	oz.	40	42
Muriate	lb.	12	25
Muriate, powdered	lb.	18	20
Nitrate	oz.	22	30
Valerianate	oz.	23	25
Amyl, Nitrite	oz.	25	30
Amylen, Hydrate	oz.	50	55
Annatto	lb.	40	45
Aniline, Black, Nigrosine	lb.	2 00	2 25
Orange	lb.	1 25	1 50
Red, Eosine	lb.	3 50	3 75
Violet	lb.	2 00	2 25
Anodyne, Hoffman's	lb.	50	51
Antimony, Black, Powd., pure	lb.	9	14
Apiol	oz.	45	55
Apomorphine, Muriate, Amorph	oz.		3 25
Apomorphine, Muriate, crystals	oz.		7 00
Arrowroot, St. Vincent	lb.	11	14
Arsenic, Solution (Donovan's)	lb.	20	25
Solution (Fowler's)	lb.	10	12
White, powdered, com'l	lb.	8	8
Atropia, Sulphate, ½-oz. vials	oz.	3 50	3 70
Pure, ½-oz. vials	oz.		4 45
Balsam, Copaiba	lb.	38	45
Fir, Canada	lb.	45	50
Peru	lb.	2 50	2 75
Tolu	lb.	60	65
Barium, Nitrate	lb.	13	15
Sulphate (Barytes)	lb.	5	7
BARK, Angostura	lb.	25	30
Bayberry	lb.	12	15
Berberis Aquifolium	lb.	25	28
Blackberry, Root	lb.	18	22
Black Haw	lb.	30	33
Butternut	lb.	16	20
Canella	lb.	18	20
Cascara Sagrada	lb.	20	25
Cascarilla, powd	lb.	20	25
Cassia	lb.	10	14
Cassia, powd	lb.	16	20
Cassia, Salgon	lb.	40	45
Chestnut	lb.	22	25
Cinchona, Red	lb.	30	35
Cinchona, Yellow	lb.	25	28
Condurango	lb.	35	40
Coto	lb.	90	95
Cotton root	lb.	22	25
Elm	lb.	15	18
Elm, powdered	lb.	15	18
Hemlock, powdered	lb.	20	22
Jamaica Dogwood	lb.	25	30
Mezereon	lb.	25	30
Oak, white	lb.	15	20
Pomegranate, root	lb.	28	30
Poplar, white	lb.	15	20
Prickly Ash	lb.	25	28
Sassafras	lb.	12	15
Simaruba	lb.	45	50
Soap	lb.	12	15
Soap, powdered	lb.	15	20
Wafer Ash	lb.	24	28
Wild Cherry	lb.	12	16
Wild Cherry, powdered	lb.	15	20
Witch Hazel	lb.	20	30
Bay Rum, Domestic	gall.	1 75	2 25
Imported	gall.	1 90	2 35
BEANS, Calabar	lb.	15	20
St. Ignatius	lb.	40	50
Tonka, Angostura	lb.	2 50	2 75
Vanilla	lb.	8 50	12 00
BERRIES, Cocculus Indicus	lb.	8	13
Cubeb	lb.	15	20
Cubeb, powdered	lb.	20	25
Juniper	lb.	6	10
Laurel	lb.	12	15
Poke	lb.	25	30
Prickly Ash	lb.	30	35
Sumach	lb.	20	25
Bismuth, Citrate and Ammon	oz.	18	24
Salicylate	oz.	18	22
Subcarbonate	lb.	1 30	1 45
Subgallate	oz.	18	
Subnitrate	lb.	1 10	1 25
Blue Mass	lb.	40	44
Powdered	lb.	57	60
Blue Vitriol	lb.	4½	8
Pure	lb.	19	21
Borax	lb.	6¾	7½
Powdered	lb.	6¾	7½
Bromoform	oz.		30
Bromine	oz.	7	17

PRICES CURRENT—Continued.

Buds, Balm of Gilead	lb.	40	42
Cassia	lb.	22	25
Cacao Butter	lb.	50	55
Caffein, oz. vials	oz.	63	65
Citrated, ½-oz. vials, U. S. P.	oz.	73	75
Calamine	lb.	10	15
Calcium, Bromide	lb.	60	65
Carbonate, precip	lb.	10	12
Chloride, fused	lb.		25
Iodide	oz.		30
Hypophosphite	lb.	1 25	1 40
Phosphate, precip	lb.	22	24
Sulphide	lb.	30	35
Calomel, Bulk	lb.	80	85
English	lb.	95	1 10
Camphor, Mono-bromated	oz.	18	20
Capsicum, Powdered	lb.	20	22
Cantharides, Russian	lb.	80	90
Caramel	lb.	12	15
Carmine, No. 40	oz.	25	35
Cerium, Nitrate	oz.	30	33
Oxalate	oz.	9	10
Chalk, Crayons, white	grosa.	8	10
French, cut	lb.	12	15
French, powdered	lb.	5	8
Precipitated	lb.	8	10
Charcoal, Animal, powdered	lb.	5	8
Willow, powdered	lb.	8	16
Chinoidine	oz.	12	15
Chloral-Caffeine	oz.		75
Chloral Hydrate, Crusts	lb.	1 00	1 20
Crystals	lb.	1 10	1 25
Croton	oz.	54	60
Chloroform	lb.	55	60
Cinchonia, Alkaloid	oz.	27	30
Salicylate	oz.	30	35
Sulphate	oz.	14	18
Cinchonidia, Alkaloid	oz.	30	35
German, sulphate	oz.	3½	7
Salicylate	oz.	40	45
Clover, Red	lb.	30	35
White	lb.	25	30
Cloves	lb.	7	10
Powdered	lb.	12	18
Cobalt, Powdered	lb.	20	25
Cochineal, Honduras	lb.	35	40
Cocaine, Alkaloid	oz.	6 00	6 20
Muriate, cryst	oz.	5 25	5 45
Codeia, ½-oz. vials	oz.	4 05	4 25
Sulphate, ½-oz. vials	oz.	3 20	3 40
Collodion	lb.	85	90
Cantharidal	oz.	20	23
Flexible	oz.	15	18
Colocynth, Apples, Trieste	lb.	60	65
Powdered	lb.	60	70
Confection, Rose	lb.	35	40
Senna	lb.	35	40
Copper, Ammoniated	lb.	60	65
Carbonate	lb.	40	45
Oxide, black	lb.	50	55
Copperas	lb.	1½	3
Corrosive Sublimate	lb.	72	78
Powdered	lb.	80	85
Cream Tartar, Powdered	lb.	28	30
Creolin	lb.	45	50
Creosote, Beechwood	lb.	1 00	2 50
German	lb.	45	50
Cudbear	lb.	20	25
Curcuma	lb.	12	15
Cuttlebone	lb.	18	22
Dextrine	lb.	6½	10
Digitalin, ½-oz. pure	oz.		5 25
Dover's Powder	lb.	1 00	1 10
Dragon's Blood, Mass	lb.	25	30
Powdered	lb.	35	75
Elaterium	oz.	1 50	1 75
Ergot	lb.	30	35
Powdered	lb.	35	40
Ergotin, Bonjean	oz.	28	30
Ether, Acetic	lb.	65	70
Butyric	lb.	1 20	1 30
Formic	oz.	25	30
Nitrous, conc	lb.	1 50	1 75
Sulphuric, conc	lb.	74	78
Sulphuric, Washed	lb.	65	70
Ethyl, Bromide	oz.	25	30
Iodide	oz.	44	50
Extract, Logwood, bulk	lb.	10	12
Logwood, 1's, ½'s and ¼'s	lb.	10	16
FLOWERS, Arnica	lb.		16
Calendula	lb.		38
Chamomile, German	lb.		25
Chamomile, Roman, new	lb.	20	25
Elder	lb.	25	28
Lavender	lb.	15	75
Rose, pale	lb.	30	40
Rose, red	lb.	60	1 00
Rosemary	lb.	25	30
Saffron, American	lb.	50	80
Saffron, Spanish	lb.	7 50	8 00
Fustic	lb.	4	5
Gambier	lb.	8	10
Gelatin, French, pink	lb.	80	88
French, white	lb.	40	45
Glycerine	lb.	22	24
50-lb. cans	lb.	19½	
Guarana, powdered	lb.	90	1 00
GUM, Aloes, Barbadoes	lb.	20	25
Aloes, Cape	lb.	12	15
Aloes, Socotrine	lb.	45	50
Ammoniac	lb.	30	35
Arabic, 1st pick	lb.	50	
Arabic, 2d pick	lb.	38	

50 Per Cent Profit.

There is about that much in handling our **Surgical Elastic Hosiery**, but it comes in on sales of $2.00 and upwards.

This is easier than making one or two hundred per cent on one or two hundred sales of epsom salts, sulphur or some other strictly pharmaceutical product, and it can be made without, in any manner, interfering with the regular drug trade.

An elastic hosiery trade can be easily worked up by a druggist if he has our goods and our methods of letting people know he has them.

There are a good many questions to ask on this point, but we invite all you can possibly think of.

I. B. SEELEY & CO.,

Experts in Hernia and other Anatomical Displacements.

25 So. 11th St., Philadelphia.

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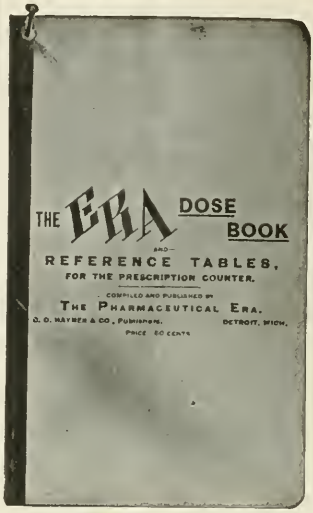
WANTS THIS BOOK!

IT SAVES TIME and PREVENTS MISTAKES.



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DR. D. JAYNE'S FAMILY MEDICINES

Are prepared with great care, expressly for family use, and are so admirably calculated to preserve health and remove disease that no family should be without them. They consist of:

Jayne's Expectorant, for Colds, Coughs, Asthma, Consumption, and all Lung and Throat Affections. It may be depended on to promote cures by facilitating expectoration and allaying inflammation.

Jayne's Tonic Vermifuge. There is no better TONIC for adults or children, and it is especially useful in all cases of Disordered Digestion. For General Debility, Dyspepsia and Sour Stomach it is a certain curative, and for Worms and Intermittent Fevers of children it is an old-time remedy.

Jayne's Carminative Balsam, for Bowel and Summer Complaints, Colics, Cramps, Cholera, etc. It is a certain cure for Diarrhœa, Cholera Morbus and Inflammation of the Bowels.

Jayne's Specific for Tape-Worm is a sure destroyer of this troublesome parasite, and usually drives it from the body in two or three hours.

Jayne's Alterative is the surest medicine for purifying the Blood, and of established efficacy for curing Scrofula, Goitre, Dropsy, Epilepsy, Salt Rheum, and all diseases of the Skin and Bones.

Jayne's Liniment, or Counter-Irritant, for Sprains, Bruises, Soreness in the Bones or Muscles, helpful in Rheumatism or Neuralgia, and useful in all cases where an external application is appropriate.

Jayne's Sanative Pills, small size, sugar coated, a mild Aperient or active Purgative, according to dose, and an effective remedy for all Bilious Affections, Liver Complaints, Costiveness, Dyspepsia and Sick Headache.

Jayne's Hair Tonic, for the Preservation, Beautifying, Growth and Restoration of the Hair. It is a pleasant dressing for the hair, and a useful toilet article.

In settlements and localities where the attendance of a Physician cannot be readily obtained families will find these Remedies of great service. The Directions which accompany them are in plain, unprofessional language, easily understood by all, and in addition **Jayne's Medical Almanac and Guide to Health**, to be had gratis of all agents, contains, besides a reliable calendar, a catalogue of Diseases, THE SYMPTOMS BY WHICH THEY MAY BE KNOWN, together with advice as to the proper remedies to be used.

All of Dr. D. Jayne & Son's Family Medicines are sold by Druggists everywhere.

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A Brief Treatise on the Method of Writing and the Use of Chemical Equations, and the Solution of the Chemical and Pharmaceutical Problems which are based upon them.

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Notation and Classification of the Elements.
Notation, Nomenclature and Classification of Inorganic Compounds.
Construction of Chemical Formulas
Construction and Interpretation of Equations.
Oxidation and Reduction.
Calculations Based on Formulas.
Calculations Based on Equations.
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Each chapter contains a liberal number of problems, affording the student an opportunity to become thoroughly familiar with the essential mathematics of chemistry.

PRICE 75 CENTS POSTPAID.

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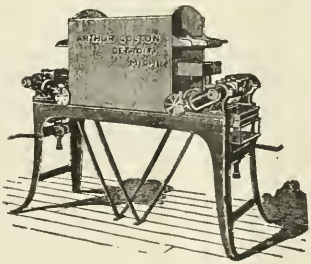
106 FULTON ST., NEW YORK.

COLTON'S RAPID GELATINE PILL COATING MACHINE.



COATS 300 PILLS AT ONE DIPPING.

THIS machine is an absolutely new invention, designed and executed under the personal management of its inventor, Mr. Arthur Colton.

It possesses facilities for gelatinizing pills which no other machine or apparatus can compete with in perfection of work and amount of pills coated daily.

All that is necessary to be done is to connect belt from the main shaft and the machine will do the rest. No expensive pumps, no steam siphons. No fitting up or experimenting to be done whatever.

Write for prices.

ARTHUR COLTON,

No. 15 Macomb St.,

DETROIT, MICH.

PRICES CURRENT—Continued.

GUM—Continued.			
Arabic, sorts	lb.	20	—
Asafetida	lb.	25	30
Asafetida, powdered	lb.	45	50
Benzoin	lb.	45	50
Camphor	lb.	63	80
Catechu	lb.	10	16
Catechu, powdered	lb.	28	30
Chicle	lb.	45	50
Copal, white	lb.	30	33
Damar	lb.	30	35
Euphorbium, powdered	lb.	35	40
Gamboge, powdered	lb.	65	75
Gualac	lb.	35	40
Gualac, powdered	lb.	40	45
Galbanum	lb.	1 00	1 25
Hemlock	lb.	60	65
Kino	lb.	3 50	3 75
Kino, powdered	lb.	3 60	3 85
Mastic	lb.	60	65
Myrrh	lb.	30	35
Myrrh, powdered	lb.	40	45
Olibanum, Tears	lb.	25	30
Opium	lb.	2 00	2 25
Opium, powdered	lb.	2 50	2 75
Sandarac	lb.	30	40
Shellac, bleached	lb.	40	45
Shellac, D. C.	lb.	55	60
Shellac, native	lb.	33	38
Spruce	lb.	85	1 50
Tamarack	lb.	1 25	1 35
Tragacanth, 1st Aleppo	lb.	70	80
Tragacanth, 2d Aleppo	lb.	60	65
Tragacanth powder	lb.	65	95
Turpentine, white	lb.	8	10
Gun Cotton	oz.	35	40
HERBS, Balm, Sweet	lb.	30	35
Bonesset	lb.	22	25
Bugle, sweet	lb.	30	35
Catnip	lb.	22	25
Celandine, garden	lb.		30
Cleavers	lb.	25	30
Dandelion, true	lb.	25	30
Golden Rod	lb.	25	30
Grindelia Squarrosa	lb.	40	45
Horehound	lb.	22	25
Hyssop	lb.	30	35
Johnswort	lb.	25	30
Larkspur	lb.	27	30
Life Everlasting	lb.	20	25
Lobelia, powdered	lb.	25	35
Lungwort	lb.	30	35
Marjoram	lb.	30	35
Peppermint	lb.	24	30
Pulsatilla	lb.	35	45
Queen of the Meadow	lb.	20	25
Scullcap	lb.	40	45
Smartweed	lb.	25	30
Spearmint	lb.	25	30
Tansy	lb.	22	25
Vervain	lb.	23	28
Wormwood	lb.	22	25
Yerba Santa	lb.	28	30
Hops, Bulk	lb.	15	20
Pressed, 1's, ½'s and ¼'s	lb.	20	2[illegible]
Hyoscyamin, pure cryst.	grain.	35	40
Sulph. Amorph	grain.	15	20
Ichthyol	oz.	45	50
Indigo, Madras	lb.	75	85
Bengal, powdered	lb.	1 65	1 85
Manilla	lb.	70	80
Iodine, Resublimd	lb.	3 75	4 00
Iodoform	lb.	4 40	4 75
Iron, Carbonate, precipitated	lb.	15	20
Carb., proto (Vallet's mass)	lb.	30	35
Carbonate, Sacchar	lb.	60	55
Chloride, sol. for tincture	lb.	12	18
Citrate, U. S. P., 1-oz. vials	oz.	12	15
Citrate and Ammonia	lb.	63	70
Citrate and Quinine	lb.	1 90	2 25
Cit'e, Quinine and Strychnia	oz.	19	22
Citrate and Strychnia	oz.	17	21
Dialyzed	lb.	25	45
By Hydrogen	oz.	7	11
Hypophosphite	oz.	20	22
Iodide	oz.	33	40
Iodide, Syrup	lb.	48	55
Oxide Sacchar	lb.	55	65
Persulphate, (Monsell's Powd)	oz.	9	15
Persulph., sol. (Monsell's Sol.)	lb.	25	30
Phosphate, precipitated	lb.	48	52
Phosphate, U. S. P.	lb.	72	75
Pyrophosphate, plates	lb.	63	68
Sulphate, pure	lb.	5½	7
Sulphate, pure, dried	lb.	15	18
Tartrate and Potassium	lb.	51	55
Valerianate	oz.	23	25
Isinglass, American	lb.	60	65
Russian	lb.	3 50	3 75
Lactocarium	oz.		35
Lanolin	lb.		85
Lead, Acetate, white	lb.	12	15
Carbonate	lb.	8	10
Nitrate	lb.	16	20
Oxide	lb.	10	12
LEAVES, Aconite, German	lb.	25	30
Aconite, powder	lb.	30	35
Bay (Laurel)	lb.	15	20
Belladonna, German	lb.	25	28
Belladonna, powdered	lb.	30	32
Buchu, long	lb.	35	45
Buchu, short	lb.	20	25
Burdock	lb.	18	25

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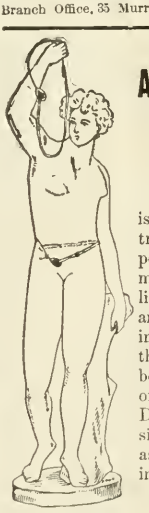

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FREE PAMPHLET.

AMERICAN SILVER TRUSS CO., 200 MAIN ST., BUFFALO, N. Y.

PRICES CURRENT—Continued.

LEAVES—Continued.			
Buttermut	lb.	30	25
Chestnut	lb.	25	30
Coca	lb.	25	35
Conium	lb.	28	32
Damiana	lb.	15	20
Digitalis	lb.	15	20
Digitalis, powdered	lb.	20	25
Eucalyptus	lb.	15	20
Hemlock	lb.	20	25
Henbane	lb.	25	28
Jaborandi	lb.	35	40
Liverwort	lb.	25	30
Matico	lb.	25	30
Matico, powdered	lb.	35	40
Mullein	lb.	20	25
Pennyroyal	lb.	20	25
Poppy	lb.	30	35
Princess Pine	lb.	26	30
Rosemary	lb.	25	30
Sage, Domestic, leaf	lb.	30	35
Sage, Domestic, loose, pressed	lb.	28	30
Sage, Italian	lb.	8	10
Sage, Pressed	lbs.	½'s, ¼'s.	10 12
Savin	lb.	25	30
Senna, Alexandria	lb.	25	30
Senna, Powdered	lb.	35	40
Senna, Tinnevelly	lb.	15	20
Stramonium	lb.	24	28
Stramonium, powdered	lb.	25	30
Thyme	lb.	25	30
Uva Ursi	lb.	10	15
Wintergreen	lb.	25	30
Witch Hazel	lb.	20	25
Leeches	doz.	65	75
Lemon Peel	lb.	15	30
Licorice, Lozenges	lb.	18	25
Mass	lb.	15	18
Stick, Corigliano	lb.	28	30
M. & R.	lb.	20	25
Figaro	kilo.	—	65
Y. & S.	lb.	20	25
Lime, chloride, bulk	lb.	3½	5
Chloride, 1's, ½'s, ¼'s	lb.	10	13
Litharge	lb.	8	10
Lithium, Benzoate	oz.	21	23
Carbonate	oz.	21	23
Citrate	oz.	21	23
Salicylate	oz.	23	26
Lupulin	lb.	50	75
Lycopodium	lb.	50	55
Mace	lb.	60	65
Powdered	lb.	65	75
Madder, Dutch	lb.	15	20
Magnesia, Calcined, heavy	lb.	63	65
Light	lb.	45	65
Carbonate, Jennings	lb.	32	36
K. & M.	lb.	18	20
Magnesium, Bromide	oz.	30	
Chloride	lb.	40	
Hypophos	oz.	27	30
Phosphate	oz.	9	12
Manna, Large Flake	lb.	60	65
Small flake	lb.	25	30
Manganese, Black oxide	lb.	6	10
Menthol, Cryst	lb.	4 75	5 00
Mercury	lb.	60	65
Ammon	lb.	95	1 00
Bisulphate	lb.	60	65
With Chalk	lb.	38	42
Iodide, green	oz.	25	28
Iodide, red	oz.	28	33
Subsulphate	oz.	15	18
Morphine—Sulphate	oz.	1 55	1 80
P. & W.	oz.	1 65	1 90
Moss, Iceland	lb.	12	15
Irish	lb.	10	15
Musk, Tonquin, grain		8	10
Naphthol	oz.	20	25
Naphtholine Balls	lb.	4½	7
Narcein, ¼-oz. vials	oz.	10 00	
Narcotine, ¼-oz. vials	oz.	1 25	
Nutgalls, Aleppo, powdered	lb.	28	30
Nutmegs	lb.	55	60
Powdered	lb.	65	75
Nux Vomica	lb.	10	15
Powdered	lb.	20	25
Oakum	lb.	15	18
OIL, Almond, Bitter	oz.	50	60
Almond, sweet, Allen's	lb.	35	45
Amber, crude	lb.	25	30
Rectified	lb.	35	40
Anise	lb.	2 60	2 75
Bay, true	oz.	40	60
Benne	gal.	1 00	1 10
Bergamot	lb.	3 00	3 25
Birch Tar, crude	lb.	40	45
Rectified	lb.	85	1 00
Cade	lb.	25	35
Cajuput	lb.	60	70
Camphor	lb.	15	20
Caraway Seed	lb.	1 60	1 75
Cassia	oz.	2 60	2 75
Castor, No. 1	gal.	88	1 00
Bbls. and half-bbls		—	—
No. 3	gal.	80	88
Bbls		76	84
Cedar, pure	lb.	65	75
Chamomile, German	oz.	3 50	3 75
Roman	oz.	1 50	1 75
Cherry Laurel	oz.	85	90
Citronella, native	lb.	45	1 10
Cinnamon, Ceylon Bark	oz.	1 00	1 10

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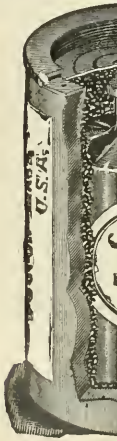

PRICES CURRENT—Continued.

OIL—Continued.

Cloves	lb.	70	75
Cocoanut	lb.	15	20
Codliver, Norwegian	gal.	2 00	2 25
Copaiba	lb.	85	90
Coriander	oz.	90	1 00
Cotton Seed, winter	gal.	41	45
Croton	lb.	1 00	1 10
Cubebs	lb.	1 50	1 75
Cumin	oz.	40	45
Dill Seed	oz.	40	45
Erigeron	lb.	1 25	1 50
Eucalyptus	lb.	1 25	1 50
Fennel	lb.	1 75	2 00
Geranium, Rose, Chiris	oz.	55	60
Hemlock, pure	lb.	65	70
Henbane	lb.	50	60
Horsemint	lb.	2 00	2 25
Juniper Berries	lb.	1 75	2 00
Wood	lb.	45	50
Lard, No. 1	gal.	45	50
Extra	gal.	75	85
Lavender Flowers	lb.	1 50	1 75
Garden	lb.	1 00	1 10
Laurel, expressed	lb.	45	50
Lemon	lb.	1 30	1 50
Sanderson's	lb.	1 55	1 65
Lemon Grass	lb.	1 00	1 10
Linseed, boiled	gal.	53	58
Raw	gal.	50	55
Mace, Ethereal	oz.	35	40
Expressed	lb.	1 80	2 00
Male Fern, Ethereal	oz.	25	30
Mustard, essential	oz.	50	55
Mustard, expressed	gal.	65	75
Myrbane	lb.	30	35
Neatsfoot, No. 1	gal.	45	48
Pure	gal.	85	1 00
Neroli, Bigarade, Chiris'	oz.	2 75	3 00
Petit Grain, Chiris'	oz.	75	80
Olive, Malaga	gal.	85	90
Sublime	gal.	2 00	2 25
Orange, bitter	lb.	3 50	3 75
Sweet	lb.	1 60	1 75
Origanum	lb.	40	1 10
Patchouly	oz.	60	75
Pennyroyal	lb.	1 50	1 75
Pepper, black	lb.	90	95
Peppermint	lb.	1 90	2 25
H. G. H.	lb.	2 50	2 75
Pimento	oz.	18	22
Rhodium	oz.	45	50
Rose, Kissanlik	oz.	8 50	9 00
Rosemary Flowers	lb.	1 25	1 40
Sandalwood, English	lb.	6 00	6 50
German	lb.	3 00	3 50
Sassafras	lb.	45	50
Savin	lb.	1 25	1 55
Skunk	lb.	50	55
Spearmint	lb.	2 40	2 65
Sperm	gall.	75	85
Spike	lb.	20	35
Spruce	lb.	50	60
Tansy	lb.	2 25	2 50
Tar	lb.	10	12
Thyme, White	lb.	1 10	1 25
Turpentine, pure	lb.	35	40
Whale	gall.	70	75
Wine, Ethereal	oz.	35	40
Heavy	oz.	50	55
Wintergreen	lb.	1 75	2 25
Wormseed, Baltimore	lb.	1 75	2 00
Wormwood, Pure	lb.	3 00	3 50
Valerian	oz.	75	80
Verbena	oz.	75	85
Ylang Ylang	oz.	4 00	6 00
Ointment, Citrine	lb.	42	46
Mercurial, 1-3 M.	lb.	35	45
½ M.	lb.	45	50
Zinc Oxide	lb.	50	60
Orange Peel	lb.	12	15
Powdered	lb.	16	20
Orpiment, Yellow	lb.	30	35
Pancreatine, pure	oz.	75	80
Sacch	oz.	35	40
Papain	oz.		1 50
Paraffin, refined	lb.	8	10
Paraldehyde	oz.	20	25
Pepper, Black	lb.	9	12
Powdered	lb.	14	16
White	lb.	15	18
Phosphorus	oz.	20	30
Picrotoxin, ½-oz. vials	oz.	5 00	5 25
Pilocarpine	gr.	38	40
Muriate	gr.	33	35
Nitrate	gr.	30	33
Piperazine	oz.		4 25
Piperin	oz.	60	65
Pitch, Burgundy	lb.	7	9
Black	lb.	5	7
Pith, Sassafras	lb.	1 25	1 50
Plaster Paris, Bbls	Bbl.	2 00	2 25
Poppy Heads	lb.	20	40
Potash, crude	lb.	7	8
Caustic, white	lb.	40	45
Liquor	lb.	15	20
Potassium, Acetate	lb.	30	34
Bicarb	lb.	12	15
Bichromate	lb.	11	15
Bromide	lb.	42	45
Chlorate, cryst	lb.	15	16
Powdered	lb.	18	18
Citrate	lb.	53	55

PRICES CURRENT—Continued.

POTASSIUM—Continued.

Cyanide, fused	lb.	50	55
Hypophosphite	oz.	20	22
Iodide, cryst	lb.	2 86	3 00
Oxalate	lb.	35	40
Permanganate	lb.	25	30
Phosphate	oz.	15	18
Prussiate, red	lb.	45	50
Yellow	lb.	23	28
Salicylate, 1-oz. vials	oz.	25	30
Sulphate, Powdered	lb.	14	18
Sulphuret	lb.	22	24
Tartrate	lb.	50	55
Powder, Composition	lb.	25	35
Dover's	lb.	1 00	1 20
Insect	lb.	22	25
Propylamin	oz.	55	60
Quassia, chips	lb.	10	12
Quassine, cryst 1-gram. vials.		1 75	1 85
Quinidia, pure	oz.	58	65
Sulphate	oz.	48	50
Quinine, Bisulph	oz.	32	42
Muriate	oz.	55	60
Sallcylate	oz.	59	65
Sulphate, foreign, 100-oz. tins	oz.	28	29
N. Y. Q., 100-oz. tins	oz.	28	30
P. & W.	oz.	37	42
Red Precipitate	lb.	90	95
Red Saunders	lb.	7	10
Resin, Jalap	oz.	55	60
Scammony Turkish	oz.	40	45
Resorcin	oz.	17	21
ROOT—Aconite, German	lb.	25	30
Powdered	lb.	30	35
Alkanet	lb.	15	20
Angelica	lb.	25	30
Arnica	lb.	30	35
Belladonna	lb.	25	30
Bitter	lb.	30	35
Blackberry	lb.	20	25
Blood	lb.	12	15
Powdered	lb.	15	20
Blue Flag	lb.	25	30
Bryony	lb.	20	25
Burdock	lb.	18	22
Powdered	lb.	20	25
Calamus, peeled	lb.	18	40
Powdered	lb.	25	30
Cohosh, black	lb.	15	18
Powdered	lb.	20	22
Blue	lb.	15	30
Colchicum	lb.	25	33
Comfrey	lb.	25	28
Columbo	lb.	20	25
Powdered	lb.	25	30
Cranesbill	lb.	26	30
Culver's	lb.	25	30
Dandelion, American	lb.	20	25
German, cut	lb.	20	25
Dwarf Elder	lb.	35	40
Elecampane	lb.	14	16
Powdered	lb.	16	20
Galangal	lb.	10	20
Powdered	lb.	20	25
Gelsemium, powd	lb.	25	30
Gentian	lb.	10	12
Powdered	lb.	15	20
Ginger, African	lb.	8	10
Powdered	lb.	14	16
Ginger, Jamaica	lb.	20	23
Bleached	lb.	25	27
Powdered	lb.	27	30
Ginseng	lb.	4 00	5 00
Golden Seal	lb.	28	35
Powdered	lb.	30	38
Hellebore, black	lb.	24	30
White, powdered	lb.	15	18
Hydrangea	lb.	20	25
Indian Hemp, black	lb.	30	35
Indian Turnip	lb.	25	30
Ipecac	lb.	1 40	1 55
Powdered	lb.	1 60	1 75
Jalap	lb.	25	30
Powdered	lb.	35	45
Ladies' Slipper	lb.	30	35
Powdered	lb.	40	45
Licorice	lb.	15	18
Cut, Russian	lb.	20	23
Powdered	lb.	15	20
Lovage, Select	lb.	70	80
Male Fern	lb.	22	25
Powdered	lb.	25	30
Mandrake	lb.	15	18
Marshmallow, cut	lb.	25	28
Powdered	lb.	28	30
Marsh Rosemary	lb.	45	50
Musk (Sumbul)	lb.	1 40	50
Orris, Fingers	lb.	10	1 35
Florentine	lb.	25	30
Powdered	lb.	28	35
Verona	lb.	18	22
Pareira Brava	lb.	20	25
Powdered	lb.	25	30
Parilla, Yellow	lb.	23	25
Parsley	lb.	30	35
Pellitory	lb.	38	43
Pink	lb.	40	45
Pleurisy	lb.	25	30
Poke	lb.	15	20
Pond Lily, White	lb.	30	
Yellow	lb.	30	

PRICES CURRENT—Continued.

Root—Continued.			
Queen of Meadow	lb.	20	25
Rhatany	lb.	20	25
Powdered	lb.	30	35
Rhubarb, cubes	lb.	85	1 50
Fingers	lb.	1 50	2 00
East India	lb.	65	75
Powdered	lb.	85	1 00
Sarsaparilla, Honduras	lb.	30	40
Powdered	lb.	35	42
Mexican	lb.	15	20
Senega	lb.	45	50
Powdered	lb.	60	65
Skunk Cabbage	lb.	20	28
Powdered	lb.	25	30
Squills	lb.	12	15
Powdered	lb.	40	45
Snake, Canada	lb.	40	45
Virginia	lb.	50	55
Solomon's Seal	lb.	28	30
Spikenard	lb.	22	28
Powdered	lb.	30	36
Stillingia	lb.	25	30
Powdered	lb.	30	35
Stone	lb.	22	25
Unicorn false	lb.	45	50
Valerian, English	lb.	35	40
Vermont	lb.	20	25
Vervain	lb.	24	30
Wild Indigo	lb.	25	30
Wild Yam	lb.	20	25
Yellow Dook	lb.	18	20
Zedoary	lb.	25	30
Powdered	lb.	32	37
Saccharine	oz.	1 10	1 15
Sal, Epsom	bbl.	1½	2½ 5
Glauber "	1	2	3
Nitre, com'l	lb.	6	7
Powdered	lb.	10	12
Rochelle	lb.	25	28
Soda	lb.	1	2
Tartar	lb.	10	14
Salicin	lb.	2 60	2 75
Salol	lb.	3 75	4 00
Santonin	lb.	3 50	3 75
SEED, Anise Italian	lb.	15	18
Anise, Star	lb.	25	30
Cardamom	oz.	90	1 50
Powdered	lb.	1 00	1 25
Canary	lb.	3½	5
Caraway	lb.	10	14
Celery	lb.	14	18
Colchicum	lb.	20	28
Conium	lb.	25	30
Coriander	lb.	11	15
Cumin	lb.	25	30
Dill	lb.	20	22
Fennel	lb.	12	15
Flax, ground	lb.	4	5
Flax, recleansed	lb.	3½	5
Foenugreek	lb.	5	8
Powdered	lb.	10	12
Hemp, recleansed, bag	3½ lb.	4	5
Lobelia	lb.	30	35
Powdered	lb.	35	40
Millet, American	lb.	3	5
Mustard, black	lb.	10	12
Powdered	lb.	15	18
Mustard, Yellow	lb.	8	10
Powdered	lb.	25	30
Poppy, blue	lb.	15	20
White	lb.	25	30
Pumpkin	lb.	18	20
Quince	lb.	40	45
Rape	lb.	6	8
Sabadilla	lb.	30	40
Stavesacre	lb.	30	35
Stramonium	lb.	15	20
Powdered	lb.	25	30
Sunflower	lb.	12	18
Watermelon	lb.	18	22
Worm, American	lb.	15	18
Levant	lb.	15	18
Powdered	lb.	22	25
Seidlitz Mixture	lb.	20	22
Silver, Nitrate, cryst	lb.	7 50	7 75
Nitrate, fused	oz.	55	60
Soap, Castile, mottled, box	7½ lb.	9	10
White, Conti's	box, 1l.	13	15
Powdered	lb.	40	45
German Green	lb.	12	20
Soda Ash	lb.	1¾	4
Sodium, ½-oz. vials	oz.	25	
Acetate	lb.	25	30
Benzoate	oz.	13	15
Bicarbonate	lb.	3	5
Bromide	lb.	55	60
Carbonate, C. P., cryst	lb.	30	35
Dried, purified	lb.	20	25
Citrate	lb.	57	62
Hypophosphite	lb.	1 35	1 50
Iodide	lb.	3 65	3 80
Nitrate, purified	lb.	16	18
Phosphate	lb.	12	15
Salicylate	lb.	75	85
Sulpho-Carbolate, 1-oz. vial	oz.		11
Sulphate, pure, cryst	lb.	25	30
Dried	lb.	18	20
Sniphite, cryst	lb.	9	12
Tartrate	lb.	55	60
Valerianate	oz.	82	85
Spermaceti	lb.	42	44
Spirits, Lavender, comp	lb	50	55

PRICES CURRENT—Continued.

Stearine	lb.	15	18
Stone, Pumice	lb.	8	10
Powdered	lb.	5	8
Strontium, Bromide, cryst	oz.	22	25
Iodide	oz.	58	60
Lactate	oz.	30	35
Strychnia, crystals, ½-oz. vials	oz.	1 50	1 60
Nitrate, ½ oz. vials	oz.	2 00	2 25
Sulphate, ½ oz. vials	oz.	30	1 40
Styrax, Liquid	lb.	28	32
Sugar Milk, powdered	lb.	20	22
Sulphur	lb.	2	4
Lac	lb.	12	20
Roll	lb.	1¾	3½
Svapnia, ½-oz. vials	oz.	2 85	3 00
Tamarinds	per keg.	2 50	
Tar, Barbadoes	lb.	15	18
N. C. Pine, ½ pints	doz.	65	
pints	doz.	95	
2 pints	doz.	1 65	
Tartar Emetic, powdered	lb.	35	40
Terebene	oz.	15	18
Terpin, Hydrate	oz.	14	16
Thiol, Liquid	oz.	25	27
Scales or powdered	oz.	75	80
Thymol	oz.	23	25
Tin, Muriate, crystals	lb.	30	33
Solution	lb.	18	20
Turpentine, Venice	lb.	25	30
Vanillin	oz.	5 00	5 25
Veratria, ½-oz. vials	oz.	2 10	2 25
Sulphate, ½-oz. vials	oz.	2 10	2 25
Verdigris, powdered	lb.	40	45
Water, Cherry Laurel	lb.	25	30
Rose	lb.	25	30
Orange Flower	lb.	25	30
Wax, Bayberry	lb.	25	30
Carnauba	lb.	30	50
Refined Beeswax	lb.	38	42
Ozokerite	lb.	8	12
White, (W. H. B.)	lb.	47½	55
Yellow, Select, (W. H. B.)	lb.	40	45
Zinc, Chloride, gran. 1-oz. vials	oz.	6	13
Iodide, 1-oz. vials	oz.	40	45
Oxide, true	lb.	12	15
Salicylate, 1-oz. vials	oz.	35	40
Sulphate, cryst	lb.	7	9
Sulpho-Carbolate, 1-oz. vials	oz.	9	16
Valerianate, 1-oz. vials, M. C. W.	oz.	23	25

Paints.

Black, Drop, powdered	lb.	1b	18
Ivory	lb.	5	7
Lamp, Germantown, 1's, ½'s, and ¼'s	lb.	12	17
Blue, Cobalt	lb.	35	40
Prussian	lb.	45	50
Ultramarine	lb.	12	18
Brown, Spanish	lb.	1	2
Vandyke	lb.	6	9
Green, Chrome, dry	lb.	10	12
Paris, kegs	lb.	21½	
¼'s	lb.	26½	
½'s	lb.	24½	
1's	lb.	23½	
Lead, Red, dry	lb.	7	10
White, dry	lb.	7	10
White, in oil	lb.	8	6½
Ochre, Yellow, American	lb.	1	2
Putty, in Bladders	lb.	2¼	2½
Red, Venetian, American	lb.	1	2
Sienna, Burnt	lb.	4	8
Raw	lb.	4	8
Smalts, Black	lb.	8	10
Blue	lb.	12	15
Green	lb.	15	18
Vermillon	lb.	15	18
Turpentine	gall.	30	33
Umber, Burnt	lb.	4	
Raw	lb.	4	
Vermillon, American, dry	lb.	15	18
Chinese	lb.	1 10	1 20
English	lb.	65	75
Whiting, Com'l	lb.	¾	1½
Gilder's	lb.	1	1¾
Paris	lb.	1¼	2
Yellow, Chrome	lb.	12	15
Zinc, White, Dry, American	lb.	8	10

Window Class.

Single Strength		75% & 5%
Double Strength		75% & 5%

Glassware.

Flintware, Original Packages		60%
Broken Lots		50%
Greenware, Original Packages		70%
Broken lots		60%

Wines and Liquors.

Brandy, Blackberry	gall.	2 25	2 75
California	gall.	2 25	4 00
Hennessy	gall.	8 00	10 00
Gin, Imperial	gall.	1 60	1 70
Meder Swan	gall.	3 25	3 50
Rum, Jamaica	gall.	6 00	8 25
New England	gall.	2 00	2 25
Wine, Blackberry	gall.	1 50	1 60
Claret, Domestic	gall.	1 25	1 50
Madeira, Imported	gall.	2 50	3 50
Port, Domestic	gall.	1 00	1 75
Sherry, Domestic	gall.	1 00	1 75

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